



The Health Equity Accelerator

The Next Step in Our Commitment to Equity



HEALTH EQUITY
Accelerator
BOSTON MEDICAL CENTER



FRENCH



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PREFACE

2020, the year that rattled healthcare systems around the world. The COVID-19 pandemic highlighted the deep racial inequities that exist in healthcare and beyond. For many systems, the last 18 months have been a time of awakening. While we have historically been committed to providing equitable care for all people, regardless of their background, we have faced the fact that large gaps in health outcomes persist across different races and ethnicities. In particular, we all saw how COVID-19 affected people of color disproportionately and we collectively recognized that being more intentional and explicit in addressing health injustice is imperative to achieve health equity.

As the largest safety net healthcare system in New England, Boston Medical Center Health System (BMCHS) is intimately familiar with the how the lack of economic opportunity and mobility impacts the populations we serve. A majority of our patients live at or below the federal poverty line, and we see clearly the upstream drivers of perpetual low health status, unstable health, and predictable poor health outcomes. One of the main root causes of inequity is the connection between health and wealth. Patients who have limited resources cannot prioritize health because they must deploy the limited resources they have toward survival, such as paying to secure some kind of housing, to feed their families, and to keep utilities on. These patients and families have nothing left to allocate to healthy food, necessary prescriptions, and transportation to medical appointments. While BMCHS has innovated and demonstrated remarkable creativity in meeting the unmet social needs of our patients, we want to move the needle from filling gaps to eliminating them, and from charity to measurable, scalable, and replicable approaches to financial stabilities for BIPOC communities, ultimately ending health inequities and promoting and sustaining economic mobility. The goal of the joint endeavor we envision is to pivot from charity to equity and to measure the impact on health outcomes to ensure that the hypothesis, albeit an attractive one, is borne out.

We also believe it is essential to acknowledge that deep systemic discrimination against people of color permeates our society, including health systems. There are other important dynamics that contribute to creating big gaps in health outcomes among people of color, such as unconscious bias, institutions that are not always culturally adept or relatable, and a health system that overall has not always been worthy of the trust of patients of color.

The last 18 months have also helped us recognize that there is another side of this story and barriers to economic mobility are not the only ones keeping us from health equity. Even when controlling for economic status, differences in health outcomes such as pregnancy-related deaths, premature cancer mortality, or mental health, persist between white and BIPOC patients.

BMCHS has established a unique Health Equity Accelerator to propel our efforts to revamp our health system to achieve racial health equity, under leadership from executive directors Elena Mendez-Escobar, PhD, MBA, and Thea James, MD. The Accelerator is built to **transform healthcare to deliver health justice and wellbeing** by creating an infrastructure that brings together three tools that normally operate very independently: **leading-edge research methodologies, patient insights and community partnerships, and clinical operations capabilities.** These three functions will work together to systematically uncover and address the root causes of inequity, including barriers to economic mobility, systemic bias, and racism. Furthermore, the Accelerator will also be a vehicle to exchange insights with the rest of the medical community through publishing of our findings and engaging in policy conversations.

Intentionality around health justice is core to BMCHS and permeates our system. To focus our work and propel change, we have also identified five clinical areas where the gaps in health outcomes are the largest: maternal and child health, infectious diseases, behavioral health, chronic diseases, oncology & end stage renal disease (ESRD).

Whether you are a community member, a patient, an employee, a policymaker, a part of another health system, or a business leader, we want to partner with you to advance toward health justice and wellbeing for all.



OVERVIEW

This report's purpose is to outline how BMCHS is formalizing and expediting its health equity work with the new Health Equity Accelerator.

First, we detail how socioeconomic disparities by race and ethnicity in Boston have created inequities in health outcomes and how addressing these social determinants of health continues to be a foundational element of care across BMCHS. However, racial health inequities are not solely due to differences in economic mobility.

Next, we outline how systemic racism creates health inequities within the four walls of healthcare institutions, including Boston Medical Center (BMC). We are determining the specific ways racism affects healthcare by conducting an intensive literature review and speaking directly with our patients about their unique goals and needs and how they are experiencing care at BMC.

We also discuss how the COVID-19 pandemic showcased how both socioeconomic disparities and systemic racism intersected to impact our patient population — describing how our efforts to address these racial inequities served as a model for the way the Accelerator will propel action toward health justice.

After introducing the Accelerator and its goals, mission, and purpose, we provide an early example of the Accelerator in action, working to address equity in pregnancy care, where major racial inequities exist for both mother and baby outcomes. We then discuss one of BMC's existing upstream healthcare programs that the Accelerator will collaborate with as a tool, BOS Collaborative.

Throughout the report, we spotlight specific examples of how health equity leaders within BMCHS are addressing inequities in social determinants of health and systemic racism through initiatives and programming.

Boston Medical Center's President & CEO Kate Walsh, Bishop John M Borders, III, Massachusetts Governor Charlie Baker



SOCIOECONOMIC DISPARITIES AND THEIR IMPACT ON HEALTH

For generations, there have been, and still are, tremendous differences in health outcomes among people of different races and ethnicities. For just a few examples, in Boston, Black men are 2.6x more likely to die from prostate cancer than white men, Black and Hispanic babies have death rates 4.1x and 3.4x higher than non-Hispanic white babies, respectively, and Hispanic residents have been infected with COVID-19 at 2.2x the rate of their non-Hispanic white neighbors.

In this context, we have a moral imperative to marshal a comprehensive approach to racial health equity that addresses avoidable deaths and a lower quality of life. But what are those structural barriers that we need to address?

Differences in socioeconomic status lead to diminished access to healthcare. Individuals in lower income brackets are more likely to be uninsured or underinsured, live in areas with fewer healthcare resources, and have less access to transportation to medical appointments. They are also less likely to have a video-enabled device to access a telehealth visit with their doctor or a quiet place to have that telehealth visit even if they do have the technology. This digital divide has further restricted access to care particularly over the last year, when in-person visits were severely restricted because of the COVID-19 pandemic.

In addition, it is not possible for individuals and families without stable finances to prioritize their health. For a recent example, Black and Hispanic people in Boston are more likely to have jobs that do not allow them to work remotely, increasing their risk of COVID-19 exposure, and more likely to work in jobs for which it is harder to get time off while impacted by side effects for the COVID-19 vaccine.

For many decades, we at BMCHS — comprising Boston Medical Center (BMC), Boston Medical HealthNet Plan, and Boston University Medical Group — have invested in addressing these socioeconomic barriers and social determinants of health (SDoH) inequities in partnership with our communities.

We have programs that remediate gaps created by social determinants of health, such as our rooftop farm, prescription food pantry, housing prescription program, and transportation to health appointments.

SPOTLIGHT ON: SHAWNDA WALKER



Cultivating a diverse staff is vital in so many ways, including building patient trust and enhancing

quality of care by having a care team that is representative of the patient population. Shawnda Walker, the under-represented minority program manager in the Office of Minority Physician Recruitment has led the charge to recruit, hire, engage, and promote Black, Latinx, Native American, Native Hawaiian, and Pacific Islander resident physicians at BMC, leading to URiM numbers at approximately 19% of our resident program, which exceeds the 14% national average. That recruitment includes the new health equity fellow who will begin in July 2022. The fellow will advance BMC health equity priorities by working on projects and programs that aim to reduce inequities in health outcomes with the goal of graduating into a leadership position.

