

Tackling the Dual Economic and Public Health Crises Caused by COVID-19 in Baltimore

Early Lessons from the Baltimore Health Corps Pilot







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Preface

In the spring of 2020, as the COVID-19 pandemic surged in the United States, the city of Baltimore, Maryland, confronted converging crises in public health and unemployment that exacerbated persistent inequities there and around the country. In partnership with The Rockefeller Foundation, the city designed and piloted the Baltimore Health Corps (BHC). Among the first of its kind in the nation, the program sought to recruit, train, and employ 275 new public health workers – Baltimoreans who were unemployed, furloughed, or underemployed, and living in neighborhoods hardest-hit by the twin economic and health crises.

The Rockefeller Foundation, the City of Baltimore, and our partners worked together to ensure that the BHC pilot would be ready-made for adoption and adaptation elsewhere by healthcare and municipal leaders, policymakers, and the organizations and individuals who fund them. We embedded a strong, independent evaluation as part of this work to ensure the program could use performance data to continually learn and improve, and to ensure that we could build an evidence base for what works and what doesn't in building an innovative jobs and community-health program.

By the time the program launched, COVID-19 was hitting Baltimore hard. Infections and deaths soared disproportionately among Black and Latino populations while, at the same time, the city experienced peak unemployment, reaching 11.6 percent in April 2020, compared with 5.5 percent a year earlier. In this report, we examine early lessons from work performed by the hundreds of Baltimoreans serving in BHC during this challenging period. In evaluating our progress, we considered three core questions: Did we hire BHC members in a manner that prioritized equity and the make-up of the wider Baltimore community – specifically the communities hardest hit by COVID-19? Did we improve contact tracing efforts from their prior levels of success? And did we successfully provide care coordination services that met the community's needs?

By sharing the timely lessons in this report, we hope the BHC will prove a useful model for cities and other communities seeking to draw from this work. Later in 2021, our independent evaluator will conduct further assessments of its efficacy, effectiveness, and equity. Finally, we want to acknowledge the many people and organizations that made this report possible. Our evaluation partners Dylan H. Roby, Neil J. Sehgal, Elle Pope, Melvin Seale, and Evan Starr from the University of Maryland's Department of Health Policy and Management, Robert H. Smith School of Business, and Health Systems and Policy Research Lab. Our evaluation steering committee included Brendan Hellweg, Darcy Phelan-Emrick, Rachel Brash, Kristina Grabbe, Traci Kodeck, Lynell Medley, Sarah Flammang, Emilia Carrera, Leah Perkinson, and Shawna Hoffman. Our partners in the city - including the Baltimore City Health Department, the Mayor's Office of Employment Development, the Mayor's Office of Performance & Innovation, Baltimore Civic Fund, Baltimore Corps, Jhpiego, Healthcare Access Maryland, Maryland Access Point, Baltimore Alliance for Careers in Healthcare, Catholic Charities of Baltimore, Maryland Volunteer Lawyers Service, and Cities for Financial Empowerment - were essential to our success. Lastly and crucially, we want to thank the community health workers, managers, and administrators, working tirelessly, especially with the most vulnerable in their communities, to flatten the curve of the pandemic.



Brandon M. Scott Mayor of Baltimore



Otis Rolley III Senior Vice President, Equity and Economic Opportunity The Rockefeller Foundation



Acronyms and Abbreviations

TERM	DEFINITION			
BACH	Baltimore Alliance for Careers in Healthcare			
BCHD	Baltimore City Health Department			
внс	Baltimore Health Corps			
сс	Catholic Charities of Baltimore			
CHW	Community health worker			
CI	Case investigator			
CMS	Centers for Medicare and Medicaid Services			
CRISP	Chesapeake Regional Information System for Our Patients			
СТ	Contact tracer			
НСАМ	HealthCare Access Maryland			
LHIC	Local Health Improvement Coalition			
МАР	Maryland Access Point			
MDH	Maryland Department of Health			
MOED	Baltimore City Mayor's Office of Employment Development			
MVLS	Maryland Volunteer Lawyers Service			
NORC	National Opinion Research Center			
OPI	Baltimore City Mayor's Office of Performance & Innovation			
REDCap	Research electronic data capture			
WIOA	Workforce Innovation and Opportunity Act			

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Brandon M. Scott Mayor

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https://moed.baltimorecity.gov/_



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This report is based on research funded by a consortium of funders listed above. The findings, views, and conclusions contained within are those solely of the authors. On March 12, 2020, the first case of coronavirus disease 2019 (COVID-19) was diagnosed in Baltimore City. Its infection rate increased rapidly through March and into April and May, proving to be 4 times higher among Latino residents and 1.5 times higher among Black residents than the city's White population. At the same time, the city's unemployment rate surged from 4.9 percent in March to a peak of 11.6 percent in April 2020.[†]

In June, Baltimore City government launched the Baltimore Health Corps (BHC), a pilot program to recruit, train, and employ 275 new community health workers who were unemployed, furloughed, or underemployed, living in neighborhoods hardest hit by the health crisis and especially those residents unemployed as a result of COVID-19. BHC used equitable recruitment and hiring practices to employ contact tracers, care coordinators, and support staff, with a focus on good jobs, fair pay, training, skill-building, and support to improve career trajectories. The city leveraged its existing partnerships to move quickly.

IMPLEMENTING PARTNER	ROLE
Baltimore City Health Department (BCHD)	Hiring, contact tracing, call center, outbreak investigation, older adult care coordination, and program administration
Baltimore Civic Fund	Program administration and fiscal sponsorship
Baltimore Corps	Recruitment, screening, and referral
HealthCare Access Maryland (HCAM)	Care coordination, vaccination and testing support, program administration, and addressing social determinants of health
Jhpiego	Hiring and onboarding, contact tracer training, program planning, and technical support for contact tracing
Mayor's Office of Employment Development (MOED)	Recruitment, career navigation, financial counseling, post-BHC job placement, and management of supports from Catholic Charities of Baltimore, Maryland Volunteer Lawyers Service, and Baltimore Alliance for Careers in Healthcare
Mayor's Office of Performance & Innovation (OPI)	Program coordination, management, analysis, and design support
Mayor's Office of Performance & Innovation (OPI)	Volunteer Lawyers Service, and Baltimore Alliance for Careers in Healthcare Program coordination, management, analysis, and design support

[†] U.S. Bureau of Labor Statistics. Unemployment Rate in Baltimore City, MD. FRED, Federal Reserve Bank of St. Louis; FRED, Federal Reserve Bank of St. Louis. <u>https://fred.stlouisfed.org/series/MDBALT5URN</u>

Objectives and early findings

Three core objectives guide the work of the BHC pilot, and an early-findings evaluation of its first six months has indicated progress on all three. The evaluation also identified where to focus ongoing efforts to improve each objective.



1

CREATE JOBS WITH EQUITABLE HIRING AND CAREER DEVELOPMENT POSSIBILITIES



2

INCREASE CAPACITY FOR COVID-19 CONTACT TRACING



OBJECTIVE 1

Create jobs with racially equitable hiring and career development possibilities

Launch hundreds of community health worker (CHW) jobs in contact tracing, care coordination, and program operation, while building sustainable employment and economic stability paths for those hired both during and after the pandemic.