“Setting up best practices around recruitment and continuing to build an inclusive climate and culture helps ensure there’s a sense of belonging that supports all of our residents as they do the work they’re passionate about,” **said Walker.**

Health inequities among Boston residents



Mother and Child

In Boston, **Infant mortality is 4.1x higher for Black infants and 3.4x higher for Latinx infants** than white infants. In the US, **pregnancy-related deaths are 3.2x higher for Black women than white woman**



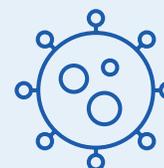
Chronic Conditions

In Boston, the **diabetes mortality rate is 1.6x higher for Latinx residents and 2.3x higher for black residents** compared to white residents. Sickle cell disease impacts almost exclusively Black patients



Oncology

In Boston, Black residents are **1.5x more likely to suffer premature death from cancer**. In Boston, Black residents are **2.6x more likely to suffer premature death from prostate cancer**. In Boston, Black residents are **1.2x more likely to die from breast cancer**.



Infectious Diseases

In Boston, **COVID-19 cases are 1.5x higher in Black communities' and 2.2x higher Latinx communities**. In Boston, **HIV incidence is 3.3x higher in Black communities**.



Behavioral Health

In Boston, Black residents are **1.4x more likely** and Latinx residents are **1.7x more likely to suffer persistent sadness**. In the US, Black residents are **1.8x more likely to attempt suicide**.



Violence and Trauma

In Boston, **the homicide by firearm rate is 50x higher for Black males**. Boston Accountable Care Organization's Black child members are **1.8x as likely to be identified as having experienced abuse or neglect**.

For example, BMC’s pediatric hematology clinic, which treats children with sickle cell disease, among other health issues, had a no-show rate at appointments of 25% — twice the national average. One in three caregivers of the patients said that their reason was affordability of or access to reliable transportation.

So, the clinic arranged and paid for ride-shares for its patients, an idea borrowed from BMC’s Immigrant and Refugee Health Center. During a piloted ride-share program, all 35 patients who identified their transportation insecurity utilized the service, showed up to their appointments, and were on time.

In addition, we have attempted to address the root causes of these problems through BMC programs that create pathways to economic mobility and affordable housing. These programs include StreetCred and Boston Opportunity System (BOS) Collaborative, respectively.

Last year, CEO Kate Walsh wrote about the importance of health equity and addressing these social determinants of health in an op-ed on HealthCity, BMC’s thought-leadership publishing platform focused on health equity.

“Done right, the process of improving health instead of addressing illness can reduce healthcare spending and free up resources to plow back into the communities we serve,” Walsh wrote.

As we work to diminish socioeconomic differences and address the social determinants of health, we understand that they do not fully explain racial health disparities.

“The Accelerator executes equity through rigorously interrogating the status quo, to mitigate the risk, impact, and power of a dominant narrative”

Thea James, MD

Executive Director of the Health Equity Accelerator and
Vice President of Mission & Associate Chief Medical Officer



SPOTLIGHT ON: THEA JAMES, MD

As vice president of Mission at BMC and executive director of the Health Equity Accelerator, Thea James, MD, plays a crucial role in ensuring that health equity is embedded into all aspects of care within the hospital. She has made it her own mission to educate providers and advocate more broadly on addressing the root causes of poor health—specifically pushing for economic mobility, affordable housing and other social determinants of health. **In an op-ed**, she explains the goal of practicing “upstream healthcare” instead of reacting to healthcare issues after they already arise.

“Healthcare as we know it today would be standing at the water’s edge and hauling half-drowned people out of the water. Upstream healthcare is building the safety fence so that people don’t fall into the water at all.”



SPOTLIGHT ON: SHAMAILA KHAN, PHD

In her role as the training director of the Center for Multicultural Training in Psychology, Shamaila Khan, PhD, focuses on educating staff hospital-wide on systemic racism and how to bring both cultural competence and cultural humility to their role.

“Healthcare institutions and providers need to raise [systemic and individual biases] to the surface and become more comfortable with having uncomfortable conversations to effect change,” [Khan, who is a clinical psychologist, wrote in a HealthCity op-ed.](#)

HOW HEALTH SYSTEMS DISCRIMINATE AGAINST PATIENTS OF COLOR

Black American birthing people die in pregnancy approximately 3x more frequently than white patients do. Research shows that this gap persists (and even widens) after controlling for socioeconomic factors, such as income or level of education attained. This is just one example of disparities in health outcomes tied to race that are not due to socioeconomic differences.

Racism and discrimination are sadly embedded into the structures of U.S. institutions, including healthcare institutions, in part due to unconscious bias among practitioners and staff across all levels. That, too, must be addressed.

At BMCHS, we have been acutely aware of how racism causes health injustice. We proudly care for a diverse patient population. For example, 33% of our patients at BMC identify as Black, while only 23% of Boston residents identify as Black. Because of this, and as a safety-net hospital, we have been committed to racial health justice throughout our history.

Established in 1864, Boston City Hospital, the precursor to BMC, was the first municipal hospital in the United States with the mandate that it was “intended for the use and comfort of poor patients, to whom medical care will be provided at the expense of the city...”. So, even before BMC was formed in 1996, when Boston City Hospital and Boston University Medical Center Hospital merged to create one hospital, a commitment to serving communities that are traditionally underserved was in its DNA.

Within the four walls of our hospital, and our entire hospital system, we understood that systemic racism exists and is incredibly complex. To truly understand the challenge, we have interviewed many patients and conducted dozens of analyses, literature reviews, and dialogues. Our work revealed the true magnitude of the challenge before us, and that meaningfully addressing systemic racism will take decades of intentional work by all of us.

There is a long road ahead to fully understand the dynamics of race and health, but we have learned that there are at least five ways the health system discriminates against patients of color:

1. Medical protocols are not always objective.

Unfortunately, subjects and interpreters of clinical research have primarily been white men. As a result, seemingly “objective” protocols sometimes end up being unintentionally biased. For example, oximeters are widely used to monitor criticality of COVID-19 patients and make decisions about hospitalization and ICU care. However, studies have shown that pulse oximeters consistently measure blood oxygen saturation at higher levels in people with darker skin, thereby overestimating the presumed oxygen level in the blood of people of color.

Moreover, when researchers explicitly introduce race in their studies, this sometimes has the effect of amplifying the societal racism that exists in the data. For example, many race-adjusted algorithms consistently de-prioritize Black patients for important procedures, such as transplants or heart surgery, based on a history of lower past success rates.

2. Protocols are not always inclusive of a diverse cultural reality.

Medical protocols and advice do not always consider the cultural or social context of the patient. For example, mainstream nutrition advice is often filled with pictures of kale, green smoothies, and quinoa. These can be flavors or ingredients that are either uncommon or unavailable to people, depending on their culture and geographical location, which makes it difficult to follow nutritional advice.

3. Healthcare providers are real people with unconscious bias.

Medicine is not always “clear cut” and requires personal judgment to decide the best course of action. Biases, unconscious and conscious, may influence these types of decisions. A 2017 study found that healthcare professionals exhibit the same levels of implicit bias as the wider population — and showed correlational evidence that these biases are likely to influence diagnosis, treatment decisions, and levels of care.

For example, previous research shows that Black patients are significantly less likely than white patients to receive analgesics for the same injuries. The same research suggests that the reason for this discrepancy may stem from deeply engrained beliefs, some still included in teaching material, that Black bodies are biologically different from white bodies.

SPOTLIGHT ON: LISA KELLY- CROSWELL

Lisa Kelly-Croswell, senior vice president and chief human resources officer at BMC, has worked hard to ensure that health equity isn't the work of just one group or one program. Instead, she aims to make every single staff member of BMC embody and feel empowered by diversity, equity, and inclusion. As part of this goal, Kelly-Croswell has helped introduce the Diversity, Equity, and Inclusion report—which highlights work across the hospital advancing these goals—and the Culture Code.

“The idea behind the Culture Code is that if we're all behaving—every day and in every moment—in a way that embraces what we want to be and stand for, then you'll see transformation as great, or even greater than, any programming could provide,” **she said in an [interview](#).**





SPOTLIGHT ON: DAVID HENDERSON, MD

David Henderson, MD, serves as the psychiatrist-in-chief of BMC, the chair of the psychiatry department at BUSM, and the assistant dean of Diversity & Inclusion. Practicing both internationally and locally, as well as throughout his extensive research with people who have severe mental illness, he uses his psychiatry and mental health lens to look at health equity. Recently, he has been outspoken about racial inequities amid the COVID-19 pandemic, particularly how we address mental health repercussions.

“We have much work to do in order to increase access to mental health services across the board, but particularly for patients of color. This requires a multi-faceted approach, including reducing the stigma associated with mental health conditions, increasing the diversity of the workforce, and better engaging with people of color wherever they access the healthcare system to assess and address their mental health needs,” **Henderson said to HealthCity.**

4. A lack of representation creates distrust in care.

When a care team is not diverse or representative of the patient community, it can lack the empathy, cultural sensitivity, and cultural competence to make optimal recommendations based in understanding. On the flip side, when patients of color are never cared for by physicians, nurses, and other clinical care members of color, they may not feel as comfortable sharing concerns or trusting their care team.

The importance of representation was highlighted in one patient interview. That patient said, about their care team, “Maybe they can understand your symptoms, but they don’t really know you. They just keep treating symptoms without treating the person.”

5. History matters.

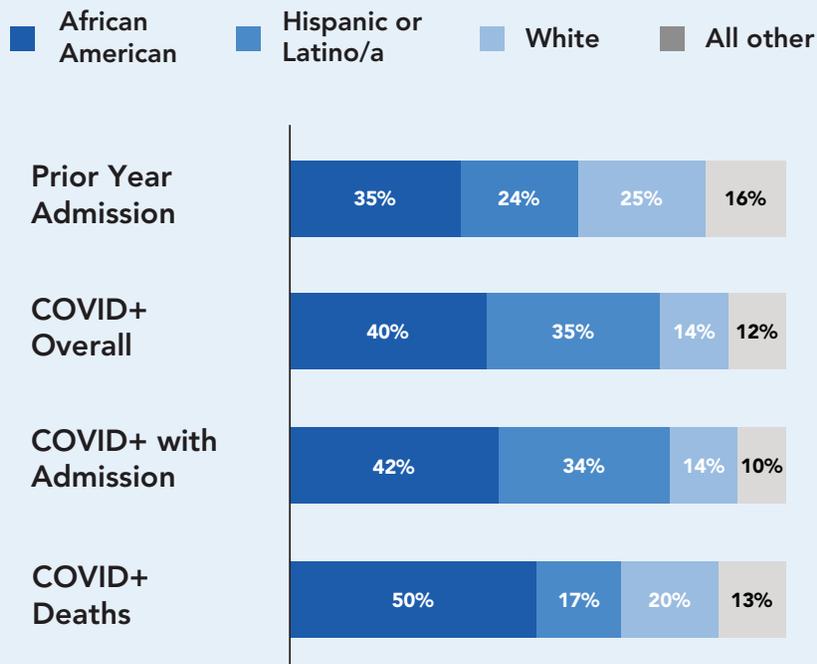
Lastly, there is a long history of ethical violations against Black patients in healthcare and medical research, including the case of Henrietta Lacks and the U.S. Public Health Service Syphilis Study at Tuskegee and Macon County, Alabama. We cannot ignore this history. It has bred valid fears and mistrust of the medical system among patients of color.

Achieving racial health equity means addressing each and every one of these mechanisms of discrimination and actively correcting for the harm they cause. They can be difficult to see and articulate in practice. Precisely for this reason, we must be intentional in our systematic identification of these barriers to dismantle them.

With a historic commitment to social justice, we have a strong foundation to continue implementing and expanding our health equity efforts that have been the cornerstone of our history for the past 160 years. Among many of these efforts, we strive to disrupt structural barriers to optimal health outcomes and build systems and infrastructure to bolster and accelerate our health equity efforts.

The COVID-19 pandemic shed a bright light into racial health inequities in America and their deadly consequences, both due to socioeconomic disparities and SDoH as well as systemic racism. It highlighted how BMCHS must be more intentional about addressing health inequities in the communities we serve.

Racial and Ethnic Demographics of BMC Patients



“The Accelerator’s innovative approach combines patients, clinicians, and researchers to develop insights and design solutions much faster than ever before.”

Elena Mendez-Escobar, PhD, MBA

Executive Director of Strategy and the Health Equity Accelerator

SPOTLIGHT ON: MICHELLE DURHAM, MD, MPH

Michelle Durham, MD, MPH, a pediatric and adult psychiatrist, has made a point to practice in underserved and marginalized communities. Not only does she advocate for racial equity in mental health treatment for her patients, but she also pushes for national and global change. In 2021, Durham was invited by Sen. Elizabeth Warren to testify at the **U.S. Senate Committee on Finance** about how the federal government could help support a robust, modern, and most importantly diverse, mental health workforce to meet patient needs—especially given the disproportionate impact the pandemic is having on their communities.

“[T]he mental health workforce is not diverse—for instance, only 2% of psychiatrists identify as Black—and not representative or reflective of the U.S. population,” Durham testified. “In order to address this, we must understand that the issue at its root is a pipeline issue that requires holistic solutions.”





SPOTLIGHT ON: COVID-19 VACCINE LEADERS

The COVID-19 vaccination effort was the definition of teamwork. **Cassandra Pierre, MD, MPH** and **Sabrina Assoumou, MD, MPH**, and others from the Infectious Diseases department, as well as **Sebastian Hamilton, PharmD, MBA, MPH**, associate chief pharmacy officer, among many others, helped dispense vaccine information and open community Q&As and dialogues about vaccine concerns. They also worked with providers on how to talk with their patients about getting the COVID-19 vaccine—all with an eye toward equitable access, not just in Boston and Massachusetts, but across the globe.