Early findings

BHC reached its hiring target of 275 as of January 31, 2021, providing new roles as contact tracers and care coordinators to residents. Of these new employees, more than 85 percent were previously unemployed, furloughed, or underemployed, about 70 percent lived in Baltimore City, and at least 65 percent were Black, Indigenous, and People of Color (BIPOC). BHC met equity targets in hiring staff that roughly reflected Baltimore's racial and geographic diversity. The program offered training to selected applicants who were not initially hired to increase their possibility of being hired in another cycle or by another employer. The new staff, primarily hired through the city's health department, expanded the size of the department by over 15 percent in six months - much faster than the usual pace of hiring and growth for a special project. BHC also hired five career navigators and one navigation supervisor to support the new staff and provided behavioral health and legal services through contractors.

DEMOGRAPHICS OF BALTIMORE CITY RESIDENTS



HIRES AND ACTIVE OFFERS AS OF JAN 31, 2021



OBJECTIVE 2

Increase capacity for COVID-19 contact tracing

Develop and implement an effective COVID-19 case investigation and contact tracing program using trained CHWs to meet the upsurge in demand.

Early findings

The first BHC contract tracers were onboarded on August 6, with additional capacity added through the fall of 2020. By November, BHC had hired more than 80 people to conduct contact tracing and was already operating at 60 percent of capacity, but the surge was still challenging to manage, especially when the city faced a 350 percent case increase from October to November. Test turnaround time - the time from test specimen collection to test result - also increased during that period, which made timely contact tracing even more challenging. However, by January 31, 2021, the contact tracing team was fully staffed and BHC was able to operate at full capacity to address surges. The rate of positive cases who completed interviews rose from 67 percent at BHC's August inception to 73 percent in January. The number of contacts who were contacted within 24 hours increased from 67 percent to 80 percent, while those who completed interviews rose from 50 percent to 78 percent over the same time period. Contact tracers operated on a "call center" model until mid-December, then moved to a "case management" model designed to allow for more relationship building and continuity. An early lesson was the importance of including Spanish-speaking corps members who could serve Baltimore's Latino community.



OBJECTIVE 3

Provide essential care coordination

Address the needs of the most vulnerable populations through enhanced care coordination, including help in quarantining and providing financial aid and support for caregivers.

Early findings

Initially, fewer residents were actively requesting care coordination services than originally anticipated. Thus, BHC worked to improve referral coordination with the contact tracing team, while also redeploying resources to testing sites, flu clinics, and housing complexes. After these changes occurred in November, care coordination experienced a 126 percent increase in referral volume. The majority of care coordination clients (77 percent) came through direct calls to health care phone lines. The most common requests of these referrals were: access to food (33 percent), commodities/supplies (14 percent), quarantine support (13 percent), help with utilities (11 percent), and housing (8 percent).



Flexibility, dedicated staff, buy-in from leadership, strong existing partnerships, and a determination to use data to drive decisions helped BHC adapt to the changing needs of city residents. It grew and developed through an iterative approach to incorporate lessons in real-time. However, gaps and challenges need to be addressed by Baltimore and by any other localities seeking to set up similar programs. The following recommendations should be considered during program budgeting, design, and implementation. The "specific recommendations" relate to BHC's concerns as it refines its program, while the "broader recommendations" are for a wide audience of organizations that may consider designing and deploying a similar program.

Specific recommendations for BHC

Based on Baltimore City's experience with the BHC pilot, several opportunities were identified to improve and leverage new resources to support the continuation and adaptation of the pilot.



Invest in the CHW workforce by taking advantage of funding available through H.R. 1319, the American Rescue Plan (ARP) Act of 2021. Transition the BHC workforce into roles to support the COVID-19 vaccine roll-out or other community health work in Baltimore as supported by federal funds in Section 2501 of the ARP Act.

Develop a centralized information technology infrastructure to collect and share data across partners, both to facilitate performance improvement and to serve as a proof of concept for future interdisciplinary projects. Funding to support these activities is expected to be available through Section 2401(b)(5) of the ARP Act.

Consider revisiting the original goals of the program by assessing newly available data and gaps uncovered or exacerbated during the pandemic.

Broad recommendations for developing and implementing a similar program

Baltimore City's experience in developing and implementing the BHC offers an exemplar for states and localities. The following guidance draws on BHC's successes and lessons learned.





OPEN COLLABORATION AND COMMUNICATION

Use existing contractors and relationships where possible, which will facilitate the work. Familiarity, open communication, and the ability to quickly execute contracts and start funds flowing will be vital.

Use a multidisciplinary team-based approach for planning and execution that dissolves traditional silos between economic development and public health to ensure buy-in across agencies and leverage varied expertise.

Allocate resources for a dedicated project manager with experience working across the city, county, or state with the partners involved.

Delineate leadership and decision-making authority for workgroups and the overall program.

Develop strong linkages and coordinate with departments or programs not involved in the contact tracing and care coordination activities. Communicating with local leaders and industry partners focused on testing, patient care, and other aspects of disease control will be vital to success.



PREPARE THE WORKFORCE

Ensure existing staff and leaders have necessary training and learn the values needed to engage in equitable review and hiring practices. Supplement initial training with a supportive mentorship initiative and on-the-job training that allow for continuous skill-building.

Remove barriers where possible for applicants and new hires related to criminal history background checks and drug-testing requirements to encourage workforce equity and facilitate faster hiring.

Leverage existing training models and adapt the curriculum to meet specific program needs. Also, repurpose training when needed to support eventual vaccine outreach, uptake, and administration.

Involve community-based organizations that can provide additional resources such as computer literacy and interview preparation. These organizations can both help remove technology barriers during the pre-interview process and identify potential applicants.

Offer support to encourage post-program placement opportunities, such as career navigation, behavioral health, legal services, job placement assistance, and financial empowerment training.

Work with employers in the region to create a pipeline for referrals into longer-term positions for employees.



IMPLEMENT AND MAINTAIN FLEXIBILITY

Be flexible during the program's design and implementation, so leaders and staff feel empowered to pivot quickly in addressing challenges.

Facilitate hiring of data analysts to manage multiple data sources, do near-time performance tracking, and facilitate data access for partners to help improve the program while it is ongoing.



ADDRESS VULNERABLE GROUPS

Attempt to analyze data on the race/ethnicity of the unemployed population to ensure targets are representative of those most likely to suffer from loss of work or chronic unemployment.

Conduct focus groups or interviews with community members to better understand their needs and the impact of programs on their employment and health outcomes. Baltimore City and its partners launched the Baltimore Health Corps (BHC) on June 4, 2020, to equitably address the dual economic and public health crises created by the coronavirus disease 2019 (COVID-19)

pandemic. By January 31, 2021, BHC employed 240 residents of the city and surrounding counties who had been unable to find jobs due to the pandemic, introducing them to new roles as contact tracers, outbreak investigators, care coordinators, managers, and support staff. The Baltimore City Health Department (BCHD) and the Mayor's Office of Employment Development (MOED) jointly led the pilot by leveraging existing partnerships, capacity, and expertise in equitable recruitment and hiring practices, workforce support activities, public health capacity-building and training, and care coordination.