“We need to make sure that communities that have been disproportionately impacted [by the COVID-19 pandemic] actually have access to the vaccine and have been provided the education that they need,” Assoumou said in a Q&A.

COVID-19 HIGHLIGHTS STARK RACIAL HEALTH INEQUITIES

In Boston, COVID-19 cases were 1.7x higher in Black communities and 3.5x higher in Hispanic and Latinx communities than in white communities. At BMC, Black patients were disproportionately represented in overall COVID-positive cases, admissions, and death, while Hispanic and Latinx patients were disproportionately represented among overall COVID-positive cases and admissions.

These disparities arise from social and clinical factors. As previously mentioned, our Black and Brown patients are more likely to work essential jobs that cannot be performed at home. Additionally, their housing arrangements may not allow for the social distancing required to prevent the spread of COVID-19.

Health inequities in no way began with COVID-19, but the pandemic did expose deeply rooted injustices, sparking many health systems to make health equity a priority.

“COVID-19 has demanded leaders, clinicians, and policymakers do things differently and has shown us that we can,” Walsh wrote in her op-ed. “Going back is not an option. Instead, our nation needs health-care leaders from every sector — providers, payers, pharmaceutical manufacturers, device companies and government representatives — to be as bold and innovative as the teams who sprang into action in the earliest days of this pandemic to create new models of care and lower-cost financial frameworks to support them.”

As we cared for COVID-19 patients throughout 2020 and into 2021, BMC researchers led a first-of-its-kind study that investigated the differential impact of COVID-19 on racial groups within the Hispanic community.

This study highlighted that not only did Hispanic groups as a whole have worse outcomes than non-Hispanic white individuals, but also that Hispanic Black individuals had the highest rates of comorbidities, admittance to the intensive care unit, ventilation, and death due to COVID-19.

Analysis of the national data underscored that these disparities were not rooted in biology. Instead, they reflect the systemic impacts of racism and inequity. While we know that research alone will not erase these inequities, our researchers' investigations are an important piece of targeting public health and treatment approaches to help decrease these inequities in COVID-19 outcomes.

Given the demographics we were seeing related to COVID-19 cases, hospital admissions, and death, as well as research around both disparities and vaccine hesitancy in communities of color, we knew we had to urgently and radically address the blatant racial health inequities in new ways. We successfully introduced new services, including home visits, telehealth, contact tracing, and other public health tools.

According to Walsh, these “radical changes reveal that a system focused on public health and community-based infrastructure, rather than episodic and disjointed care, is not only possible but necessary.” We also provided education on and access to vaccination for these communities that was crucial in making progress toward equity and providing assistance to communities most affected by COVID-19.

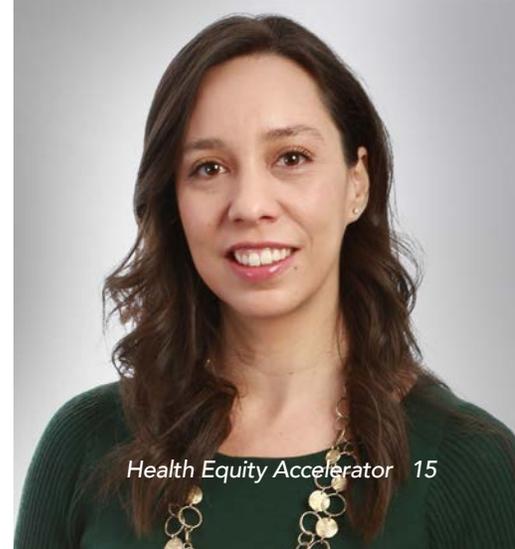
We opened seven community vaccination sites (and continue to host pop-up locations) in heavily impacted neighborhoods in our patient community to make appointments more accessible for Black and Latinx residents. As part of this work, we collaborated with local community health centers, community and spiritual leaders, and local organizations, including the Mattapan Community Health Center, Codman Square Community Health Center, DotHouse Health, Upham's Corner Health Center, Harvard Street Neighborhood Health Center, Harbor Health Services, Russell Auditorium, Morning Star Baptist Church, Twelfth Baptist Church, St. Nectarios Greek Orthodox Church, and the Thomas M. Menino YMCA.

Together with those community partners, we shared vaccine information, learned about key concerns from the community, and organized events to help answer questions and secure vaccine appointments for specific groups. We conducted outreach and education in multiple languages, including Spanish and Haitian Creole, and had our clinicians of color offer information sessions to the community to speak more specifically to their needs.

SPOTLIGHT ON: ELENA MENDEZ- ESCOBAR, PHD, MBA

As executive director of Growth & Innovation at BMCHS and executive director of the Health Equity Accelerator, Elena Mendez-Escobar ensures that as the health system grows and develops new strategies, it's always through the lens of health equity. So, when it came to developing the Health Equity Accelerator, Mendez-Escobar helped coordinate the advisory workgroups to delve into the practices and protocols of BMCHS, as well as other research and literature, to devise a plan to find the biggest areas of racial inequity and address what drives them.

“As we looked at the data on health outcomes in Boston, we saw significant outcome gaps between white communities and communities of color,” said Mendez-Escobar, who is originally from Spain. “We all realized we needed to do more to understand how structural racism is creating invisible barriers to health and act to remove those barriers.”



SPOTLIGHT ON: MIRIAM KOMAROMY, MD

Miriam Komaromy, MD, medical director of the Grayken Center for Addiction is a leader in advocating for and creating initiatives for equity in substance use disorder care and reducing racial disparities in opioid overdose deaths. She focuses on harm reduction and aims to combat stigma for patients with SUD, whether in pregnancy, for people experiencing homelessness, and others. The Grayken Center has a new antiracism initiative to identify and address systemic barriers to treatment.

“Addiction really occurs at the intersection between mental health, physical health, and social existence. So, all kinds of cultural things come into play in the development of addiction, what patients may want for treatment, and how they respond to treatment,” **Komaromy said in an interview** advocating for diversity and cultural competency in addiction provider training.



Although there is still much more work to do, this inclusive approach has proven successful in increasing equity in COVID-19 vaccine distribution. As of mid-September 2021, approximately 46% of patients vaccinated at BMC and our community vaccination sites have been people of color, compared with approximately 22% of the total number of people vaccinated throughout Massachusetts.

In addition, more than 25% of individuals vaccinated have been in the top two tiers of the social vulnerability index (SVI), a Centers for Disease Control measure that helps local officials identify communities that may need support before, during, or after disasters. We will continue to build a strong and dynamic infrastructure that supports health equity within Massachusetts and beyond.

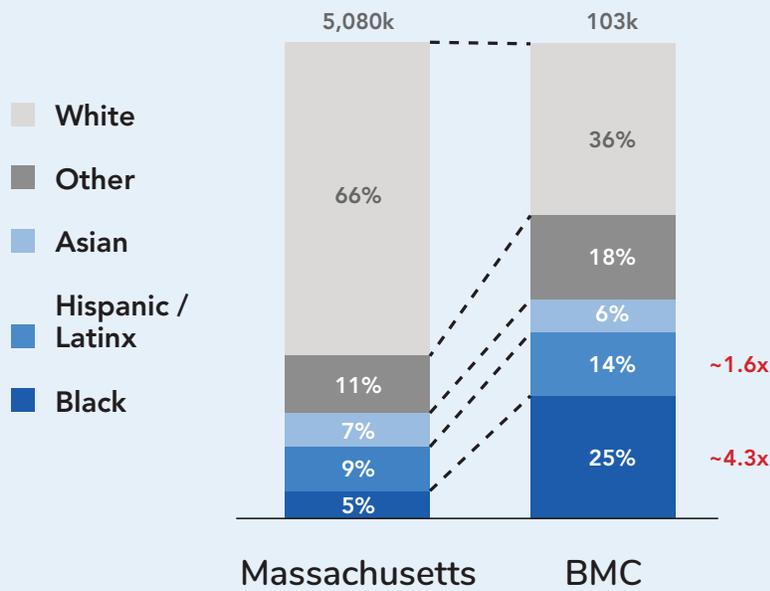
While COVID-19 magnified existing disparities in healthcare access and outcomes for our patients, the nationwide Black Lives Matter protests, that are ongoing, after police killed George Floyd, Breonna Taylor, Daunte Wright, and other Black Americans again highlighted the racism and racial inequities alive in the U.S. Between these protests and the COVID-19 pandemic, these recent years have coalesced to highlight the tremendous racial inequities that still exist.

At BMCHS, we took the events of the last two years as an opportunity to hold a mirror up to ourselves. We wanted to further understand how race and racism impacts our patients’ ability to live healthy lives and how the work that we do — both within the four walls of the hospital and in the broader community — contributes to or helps eliminate racial health inequities.

Through the pandemic and the protests, we understood that our pre-existing approaches do not move us fast enough or get at the root causes of inequity. We must make health equity an explicit focus and be more intentional when it comes to race.

Our work distributing the COVID-19 vaccine within Boston’s most vulnerable neighborhoods became a model of how we aim to use research to change clinical care and partner with our communities to advance health equity with the new Health Equity Accelerator.

Vaccinations by race / ethnicity¹
 MA through 9/14, BMC through 9/12



SPOTLIGHT ON:
TRACY BATTAGLIA,
MD, MPH

Tracy Battaglia serves as director of BMC’s Center of Excellence in Women’s Health, and she is deeply invested in research and using that research to inform pathways and initiatives for equitable care. Battaglia spearheads the Translating Research into Practice (TRIP) project, an ongoing five-year grant to study and identify barriers to care and improve breast cancer care delivery to vulnerable, at-risk patients. TRIP works underneath the umbrella of the Boston Breast Cancer Equity Coalition (BBCEC).

“There is promise and potential in coalitions like the BBCEC. The pandemic has given us the opportunity to see how people can come together in ways they never did before, whether it be sharing resources or coming together to create policy throughout the city,” **Battaglia told HealthCity.** “We have to ride that train and extend it to everything, including cancer care. I am hopeful that there has been a lasting change in how we work together to care for our patient populations.”

“Health equity is in BMC’s DNA yet our patients still experience racial health inequities. The Accelerator will drive overdue change.”

Kate Walsh
 President and CEO Boston Medical Center



SPOTLIGHT ON: SARAH KIMBALL, MD

Sarah Kimball, MD, a primary care physician, is co-director of Boston Medical Center's Immigrant and Refugee Health Center, where she helps patients navigate the complex U.S. healthcare system, connecting them with the medical, social, or mental health services they need to heal and thrive. Last year, Kimball and colleagues partnered with the Rian Immigrant Center to add legal counsel to the range of resources the IRHC offers.

"Every day in my clinic, I see how the current political climate toward immigrants has dire health consequences," Kimball said. "Our patients are living with the effects of politics in their minds and in their bodies, and that's certainly something that we've seen ramped up in the last few years."

THE HEALTH EQUITY ACCELERATOR

With the mission of more intentionally, expeditiously, and explicitly addressing health injustice and racial health inequities, BMCCHS is launching the Health Equity Accelerator in fall 2021 after more than a year of research and development. The Accelerator will transform healthcare to deliver health justice and wellbeing with the goal of eliminating gaps in life expectancy and quality of life among groups of different races and ethnicities. With the Accelerator, BMCCHS will work to advance racial health equity by breaking down barriers that limit our patients' potential while simultaneously restructuring systems to meet patients' needs.

After a deep review of Boston's Community Health Needs Assessment as well as our own data, we have identified the following areas as those with the largest gaps in health outcomes among people of different races and ethnicities.

We will focus our efforts on these five areas:

- **Maternal and child health**
- **Infectious diseases**
- **Behavioral health**
- **Chronic conditions**
- **Oncology & end-stage renal disease (ESRD)**

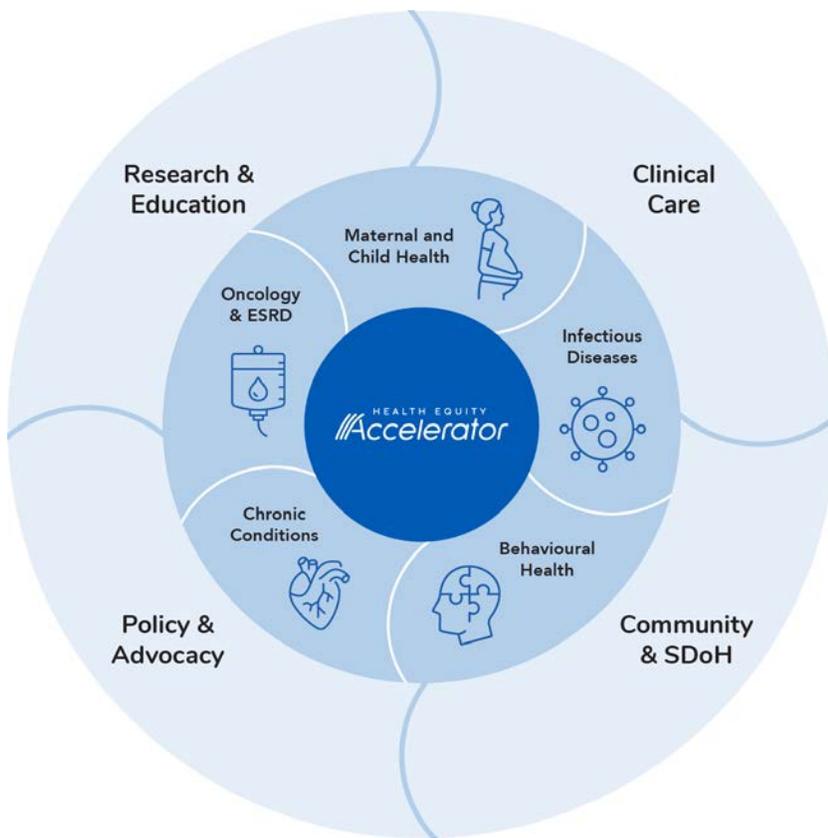
To do this, our approach is to incorporate three elements that are often siloed in healthcare: clinical care, research, and community/SDoH programs.

For each of these clinical focus areas, we will investigate and address both the upstream and the clinical factors that contribute to inequities in health access, patient experience, and outcomes.