On March 12, 2020, the first COVID-19 case was diagnosed in Baltimore City, resulting in closures, a slowing of economic activity, and implementation of public health measures. As the case rate and positivity rate increased through March and into April and May, the unemployment rate surged from a low of 4.9 percent in March to a peak of 11.6 percent by April 2020.^a

A second case surge in December 2020 and January 2021 threatened to destabilize the economy and overwhelm local hospitals.

a. U.S. Bureau of Labor Statistics. Unemployment Rate in Baltimore City, MD. FRED, Federal Reserve Bank of St. Louis; FRED, Federal Reserve Bank of St. Louis. <u>https://fred.stlouisfed.org/series/MDBALT5URN</u>

BHC's theory of change

Baltimore developed a new workforce of trained community health workers (CHWs) by deploying BHC, a unique transitional jobs program launched in response to the COVID-19 pandemic, which:



Used innovative methods to recruit and hire an equitable workforce with the potential to succeed as contact tracers and care coordinators based upon their previous experiences, community involvement, empathy, and interest in helping their community

Addressed critical COVID-19 needs in vulnerable communities and provided employment to persons who were jobless as a direct or indirect result of COVID-19



Increased short-term employment opportunities in public health for residents and attempted to improve their long-term career paths and economic mobility



Enabled BCHD to do needed contact tracing and case investigation work

Enabled HealthCare Access Maryland (HCAM) and Maryland Access Point (MAP) to deliver care coordination for vulnerable members of the community. In order to improve the ability of these BHC employees to pursue longer-term sustainable career pathways and economic mobility, the BHC paired efforts to prepare and train the new workforce hires with support services, such as behavioral health, legal services, career navigation, and financial empowerment. By drawing contact tracers and care coordinators from local communities and neighborhoods affected by the dual economic and public health threats, the BHC attempted to improve both health and economic outcomes for city residents.

Cities, counties, states, and the federal government will benefit from early lessons and recommendations from the BHC in responding to increases in unemployment, COVID-19 cases, and COVID-19-related deaths. BHC's focus on hiring and training community health workers to serve vital roles in local COVID-19 responses aligns with the recently passed American Rescue Plan Act of 2021, which allocates funding for approximately 100,000 public health workers to address COVID-19 vaccine outreach and contact tracing, and later to transition into long-term roles supporting the needs of their communities.¹

This report describes the formation and implementation of the BHC pilot program and explains its objectives and key components. Further, it gleans information from observations, program documents, existing data used for reporting and tracking purposes, and interviews analyzed by the University of Maryland (UMD) School of Public Health and Robert H. Smith School of Business. These combine to provide early findings, describe challenges, and document lessons learned, and in turn, make recommendations based on its first six months (see Appendix F for details of the methodology). UMD, as the independent evaluator for the BHC, has assessed the pilot program's ability to achieve its main objectives and answer specific learning questions (see Appendix G for full list of learning questions). It also has developed early lessons and recommendations from the pilot.

FIGURE 1 Summary of BHC logic model

PROBLEM	SOLUTION ++	ACTIVITIES =	EXPECTED OUTCOMES		
 COVID-19 increases Unemployment 	Create equitable employment opportunities	Workforce supports, including carer navigation, legal supports, behavioral	Short-term employment		
 Need for public health programs to contain disease spread 	 Recruitment Screening Hiring Training 	health, financial empowerment counseling	Long-term sustainable career pathways and economic mobility		
	Conduct contact tracing and case investigation	Ongoing training and performance support to improve program	Improved health outcomes		
	Provide care coordination services	outcomes and quality	Social needs addressed		
Ť	•	↑	Containment of COVID-19		
Economic impacts and unemployment	COVID-19 incidence, testing, and test turn- around time	COVID-19 vaccine availability & distribution	Local and state policy changes or mandates		

EXTERNAL FACTORS THAT CAN IMPACT BROADER OUTCOMES OR REQUIRE PROGRAM ADAPTATION

Evidence Base Supporting the BHC Pilot Model

BHC used an equity-based transitional jobs program model to identify motivated candidates who showed empathy, enthusiasm, and an interest in helping their communities through contact tracing and care coordination. Transitional jobs programs result in positive short-term employment and long-term employment outcomes.² As there is no evidence around their use in pandemic response and mitigation, BHC relied on evidence from previous efforts to develop and adapt its own unique approach.

Rather than providing subsidies to employers to hire eligible workers, BHC offered an intentional hiring model. Its model prioritized an inclusive, unbiased recruitment and application process, coupled with systematic candidate screening. BHC aimed to develop a skilled community health workforce that would be well-suited to address the needs of Baltimore's communities and neighborhoods during the pandemic.³



Transitional jobs programs

Transitional jobs programs provide short-term employment, support, and job placement services to unemployed or underemployed individuals who face challenges in obtaining or keeping jobs in the traditional labor market.⁴ Providing a variety of support services has been shown to help individuals prepare for the labor market, including support groups, behavioral health services, and career-readiness training.⁵ Evidence suggests that participants in transitional jobs programs benefit both professionally and personally.^{6,7} In these programs, support services that address behavioral health are often combined with basic skills courses, support groups, and financial and computer literacy courses. This, in turn, helps ensure that participants in transitional jobs can obtain future long-term employment and pursue long-term economic mobility and sustainable career pathways. Transitional jobs programs also can improve equity in the labor market by allowing job seekers who have traditionally been negatively impacted by systemic inequities to develop and upgrade needed skills and obtain experience and work history. Further, these programs can draw potential applicants and hires from communities that may have higher unemployment and financial insecurity rates.^{8,9}



CHW training modules

BHC included CHW training modules in preparing the contact tracing and care coordination workforce. CHWs are known to improve chronic disease management¹⁰, address health disparities¹¹, build trust¹² with patients and communities, and effectively deliver pandemic-related engagement¹³, outreach, and support in navigating the health system and COVID-19 testing and treatment.¹⁴ There is also evidence suggesting that using a CHW model in public health service delivery can deliver patient-centered, individualized support to address health disparities in a sustainable way.¹⁵ By hiring from the local population and providing CHW training to the newly hired staff, BHC intended to enhance staff members' connections with their clients through commonalities in background, lived experience, and knowledge of Baltimore City.

DOWNLOAD THE TRAINING MODULE FOR CONTACT TRACING HERE

DOWNLOAD THE TRAINING MODULE FOR SUPERVISORS OR MANAGERS HERE



Contact tracing experience

Public health agencies use contact tracing to contain the spread of infectious diseases, first by identifying those who have an illness. Once identified, patients are provided support to further contain the illness, through access to treatment, quarantine housing, food delivery, daily symptom monitoring, and medical advice. Further, the tracers rapidly reach out to known contacts to ensure they are aware of their exposure, can be diagnosed, can access necessary treatment, and can quarantine and avoid exposing others to a potential infection.

Contact tracing has proven effective with sexually transmitted infections,¹⁶ Ebola,¹⁷ and other illnesses. Early on in the COVID-19 pandemic, South Korea experienced success in mitigating the spread of COVID-19 through comprehensive testing and rigorous contact tracing models that leveraged several methods of data collection.¹⁸ Contact tracing appears to be effective in countries with smaller outbreaks and sufficient testing capacity, while its impact is uncertain in countries with community spread.

Evidence suggests that early case identification and contact tracing increase the likelihood of controlling an epidemic.^{19,20} Further, controlling pre-symptomatic transmission by promptly quarantining close contacts is key in preventing onward transmission and, thus, suppressing overall outbreak dynamics.²¹ However, mathematical modeling suggests that a test turnaround time of three days or longer reduces the efficacy of contact tracing in containing COVID-19.²²



Workforce expansion

Given the protracted length of the pandemic and given the burnout and overwork experienced by existing contact tracing staff, evidence suggests that contact tracing calls for expanding the workforce.²³ Although contact tracing for COVID-19 is less effective when testing capacity is strained and community spread is occurring, it could still be helpful in supporting cases and close contacts during quarantine and disease progression.²⁴



Care coordination

Care coordination is a helpful tool in managing chronic illnesses, especially in facilitating communication.^{25,26} Care coordination shows promise in linking patients with resources and services to address the social determinants of health, such as housing, utilities, and food insecurity.²⁷ Baltimore City actively participates in the Centers for Medicare and Medicaid Services' (CMS') Accountable Health Communities (AHC) demonstration, which identifies and addresses the health-related social needs of Medicare and Medicaid beneficiaries by screening and referring participants to community resources.²⁸ Similarly, BHC's care-coordination activities identify and address social needs for COVID-19 cases, contacts, and other residents with chronic illnesses or health needs who face problems with access and health indirectly due to the pandemic.

Local Context

Baltimore City, the largest city in Maryland, has a population of 600,000 within its boundaries and a metropolitan area population of 2.8 million. As an independent city,^b it operates its own local health department and has a public health commissioner, rather than relying on a separate county public health agency like most cities in Maryland. Therefore, BCHD is a city agency that reports to the mayor rather than a separate board of supervisors or county executive. Baltimore's population is 63 percent Black, 30 percent White, and 5.5 percent Hispanic or Latino, and its per capita income is approximately \$30,000 per year. Its COVID-19 case and death rates are disproportionately higher among its Black and Latino populations than with White populations. As of December 30, 2020, the crude COVID-19 case rate among its Latino residents was 104.0/1,000, 2.4 times that of non-Latino residents.²⁹ However, Latino residents experienced a lower death rate - 0.7 times that of non-Latino residents. Black residents had a case rate of 43.4/1,000, 1.4 times that of White residents, and they experienced the highest death rate of any racial/ethnic group, reaching 1.6 times that of White residents.

b. As an independent city, Baltimore is in a unique position as it has its own health department. In many large cities in the U.S., the health department is a county agency that controls public health response. City officials are not integrated as much as they are in Baltimore, where the mayor and city agencies are able to make decisions and allocate resources. This level of autonomy may not be possible for mayors of cities located in larger multi-city counties that have multiple layers of oversight and government.

COVID-19 CASE RATE IN BALTIMORE





BALTIMORE CITY AND THE ROCKEFELLER FOUNDATION DECIDED TO DEVELOP AN INNOVATIVE TRANSITIONAL JOBS PROGRAM TO PROVIDE OPPORTUNITIES TO COMMUNITIES HARDEST HIT BY THE PANDEMIC



Creation of the BHC

In late March 2020, the Baltimore City Mayor's Office connected with The Rockefeller Foundation's U.S. Equity and Economic Opportunity Initiative to develop an innovative approach to combat both the economic and public health impacts of the COVID-19 pandemic. Many states and counties, including Maryland and Baltimore City, respectively, had expanded their existing contact tracing programs or created new ones, and the Maryland Department of Health (MDH) worked with a contractor, the National Opinion Research Center (NORC), to quickly hire and deploy contact tracers to support counties across the state.³⁰ However, individual counties in the state, such as Baltimore City, needed to develop contact tracing capacity to meet their own public health surveillance responsibilities.

Recognizing the COVID-19 pandemic's far-reaching impacts, The Rockefeller Foundation looked to fund initiatives that would advance both economic opportunities and health. While the Foundation solicited grant proposals from interested parties, the funding opportunity itself was collaborative rather than directive. This allowed Baltimore City to work with the Foundation on the details of the program and make refinements based on current needs, experience, and changing priorities.

As a result, Baltimore City and The Rockefeller Foundation decided to develop an innovative transitional jobs program to provide opportunities to communities hardest hit by the pandemic, focusing on unemployed and underemployed individuals. Applicants were not required to have public health or contact tracing experience. Instead, hiring emphasized customer service experience, local knowledge, and empathy. Thus, the job opportunities of this approach targeted a population facing significant economic and health-related hardship. The BHC contact tracing positions were established as eight-month temporary positions that pay \$35,000 per year or \$2,917 per month. The salary is based on BHCD's standard \$35,000 to \$37,000 compensation structures for contact tracers, with an additional \$450 per month health insurance stipend. As of April 2021, the positions were extended to September 30, 2021.

To respond to the funding opportunity, the mayor's office brought together two key city agencies: the Mayor's Office of Employment Development (MOED) and the Baltimore City Health Department (BCHD). In order to develop a novel pilot program,^c these two agencies worked with The Rockefeller Foundation; the Mayor's Office of Performance & Innovation (OPI); Jhpiego, which is a nonprofit health organization; and Baltimore Corps, which is a nonprofit partner focused on employment.³¹ Baltimore Corps specializes in recruiting Black, Indigenous, and people of color (BIPOC) for employment opportunities, in partnership with local businesses, nonprofits, and government agencies. It also frequently works with MOED, BCHD, and other city agencies on equitable hiring programs and recruitment. MOED offers a core set of services at centers and partner organizations throughout the city, including several workforce centers, community job hubs, and youth services locations. Services focus on job search, training, and career development. The agency also serves as a strategic intermediary to coordinate a citywide workforce system consisting of city government, community colleges, employers, nonprofits, and funders. OPI provided coordination and project management support to MOED and BCHD during the ideation phase of BHC's development.

BHC's \$14 million budget includes approximately \$1.6 million in-kind contributions of existing staff, resources, and facilities from Baltimore City agencies and Baltimore Corps. The majority of the budget is \$12.4 million for direct expenditures, to which The Rockefeller Foundation contributed \$3 million, the federal CARES Act added \$4.5 million, and donations from private local and national supporters and a federal displaced worker grant made up the rest (listed in Appendix A). Based on the \$14 million total spending expected throughout the pilot, the cost per Baltimore City resident is approximately \$24.

The rapid creation of this large-scale effort relied on leveraging partners who had experience creating and

building new programs and were willing to absorb up-front investment and risk prior to the formal launch of the program. Baltimore Corps invested in staff and technology to support the recruitment efforts so that the initiative was ready to receive applications immediately upon launch. Securing financial resources to support this effort was also an important part of the ability to launch BHC – an effort in which Baltimore Corps played a critical role.



c. It is important to note that MOED is equivalent to a city employment development agency, despite the "Mayor's Office" label. It is a standalone agency in terms of size, budget, personnel, reach, and capacity, and is a city agency at the same level as the health department.

BHC was established with three main objectives to meet by August 2021. As shown in Figure 2, it also has a core set of aligned activities to support each objective.

FIGURE 2 BHC objectives and aligned activities



OBJECTIVE 1: WORKFORCE DEVELOPMENT

Create hundreds of skill-developing CHW jobs in contact tracing, care coordination and program operation, building sustainable employment paths, with a focus on equitable recruitment and hiring, both during and after the COVID-19 epidemic. Recruit, onboard, and support recently unemployed or out-of-work Baltimore residents in building public health or other careers.

Train staff to effectively support contact tracing and care coordination.



OBJECTIVE 2: CONTACT TRACING

Develop and implement an effective COVID-19 case investigation and contact-tracing program using trained CHWs. Rapidly expand Baltimore's contact tracing and overall public health capacity with 220 additional dedicated CHW staff.