The elements of clinical care, research, and community/SDoH programs form the three legs of a metaphorical stool: they all work together, and they won't work without all three in place. From there, we aim to extend the impact of the Accelerator's reach through the fourth element: policy and advocacy.

Specifically, we envision the Accelerator to take these action steps:

- **Listen to patient needs and goals**
- **Deploy advanced research methodologies**
- **Provide data science and analytics tools**
- **Set strategy and convene cross-functional groups**



- Implement innovations and transform care
- Form and sustain community partnerships
- Oversee and coordinate SDoH programs and infrastructure
- Fundraise to support equity efforts

As we build a system-wide equity infrastructure to support care transformation in those five high-priority clinical areas, we will measure and track our progress. The insights we gather will enable us to pivot, if and where it is necessary.

Looking into the future, we envision the Accelerator to have a demonstrable impact on racial health equity in patient outcomes, research and education, partnerships, and policy and advocacy. Ultimately, our goal is to eliminate disparities in life expectancy and quality of life across people of different races and ethnicities. In particular, the following graphic shows the metrics that present gaps that we aspire to close.

Our approach will be agile, adjusting as new data and research informs goal-setting, and so, additional metrics will be added as we further develop work in each of the five clinical areas of focus.

SPOTLIGHT ON: LUCY MARCIL, MD

Pediatrician Lucy Marcil, MD aims to reinvent pediatric care with the understanding that economic inequities play a major role in a child’s health. To address this, she co-founded StreetCred, an in-hospital tax preparation service where IRS-trained volunteers assist families who qualify for the earned income tax credit while waiting for a child’s pediatric visit. StreetCred has now expanded to offer job training as certified tax preparers, training on financial literacy, and assistance setting up 529 college funds for children—and it’s been adopted by health systems across the nation.

“There is no medical condition as prevalent in kids as financial instability,” wrote Marcil in an [op-ed for HealthCity](#).





SPOTLIGHT ON: MEGAN SANDEL, MD, MPH & GINA PATTERSON

The Boston Opportunity System (BOS) Collaborative, a BMC-led initiative, partners with other local hospitals and community organizations to provide residents of specific disinvested city neighborhoods with job training and increased access to better jobs and affordable housing.

“Place-based investing, place-based hiring, and place-based small business procurement is part of our healthcare anchor mission,” Megan Sandel, MD, MPH, pediatrician and BOS Collaborative leader, explains. “We want Nubian Square, Roxbury, 02119, to be the healthiest neighborhood in Boston. There is no reason it can’t be.”

To put the initiative into action, director Gina Patterson urges anchor institutions in the city to follow-through on their commitment to hire local people of color: “We want to help support [tech institutions], as we know there is plenty of talent within Mattapan, Dorchester, and Roxbury to help fill those positions.”

THE ACCELERATOR APPROACH IN ACTION: EQUITY IN PREGNANCY

As we have begun developing and testing the Accelerator’s approach, maternal and child health care has been our initial focus. Using continuous research, innovations in clinical care, and community partnerships, we have delved into addressing equity in this high-priority area, starting with equity in pregnancy.

During our intensive literature review and information-gathering process in the spring of 2020, we convened a team of more than 20 BMC experts in maternal-infant health, including researchers, physicians, nurses, community liaisons, and operations leaders from Obstetrics & Gynecology, Pediatrics, and Family Medicine. The team aimed to develop a plan for how BMC would reduce inequities in maternal-infant outcomes. Integrated in this group were also key resources to enable a rapid assessment of what we know about inequities in pregnancy, such as data and analytics support, feedback from patients, and input from frontline staff and other maternal-child health experts, including BMC leaders [Christina Yarrington, MD, FACOG](#), the director of Labor & Delivery, and [Tejumola Adegoke, MD, MPH](#), the director for Equity & Inclusion at BMC OB/GYN.

One of the group’s first objectives was to solicit input from patients on how they perceive maternal care at BMC. Sophie Wilson, BMC’s patient insights manager, helped craft a short patient survey that was completed by more than 50 patients who had received prenatal, postpartum, or delivery care at BMC in the last five years. The survey’s results showed some racial disparities in patient experience. For example, Black patients were less likely to report they “almost always feel like [they are] treated with empathy and respect.”

After a comprehensive review of maternal-infant health outcomes for BMC patients by race, the group decided to focus on two key metrics where there are disparities between Black and white patients at BMC:

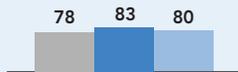
- **The rate of severe maternal morbidity (SMM), a CDC-defined measure that tracks severe complications during labor and delivery, such as receiving a blood transfusion, acute renal failure, and sepsis (blood infection)**
- **The rate at which babies are born small for gestational age (SGA), a measure of baby’s health. SGA represents the percentage of babies that are born under the 10th percentile for the gestational age at which they are born**

Our goal is to eliminate disparities in health outcomes across different races and ethnicities

□ BMC specific ■ Black
■ Hispanic or Latino/a ■ White

Life Expectancy

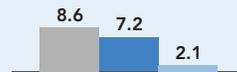
Life expectancy of Boston residents at birth, years 2015



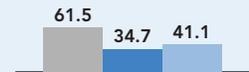
Premature mortality rate
Age adjusted rate per 100,000 residents under the age of 65, 2015



Infant mortality
per 1,000 live births



Premature mortality, Cancer
Age adjusted rate per 100,000



Life Quality

Areas of Clinical Inequity

Maternal and Child Health
Small and Gestational Age per 100 births^{2*}

Race/Ethnicity	Rate (per 100 births)
Black	8.0
Hispanic or Latino/a	6.0
White	4.6

Small for gestational age

Infectious Diseases
Prevalence of Sexually Transmitted Diseases

Race/Ethnicity	Prevalence (%)
Black	5.5%
Hispanic or Latino/a	4.9%
White	2.9%

Prevalence of HIV, AIDS

Chronic Condition
Prevalence of Hypertension

Race/Ethnicity	Prevalence (%)
Black	30.9%
Hispanic or Latino/a	23.4%
White	20.7%

Prevalence of Hypertension

Rate of Severe Maternal Morbidity, per 100 deliveries *

Race/Ethnicity	Rate (per 100 deliveries)
Black	5.2
Hispanic or Latino/a	4.0
White	2.7

Severe Maternal Morbidity

HIV, AIDS

Race/Ethnicity	Prevalence (%)
Black	2.6%
Hispanic or Latino/a	2.9%
White	1.2%

Prevalence of HIV, AIDS

Type 2 Diabetes

Race/Ethnicity	Prevalence (%)
Black	14.1%
Hispanic or Latino/a	12.8%
White	7.2%

Prevalence of Type 2 Diabetes

* SUD-adjusted

Behavioral Health



Suicidal/homicidal ideation/attempt (peds)



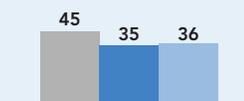
% of Boston adults reporting persistent sadness



Confirmed Opioid-related overdose death rates, MA 2020⁴

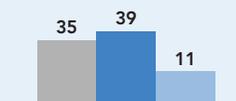
SDOH

Homelessness



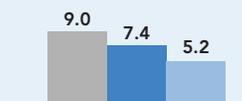
% of Homeless Individuals living in Boston

Food Insecurity



% of Boston residents reporting food insecurity

Unemployed and looking for a job



% of Boston residents 16 years and over Unemployed

SPOTLIGHT ON: PETRINA MARTIN CHERRY

As BMC's vice president of Community Engagement and External Affairs, Petrina Martin Cherry has made it her priority to have meaningful partnerships and collaboration with community leaders and services. Although far from limited to just during the COVID-19 pandemic, her outreach and collaboration when it came to distributing the COVID-19 vaccines was vital to reach individuals in key, vulnerable neighborhoods of Boston. But she didn't want to just distribute the vaccine. Alongside those crucial partners, she wanted to ensure patients were informed and trusted the safety and efficacy of the vaccine and had the opportunity to get their questions and concerns answered.