Gradually improve the efficiency of BCHD's COVID-19 case investigation and contact-tracing program in order to reduce virus transmission and disease burden.



OBJECTIVE 3: CARE COORDINATION

Address the social needs of Baltimore's most vulnerable populations, including older adults, the uninsured, pregnant persons and those with young children, and the family members of each, through enhanced care coordination. Develop a core referral system that CHWs use to match supports to residents who are COVID-19 positive, have had close contact with a COVID-19-positive patient, or need additional assistance during the pandemic to support care coordination to address social needs such as housing or food.

Develop a focused inventory of essential and high-value COVID-19 service referral resources to empower care coordination services.

Adapt existing care coordination efforts, such as MAP or HCAM, in developing a new model that provides essential care coordination services for older adults, the uninsured, pregnant persons and those with young children.

Identifying Partners for Key Functional Roles

Due to limited capacity to deliver substantial components of the program rapidly, BCHD and MOED moved quickly to work with key partners to stand up different parts of the pilot. Although Baltimore Corps could handle recruitment and application processing with MOED, BCHD also needed assistance with training and onboarding the large number of planned new employees. BCHD brought in Jhpiego, a new city partner and Johns Hopkins affiliate, initially to assist with training and later to assist with onboarding capacity, developing the training curriculum, developing a protocol for hybrid in-person and remote training and onboarding, and engaging in capacity-building to support BCHD.

BCHD selected Jhpiego to perform this function because it is a well-known organization with expertise in conducting health systems strengthening, contact tracing program development, and technical assistance work in global health settings. As for delivering care coordination, BCHD relied on two existing care coordination providers: i) Baltimore City Maryland Access Point (MAP),³² a state-supported program run by BCHD's Division of Aging, and ii) HealthCare Access Maryland (HCAM),³³ a nonprofit organization that partners with Baltimore City to provide care coordination to Medicaid beneficiaries³⁴ and address social needs in the Centers for Medicare and Medicaid Services' (CMS) Accountable Health Communities (AHC) model.³⁵ BCHD chose MAP and HCAM to develop and provide the necessary care coordination services for their specific populations.

In addition to the core operational partners – BCHD, MOED, OPI, Baltimore Corps, MAP, HCAM, and Jhpiego – other contractors, identified in Figure 3, played key functional roles.



FIGURE 3 Core functions of BHC partner organizations

WHAT	WHO AND HOW
Recruiting and application portal	Baltimore Corps is a nonprofit organization that connects community members with opportunities to work in the city to fulfill specific purpose-driven needs. It has a high level of community engagement and communication capacity. BHC recruitment focused on hiring individuals who were interested in social impact careers.
	MOED assisted in recruiting by advertising the positions widely via its website, social media, and live and recorded virtual recruitment events. The actual application portal resides on Baltimore Corps' website.
Screening and referral	Baltimore Corps and MOED worked together and in consultation with BCHD and HCAM to develop rubrics and an algorithm to screen candidates. They used recorded interviews and reviews of applicants to recommend individuals for hire to BCHD/HCAM.
 Hiring Contact tracers Care coordinators Management Support staff 	BCHD and HCAM are health-related service delivery providers that hire the vast major- ity of the staff necessary for BHC to function. Both received batches of BHC applicants designated as "recommendations for hire" from Baltimore Corps. With the support of Jhpiego, the BCHD Human Resources division created the various positions. They also hired the majority of BHC employees using existing protocols, which were flexible enough to hire temporary and contract employees given their experience working with grants over the years. HCAM's Human Resources team hired and trained candidates for care coordination separately.
Contact tracer training • New hires • Applicants	Jhpiego is an affiliate of Johns Hopkins University that developed and delivers the onboarding and initial training for contact tracers, including 7 days of training for each staff member (see Appendix D). It provides ongoing performance support to all staff, including development and delivery of on-the-job training, and support for data analysis and use. Those specifically hired as supervisors and managers receive an introduction to supervisory and management skills.
	Baltimore Alliance for Careers in Healthcare (BACH) provided CHW training to strengthen the candidacy of up to 100 BHC applicants
Project management	The Mayor's Office of Performance & Innovation (OPI) plays a coordinating role, including project management and workgroup coordination.
Career navigation	MOED and Mathematica Policy Research trained the 5 new temporary career



MOED and **Mathematica Policy Research** trained the 5 new temporary career navigation hires and 1 supervisor hired to supplement existing career navigation services. The career navigators were trained to use the Goal4 It! model.³⁶

Post-BHC job placement



MOED employees with expertise in job placement lead this component. No new hiring or training is needed to support this transitional activity for BHC employees.



Organizational Structure

The BHC pilot consists of primary teams and subteams overseen by a single project manager and a management board made up of leaders from each key partner. These include the Baltimore City Health Commissioner, the Director of MOED, the Director of OPI, the President of the Baltimore Civic Fund, the CEO of HCAM, a Vice President of Baltimore Corps, and a Vice President of Jhpiego. As noted in Figure 4, each primary team and sub-team is responsible for a major component of the pilot, and the project manager's main responsibility is to assist in planning, overseeing, and organizing the pilot. Group leaders from each team come together weekly to discuss progress on BHC's implementation and objectives. Appendix C offers a detailed overview of each team, its purpose, the partners involved, and needed process steps and inputs.

The Funder Advisory Board consists of the funders listed in Appendix A. Its main roles are to provide input around reporting and evaluation and to identify new areas for funder support and advocacy.

FIGURE 4 BHC pilot organizational chart and teams



Early Findings



WORKFORCE DEVELOPMENT



The following section focuses on Objective 1 and its related activities. It describes recruiting, hiring, and preparing the workforce. See Appendix B for a detailed schematic of the BHC hiring process.

In the six months from August 2020 through January 2021, the BHC pilot met its goals related to recruiting, hiring, and training. BHC had planned to hire 275 employees throughout the program. As of January 31, 2021, 299 applicants had accepted offers, and 272 had started work. Thirty-two employees left their positions between August 2020 and January 2021, leaving approximately 240 BHC employees employed by BCHD or HCAM. The 206 BCHD hires performed or supported contact-tracing roles, while all 34 of the HCAM hires supported care coordination.

Workforce supports are available to all BHC employees. The program created short-term employment opportunities for formerly unemployed or underemployed Baltimore residents. In fact, 85 percent of BHC hires had been unemployed prior to the pandemic or due to the pandemic, or their hours or salary had been reduced due to the pandemic. The pilot also established a secondary training program to provide opportunities for applicants who otherwise might not have been recommended for hire under the BHC. This training also aligned with BHC's broader goals of engaging in equitable hiring.

The pilot reached applicants and hired people from diverse backgrounds and living in those areas most impacted by the pandemic. The majority of BHC employees – 69 percent – have taken advantage of career navigation services to assist in their long-term career prospects. A smaller number have taken advantage of support services – 34 percent for behavioral health and 55 percent for legal services. The impact of these services on future job placements and wages will be a focus of the longer-term evaluation of the BHC, but is currently unknown.

Outreach, Recruitment and Application Processing

More specifically, Baltimore Corps:

For the recruitment process, Baltimore Corps used an existing application portal,³⁷ worked with MOED and BCHD to create a scoring rubric based on BCHD and HCAM needs, and screened over 5,000 applicants using data-driven methods such as algorithms that prioritize responses to certain questions around empathy, customer service experience, and employment status. From there, Baltimore Corps and MOED quickly reviewed batches of applicants using recorded videos in place of interviews for the contact tracing roles, and referred over 400 candidates to BCHD for further review.

Using Baltimore Corps and MOED to recruit, screen, and manage the application process addressed the capacity limitations within BCHD's human resources office. Baltimore Corps and MOED's involvement also helped to ensure equity in the recruitment, application, and review process, due to their experience working toward equitable employment development. Baltimore Corps was already a known, trusted partner of city agencies, socially focused nonprofits, and community groups, and thus it was able to reach to a diverse group of unemployed or underemployed Baltimore City residents through its website and in partnership with MOED. MOED advertised BHC opportunities on its own website's jobs board and featured the BHC in its virtual recruitment events. In addition, staff from its Northwest Career Center, Eastside Career Center, and Employment Connections Center publicized the BHC employment opportunity routinely. Indeed.com provided free listings for specific postings.

Posted notices from BHC on paid job boards, such as Idealist.org, which it often uses to recruit for roles with specific skill set requirements



Customized BHC recruitment efforts by hiring three community-based recruiters who were deeply ingrained in the communities hit hardest by COVID-19 in Baltimore



Paired sharing information about available positions with food distribution and other services, so the announcement would be accessed and perhaps utilized by individuals whose employment was impacted by the pandemic



Hosted virtual recruitment efforts to engage candidates through social media and live virtual information sessions about BHC

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Attended virtual community events such as neighborhood association meetings, faith-based events, and gatherings for community-based organizations and workforce development partners. Screening panels for applicants were composed of Baltimore Corps and MOED employees who then recommended candidates to the BCHD and HCAM, the two employers who made the hiring decisions. BHC ultimately hired over half, or 55 percent, of the 420 recommended applicants. Thanks to Baltimore Corps and MOED using their workforce development and recruitment expertise to seek out an equitable, qualified applicant pool, BCHD was able to focus on the hiring process and preparing its workforce.

Respondents indicated that recruiting and hiring for BHC was quite different from typical processes at BCHD. The goal shifted away from finding people with prior experience in health care, public health, or contact tracing who could immediately step in and play a specific role. Instead, BHC ensured adequate training, support, and supervisorial guidance would be available to facilitate hands-on contact tracing experience during training. In terms of hiring, the goal was to give people the opportunity to grow within a job, but not put them in a situation where they have a job they cannot do.

Progress in Equitable Hiring

In its first six months of implementation, from August 2020 through January 2021, 240 positions were filled – 206 at BCHD and 34 at HCAM who were trained as CHWs. Of these, 111 handled contact tracing work. BCHD acknowledged that this would have been impossible without the recruitment and application processing support of Baltimore Corps and MOED. The partnership between Baltimore Corps, MOED, and BCHD was instrumental in moving the program forward. Rather than BCHD needing to develop the capacity and competency to equitably recruit candidates, reach disenfranchised or underrepresented groups, and process thousands of applications, it was able to trust a partner organization to address any existing gaps.

While recruitment was largely successful in terms of the number of applications received for each position, and representative of the target ZIP codes in the city, 21 percent of prospective community health worker/ contract tracer applicants who were offered positions declined the offers. One concern noted by several interviewees was the long process for hiring at BCHD, which was partially due to: i) limitations in processing new hires due to the need for background checks, drug testing, and paperwork, and ii) the additional workload it meant for existing human resources staff. There were also throughput limitations on the applicant review and onboarding/training side, with 25 CHW applicant recommendations from Baltimore Corps being reviewed every week by BCHD.

Hiring decisions and processing encompassed requirements for blended in-person and virtual training, social distancing and COVID-19 safety precautions, and wide variations in computer literacy among new trainees. In dealing with this, Jhpiego and BCHD determined that they could comfortably onboard 15 hires at a time, ensuring effective and efficient training and interaction with trainees. The cadence of hiring was variable, with monthly growth in the contact tracing and supervising workforce ranging from 200 percent in September 2020 to 13 percent in January 2021. Overall, this represented an average monthly increase of 64 percent. As shown in Figure 5, the candidate pool's racial/ ethnic makeup reflected that of Baltimore City, with 55 percent of BHC candidates who shared their race/ ethnicity identifying as Black or African American

SIZE OF CONTACT TRACING AND SUPERVISORY WORKFORCE INCREASED 64 PERCENT EACH MONTH ON AVERAGE.





(63 percent of Baltimore City residents are Black or African American). Another 14 percent of applicants identified as coming from other communities of color, including Latino, Asian, or multiple races. At least 65 percent of the candidate pool were Black, Indigenous and People of Color (BIPOC). The candidate pool skewed more female than Baltimore City, with twothirds of applicants identifying as female (see Figure 5). The application asked whether applicants had experience in health, human services, or community-based organizations, though experience in these three areas was not a requirement. While the application did not explicitly ask for information on previous public or community health experience, if applicants reported this type of experience, their score improved. While approximately 70 percent of the hires were college educated, it is unknown what portion of the applicants or hires had public health experience.

Skills training made necessary by acute public health needs and in response to the pandemic has potential to be transferable to other careers and, as such, the pilot is not strictly a public health workforce program. It is a transitional jobs program for underrepresented populations designed to develop The pilot is not strictly a public health workforce program. It is a transitional jobs program for underrepresented populations.

transferable skills on the job – such as communication, public health, and software skills. This can be further enhanced through career navigation inputs, such as resume writing or interviewing, which support them in seeking employment opportunities, even outside of public health.

FIGURE 5 Demographics of Baltimore City residents, BHC applicants, and BHC hires

	BALTIMORE CITY Residents		APPLICAN	APPLICANTS		
GENDER						
FEMALE	315,302	47%	3698	66.6%	145	60.7%
MALE	278,188	53%	1315	23.7%	69	28.9%
DECLINE TO IDENTIFY	N/A	N/A	537	9.7%	25	10.5%
RACE/ETHNICITY						
BLACK / AFRICAN AMERICAN	371,243	63%	3043	54.8%	127	53.1%
WHITE	179,979	30%	1137	20.5%	51	21.3%
HISPANIC OR LATINO	33,652	6%	199	3.6%	14	5.9%
ASIAN	15,776	3%	198	3.6%	7	2.9%
AMERICAN INDIAN OR ALASKA NATIVE	2,206	0%	10	0.18%	0	0%
NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER	243	0%	4	0.07%	0	0%
TWO OR MORE RACES	12,618	2%	660	11.9%	26	10.9%
DECLINE TO IDENTIFY	N/A	N/A	299	5.4%	14	5.9%
TOTAL	593,490		5,550		239	



- * The number of hires and offers includes 27 individuals who have accepted a position but have not yet started, as well as 32 who have already left their positions.
- ** A proportion of the applicants (12 percent) and hires or active offers (10 percent) declined to identify their race/ethnicity or gender. It is likely that the percentages of each race/ethnicity and gender underestimate actual percentages of each group in the applicant and new hires pool, which creates challenges in comparing the demographic characteristics of BHC applicants, hires, and Baltimore City residents.