"It's all a journey and people are in different places when it comes to vaccines," **Cherry told HealthCity.** "It's one thing to show up in the community and set up sites, but by showing up and listening, we can better understand how to make people more comfortable with getting the vaccine."

After adjusting for substance use disorder (which disproportionately affects our white patients), the SMM rate is nearly twice as high for Black versus white patients, and the SGA rate is more than 1.5x higher for Black patients.

The group worked closely with the BMC System Analytics team to use internal data to understand the drivers of inequity for both SMM and SGA.

They found a large portion of the inequity in SMM rates between Black and white patients was associated with complications of hypertensive disorders of pregnancy: preeclampsia and antepartum hypertension. Black patients were more likely to have these conditions (17% of Black patients compared with 12% of white patients).

Additionally, Black patients with these conditions were 2.5x more likely to suffer SMM compared to their white counterparts. In other words, when they do have preeclampsia, it leads to more serious complications during labor for Black patients. The team is continuing to delve into clinical data to understand what may be driving this difference in outcomes, including how we make decisions about length of inductions and the decision to transition to C-section and whether unconscious bias may be impacting this decision-making.

Unlike SMM, hypertensive disorders of pregnancy did not seem to be associated with any inequity in SGA rates between Black and white patients, which led the team to believe that the drivers of inequity for SMM and SGA are distinct. Analysis revealed that SGA seemed to be highly linked with Medicaid coverage, suggesting that low income or poverty may be a driver of SGA. Black patients are more likely than white patients to be covered by Medicaid due to structural inequities impacting income and wealth, resulting in a large portion of the SGA inequity being linked to Medicaid coverage. Additional analysis revealed several risk factors that are linked with both Medicaid coverage and higher SGA rates for Black patients, such as mental health disorders (especially depression), SUD and alcohol use during gestation, homelessness, and low BMI.

After conducting this research across several months, the team aims to innovate in clinical care with the help of community partners. Specifically, to address inequities in SGA, BMC will work with community partners to develop upstream interventions to improve economic opportunity for Black residents and connect Black pregnant patients



with the care and resources they need during the prenatal phase, such as therapy, food, and housing.

The group identified a set of foundational interventions, and they uncovered several areas where additional research is needed to better understand how to most effectively improve patient experience and reduce inequities. Patient and community input will be a critical part of this longer-term research. With the Accelerator's approach, we are agile, continuing to incorporate learnings and innovations from research as they come.

This fall, a researcher from the Boston University School of Social Work, Linda Sprague-Martinez, PhD, will lead a series of one-on-one, in-depth patient interviews to better understand how preeclamptic patients experienced their care at BMC. The goal is to learn what we could have done differently or better to help them throughout their pregnancy and delivery. Going forward, we plan to continue working with BMC data scientists to build predictive models for both SMM and SGA.

While this work will take years, the team is energized to be taking steps now to begin eradicating long-standing inequities in maternal-infant health outcomes. We hope to rapidly improve the experience and outcomes of Black patients at BMC while also sharing our findings with other health systems across the U.S.

To change outcomes in these clinical areas, including maternal and child healthcare, the Accelerator nurtures, innovates, and advances BMC's efforts in health equity. One of those existing efforts is a job training and housing program that supports patients who live in underserved areas.

“ We’re changing how our organization faces and champions equity. We’re looking at everything we do with an explicit equity lens and transforming our approach. ”

Alastair Bell, MD

EVP and COO, Boston Medical Center Health System



SPOTLIGHT ON: TEJUMOLA ADEGOKE, MD, MPH & CHRISTINA YARRINGTON, MD

Tejumola Adegoke, MD, MPH and Christina Yarrington, MD lead the Accelerator's Equity in Pregnancy initiative and are passionate about eliminating disparities in obstetrics.

In August 2021, they published 'Inequities in Adverse Maternal and Perinatal Outcomes: The Effect of Maternal Race and Nativity', a study that showed that Black women and infants consistently suffer worse outcomes than other racial groups. This finding highlighted the importance of addressing social factors such as racism to improve outcomes for Black patients.

Adegoke and Yarrington are also working to improve patient care. Yarrington leads a multi-disciplinary workgroup that aims to reduce hemorrhages for Black women, which is the leading cause of severe pregnancy-related complications for these patients. Adegoke is raising awareness about obstetric racism and developing tools to measure and address the negative impact it has on Black patients.

THE ACCELERATOR'S FOUNDATION IN UPSTREAM HEALTHCARE: COMMUNITY PARTNERSHIPS FOR ECONOMIC MOBILITY WITH BOS COLLABORATIVE

One of the root causes of health inequity are barriers to economic mobility. It is a priority for the Accelerator to build on our existing initiatives and continue to invest in eliminating those barriers and create paths for wealth building in our community. The largest effort of this kind at BMC is the Boston Opportunity System (BOS) Collaborative, a partnership across multiple local organizations to create jobs and affordable housing in our community.

In December 2017, BMC took an unprecedented step by channeling \$6.5M in Determination of Need (DoN) funding into housing partnerships for Boston residents, thereby beginning a journey of commitment to upstream efforts to address social determinants of health affecting the wellbeing of individuals across the city.

Our initial venture into place-based investing quickly attracted like-minded partners, similarly committed to enacting social justice by promoting economic mobility within historically disinvested communities. BMC, Boston Children's Hospital, and Brigham and Women's Hospital pooled \$3 million collectively into the Innovative Stable Housing Initiative (ISHI), with funds directed to flexible and upstream policy, system, and environmental solutions for housing.

With this momentum, BMC led the formation of the BOS Collaborative in 2020, through an initial investment of \$5 million from JPMorgan Chase foundation's Advancing Cities Challenge competition.

The BOS Collaborative functions as a deep place-based initiative of health equity work for BMCHS and is integrated with other social determinants of health and workforce initiatives. For example, economic mobility pathways are a critical component of this work, and we recognize the role we must play as a model anchor institution in the economic mobility and small business space.

BMC, as the backbone organization of BOS Collaborative, is working with funding partners, community-based organizations, the City of Boston, and fellow anchor institutions to generate a powerful portfolio of work across pillars of housing-based initiatives, anchor institutions' investments, and economic mobility pathways targeting Boston's most disinvested neighborhoods.