Recognizing that the geographic variation in COVID-19 cases and economic hardship before and during the pandemic were anchored in existing racial/ethnic disparities, BHC attempted to improve health and economic equity by hiring from ZIP codes that faced the most severe burden of disease in the city. Of the BHC hires, 70 percent came from ZIP codes fully or partially included in the city's boundaries. Throughout the hiring process, BHC targeted the ten ZIP codes with the highest COVID-19 burden. As a result, eight of those ten ZIP codes (including the top three) were also the top ten ZIP codes for BHC applicants and hires.

Generally, the ZIP codes with the highest COVID-19 burden were located in the eastern and southern parts of the city, as shown in Figure 6. One exception, ZIP code 21209, is located in the northwest part of the city and had the highest COVID-19 rates in the area. Despite being only partially located within the city limits, it is home to eight BHC hires, which is 4 percent of all hires. Baltimore's situation is not unique, as other U.S. ZIP codes also straddle city or county boundaries.

Latino and Black residents of Baltimore City have experienced a disproportionate burden of Baltimore City's COVID-19 cases. As illustrated in Figure 7, the cumulative incidence of COVID-19 was considerably higher for Latino and Black residents than for White residents. While only 5 percent of Baltimore residents are Latino, they accounted for 11 percent of COVID-19 cases in the city and were 2.3 times more likely to test positive than non-Latino populations.

FIGURE 6 New cases per 100,000 population, with BHC hires overlaid by ZIP code



FIGURE 7 Cumulative Cases per 1,000 People by Race or Ethnicity and Percent of Daily New Cases of Unknown Race or Ethnicity



Therefore, BHC endeavored to hire and train Spanishspeaking community members in Baltimore's hardest-hit areas as contact tracers and care coordinators. It is now exploring ways to recruit and hire additional Spanishspeaking contact tracers, including offering training in Spanish to enable hiring of people with limited English proficiency, adopting alternative translation models, such as the AT&T Language Line, or establishing community organization partnerships, all to increase engagement with the Spanish-speaking population. To promote equity, MOED developed a process for BHC applicants to strengthen their application with additional training. Applicants who did not meet the scoring threshold for direct hire into BHC were referred to a four-week customized occupational training course with a CHW/contact tracing focus provided through the Baltimore Alliance for Careers in Healthcare (BACH). The Central Maryland Area Health Education Center administered the BACH training.³⁸ Those who take this accredited CHW training together with 40 hours of field experience (potentially through a BHC position) and complete their application are eligible for certification as CHWs in the State of Maryland. Baltimore City worked with BACH to ensure underrepresented minorities and low-income groups were given an opportunity to compete for the BHC positions and would have additional support to compete for positions and support future career goals, even if not hired. BACH received support for the BHC training course from a combination of funders: 45 percent from a state Workforce Innovation and Opportunity Act (WIOA) Dislocated Worker Grant and 55 percent from private foundation funds. As of early December 2020, the BACH training program had achieved a 73 percent completion rate out of the 100 applicant spots. This rate met expectations, comparing well with other training programs. Of those who completed the training, 42 (58 percent) received recommendations for hire to BCHD or HCAM, and 40 received an offer. MOED offered job placement assistance to all BACH completers not hired by the BHC. In addition, as other non-BHC employment opportunities related to testing and vaccination became available, unhired BACH completers were invited to apply.

MOED also hired five career navigators and one navigation supervisor to support the new BHC staff. In addition, contractors provide BHC staff with legal (Maryland Volunteer Lawyers Service) and behavioral health (Catholic Charities of Baltimore) support to improve employee well-being and financial health and to mitigate possible barriers to further employment. Using permanent and temporary staff, MOED also provides financial empowerment counseling and will offer job placement assistance via permanent specialist staff to the BHC employees to facilitate their transition into the workforce following their BHC employment.

Career navigators use a group-facilitation framework with BHC employees to deliver Mathematica Policy Research's Goal4 It! Model, which is based on the science of self-regulation and goal pursuit.³⁹ In December 2020, MOED's staff completed training and received certification in financial empowerment counseling and, in turn, began offering that service to BHC staff. These types of support services were considered important for achieving goals related to career development and job placement.^{40,41} As hiring for the pilot winds down, MOED will provide job placement services to support BHC employees in pursuing their long-term career and employment goals.

The percentage of BHC employees using support services increased from August 2020 through January 2021, as shown in Figure 8. It is too early in the pilot to know if these career support services are effective. However, it is helpful to understand the level of uptake of each type of service in order to plan for capacity and quantify the need for each in the newly hired workforce. Career navigation, the most popular resource, was sought by 87 percent of the 183 BHC employees hired by November 30, 2020. As the workforce has grown to 270 unique individuals currently or formerly employed by BHC, so has the overall utilization of the career navigation services.

FIGURE 8 Overall utilization rate and number of BHC workforce supports, by reporting month

	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY
CAREER NAVIGATION						
	53%	62%	86%	87%	78%	69%
	(25)	(66)	(133)	(159)	(181)	(187)
BEHAVIORAL HEALTH						
SUPPORI	2%	19%	43%	42%	34%	34%
	(1)	(20)	(66)	(76)	(78)	(93)
LEGAL SERVICES						
Λ	30%	53%	48%	57%	57%	55%
	(14)	(56)	(74)	(105)	(131)	(148)

Resource Allocation and Constraints

BCHD and MOED did not receive enough funding to cover facilities and administrative or overhead costs. As a result, they had to provide in-kind support to the project through their existing staff, facilities, and information technology systems, all of which put extra workload pressures on the city employees in those agencies. For example, existing divisions such as BCHD Human Resources had to absorb the additional burden of hiring almost 200 new temporary positions, a more than 15 percent increase in the number of BCHD employees, without supplementary resources.

At the beginning of the COVID-19 pandemic, 50 existing BCHD employees were reassigned to focus on contact tracing but, by August 2020, as BHC began hiring its contact tracers, the reassigned employees were able to return to their jobs. However, due to the focus on filling the BHC-funded roles with contact tracing hires, other BHC-funded support roles in IT and human resources were not filled. Additionally, while there were direct budget line items to support temporary positions, such as the MOED budget including funds for six temporary career navigators and one supervisor, there was no funding directed to existing staff members who had vital roles in human resources or IT.

Finally, a key goal of BHC was to optimize the number of job opportunities created by the pilot. In turn, this had implications on available resources for things such as new-hire benefits. The salaries for the roles were based on standard BCHD compensation structures for contact tracers. However, the typical health insurance benefit package for city employees was replaced by a health insurance stipend to help BCHD contact tracers purchase insurance on their own.

Once the Baltimore Corps made "recommendations for hire," BCHD reviewed and processed applications for its open BHC positions. Approximately 15 to 25 recommended applications were processed every week, and successful candidates were then made offers and entered into the onboarding process (see Appendix B for a schematic of the complete hiring process). Yet, in December 2020, hires recommended in June were still pending due to new-hire processing constraints with paperwork and background checks. There were also constraints in IT for set ups of laptops and logins. In addition, the new BHC job opportunities in IT and data analysis were still open due to the mismatch in applicant technology skills and specific workforce needs. In retrospect, one interview respondent mentioned that filling certain positions required a different recruitment strategy or more flexibility in identifying and reaching the target audience. Some of those unfilled positions were key support roles designed to play foundational roles in meeting BHC objectives around hiring and logistics.