We have partnered with Jewish Vocational Services (JVS) Boston, a workforce development agency with offices in Roxbury and Downtown Boston, which offers career coaching, tailored trainings for identified job pipelines, and ESL programming. Rounding out our community-based organization partners is Dudley Street Neighborhood Initiative (DSNI), which leads our neighborhood revitalization efforts by identifying how dollars can most effectively be invested in community development without displacement. DSNI works with BMC to develop creative financing for asset building models for people of color and to make model investments for others to follow.

The City of Boston is a significant partner with its Offices of Economic Development and Workforce Development, its Department of Neighborhood Development, and the Boston Public Health Commission each serving on the BOS Collaborative steering committee and working to develop creative financing models and new job-based economic mobility pathways.

Other key partners include our hospital anchor institutions (Boston Children's and Brigham and Women's Hospitals), which have committed to serve as model anchors for other institutions to emulate alongside BMC; Health Resources in Action (HRiA), which has led the participatory action of ISHI and will facilitate community engagement and asset mapping as keys to collaborative success; Metropolitan Area Planning Council (MAPC), the evaluator of the BMC's DoN funded housing initiative; and ISHI, which serves as the BOS Collaborative's local evaluator and partner with national evaluator Abt Associates.



CONCLUSION

As a safety-net hospital serving some of the most vulnerable neighborhoods in Boston, BMC is acutely aware of how racial injustice impacts health outcomes. The COVID-19 pandemic only further exposed these racial health inequities in Boston and beyond, propelling us to formalize and standardize our health equity work and mission. Acting as the cornerstone of BMCHS' health equity work, the Accelerator will expedite, support, and set standards for racial health equity across the health system with the goal of transforming healthcare to deliver health justice and wellbeing.

Looking into the future 15 years, we envision the Accelerator to have a demonstrable impact on racial health equity. We hope to establish ourselves as leaders and build a model that other healthcare institutions can replicate to advance health equity across the U.S.

To achieve this vision, here are some of the ways we hope to partner with our community to advance health equity.

BMC care providers:

We hope to partner with physicians, nurses, social workers, midwives, and all other care providers within BMC who are already doing the work to advance racial health equity. If you're highlighting and promoting this work in journals and across media or working with the Government Advocacy Office to speak to policymakers on the city, state, and federal level on behalf of our patients and their needs, we want to partner to raise your voices.

BMC faculty and education staff:

We hope to work with you in promoting and advancing your health equity work and partner with your teams as you build a strong, diverse community of educators that reflect our patient population.

Researchers:

As you continue to make diversity in clinical trials a priority, we hope to work alongside you in building a robust research agenda that is community-informed and systemically identifies and builds solutions to dismantle each and every barrier to health justice.

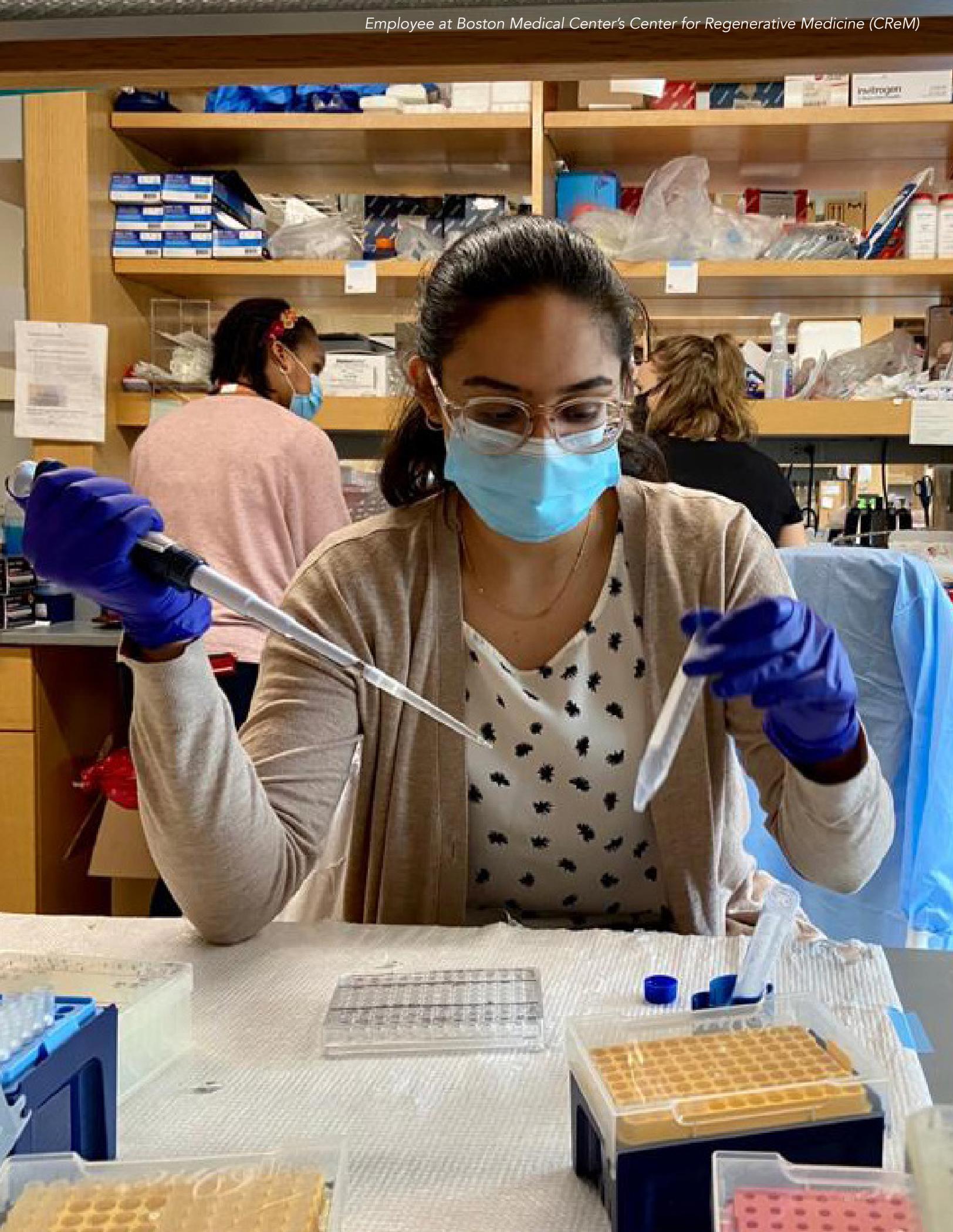
Policymakers:

We'd like to partner to give our voices to the multitude of physicians and care providers who have testified on community needs around healthcare and the social determinants of health. We hope to work together in advocating for the key clinical areas with high risk of inequities.

Community leaders:

We aim to continue and more robustly engage with you in listening to the voices of your communities, what they need, their pain points, how we can help, and ideally effect changes.

With the Health Equity Accelerator in place, and with teams across the health system as support, we plan to formalize our existing and future health equity work to ensure we are delivering the best care possible for our patients. We will develop a model for understanding and eventually helping to eradicate racism from healthcare.





For more information, please visit our website at bmc.org/health-equity-accelerator.