Baltimore City used a portion of the funds received from the federal CARES Act to support the BHC. A separate portion of CARES Act funds to facilitate testing for city residents budgeted for 55 contact tracer positions, but only 12 candidates were hired before the City decided to fold those staff members into BHC. While hired under a slightly different process from the remainder of the BHC employees, similar criteria were used to select these candidates – most had been unemployed and would benefit from the same career support services and training as the official BHC contact tracer hires.

Since funds were set to expire on December 31, 2020, and Baltimore City experienced a COVID-19 surge, BHC transitioned those positions into BHC-funded contact tracing positions to ensure continuity, take advantage of existing experiences, and ensure a well-staffed contact tracing operation through August 2021. Twenty other BCHD positions, including supervisors, managers, and outbreak investigators also hired under CARES Act funding, transitioned into BHC roles. However, the recently enacted Coronavirus Response and Relief Act extended the expiration date for CARES Act funds until May 31, 2021.42 Had this federal policy changed earlier, Baltimore could have dedicated more resources to steady hiring for the BHC-funded positions instead of shifting resources to avoid layoffs due to potentially expiring funds.



Under the May 2021 extension, other cities, counties, and states can leverage CARES Act funds to staff these types of positions if they act quickly. Funds are also available in the recently enacted Coronavirus Response and Relief Act, which allotted: i) \$22 billion to support contact tracing, testing, and mitigation; and ii) \$9 billion for vaccine distribution activities via state and local governments.⁴³ In addition, the American Rescue Plan Act of 2021, signed by President Biden on March 11, 2021, allocates \$7.6 billion to support state and local health departments to hire community health workers, case investigators, contact tracers, and other public health workers to address COVID-19.⁴⁴

The following section describes contact tracing onboarding and training, and assesses performance of contact tracing in mitigating disease spread.



CONTACT TRACING AND CASE INVESTIGATION



The following section describes contact tracing onboarding and training, and assesses performance of contact tracing in mitigating disease spread.

The BHC pilot officially launched June 4, 2020. The first group of contact tracers was onboarded and trained August 6, 2020, and began contact tracing August 13, 2020. Each week the contact tracing capacity in the city grew as Jhpiego and BCHD worked to onboard new staff on a weekly basis. This rapid increase in BHC's contact tracing capacity allowed Baltimore City to partially address the massive surge in cases during the fall of 2020. BHC built its contact tracing workforce to contain the spread of COVID-19 through timely calls to newly diagnosed COVID-19 cases to elicit information on close contacts, offer support and referrals to care coordination, and reinforce the need for isolation. Contacts were informed about their potential exposure and need for testing and quarantine via phone calls. Contact tracers followed up with cases every three days, and with their contacts every day, until the period of isolation or quarantine is over for that individual.

Measures of contact-tracing effectiveness related to interview completion within 24 to 48 hours declined during the second surge in November and December, but the proportion of both cases and case-contacts completing interviews remained relatively steady despite the caseload increase.



Onboarding New Contact Tracers

Onboarding is administered by Jhpiego, which works with BCHD to develop employee orientation and to provide contact tracing and case-investigation training. The training lasts seven days and includes: i) a 5-to-6hour self-paced Johns Hopkins University e-learning course on Coursera, which includes foundational skills in contact tracing and case investigation principles,45 and ii) facilitated training on the web-based CovidLINK platform and specific BCHD workflows and protocols. Training includes case studies and role-play in pairs, as well as hands-on support and mentorship from trainers and supervisors when trainees begin making their first live calls. To provide adequate support, particularly for computer navigation and technology, Jhpiego facilitates the training in-person but also uses virtual platforms Zoom and Microsoft Teams for group training sessions that allow for social distancing. The Jhpiego training content and schedule is in Appendix D.

Interviewees who observed or were involved in training noted that larger groups of up to 19 were unwieldy and difficult to train due to the hands-on nature of the training and the broad range of participants' skills, in addition to the difficulties of maintaining social distancing. To address digital literacy and ensure new hires knew how to use the technology necessary for the position, MOED provided online digital literacy training or hires who needed additional support. Jhpiego worked with BCHD to identify training priorities and a cadence that would align with hiring throughput, in order to onboard up to 15 new contact tracers or contact tracing supervisors/managers every week.

In addition to the originally planned contact tracing roles, BHC onboarded 25 contact tracers in December 2020 to work in a separate call center to manage inbound calls about testing and isolation support. It also onboarded another nine people to work in outbreak investigation.



Contact Tracing and Case Investigation

From August to the end of November, approximately 80 BHC contact tracers were assigned cases and contacts through the State of Maryland's Department of Health (MDH) CovidLINK system. The contact tracers receive cases and contacts in the CovidLINK queue who: i) have not been reached by the NORC contact tracers after 24 hours, ii) have missing or incorrect phone numbers or language barriers, or iii) require visitation to a congregate setting or other high-risk settings, such as a dialysis center or school. Many patients do not have accurate or complete contact information, requiring the contact tracers to use additional database searches to identify and contact people. In circumstances where contact tracers identified evidence of a potential outbreak, the outbreak investigation team would immediately step in.

As COVID-19 cases in the state increased in November 2020, MDH assigned more cases to the limited number of BCHD contract tracers due to its own capacity limitations. In the summer of 2020, approximately 20 to 40 percent of new cases in Baltimore City were handled by BCHD contact tracers, with the NORC contact tracers handling 60 to 80 percent on average. However, since December 2020, almost 80 percent of new cases in Baltimore City have been handled by BHC contact tracers.

While the contact tracing workforce was larger in December than during the first wave of infections in April and May of 2020, BHC's planned hiring was not yet complete. The number of cases more than tripled between October and December (see Figure 9), and those, in turn, reported higher numbers of contacts, averaging three per case during this second wave of disease spread. This dynamic led to delays in individuals obtaining COVID-19 test results and in contact tracers contacting and interviewing cases within 24 hours. Test turnaround time increased by one full day between October and November, and the increased volume of cases resulted in a substantial 22 percent decline in contacting new cases, 10 percent decline in interviewing cases within 24 hours, and 18 percent decline in reaching contacts of those cases within 24 hours. Despite the dramatic increase in caseload, the proportion of both cases and contacts completing interviews increased steadily over time, reaching 73 percent of cases and 78 percent of contacts completing interviews in January 2021 (see Figure 9).

COVID-19 contact tracing may be most effective when at least 80 percent of contacts are reached within 24

hours.⁴⁶ This is an optimistic goal for many contact tracing programs, but most programs have not sustainably achieved it during the pandemic. BHC met the threshold in the first three months – August to October 2020 – while new cases ranged between 1,060 and 2,060 assigned per month. However, during the peak of the pandemic, when cases surged to 5,721 in December, only 47 percent of cases were contacted and 20 percent interviewed within 24 hours.^d

When contact tracing is unable to meet the 80 percent threshold within 24 hours, it is less effective and may not help to mitigate disease

FIGURE 9 Key contact tracing measures, August 2020 to January 2021

		AUG	SEP	ОСТ	NOV	DEC	JAN
	NUMBER OF NEW CASES Assigned to BCHD Contact tracers	2,060	1,060	1,594	4,410	5,721	5,183
24H	Percent of cases assigned and reached within 24 hours	99%	93%	90%	68%	47%	55%
	Percent of cases assigned and interviewed* within 24 hours	36%	28%	35%	25%	20%	29%
	Percent of cases assigned who completed interviews	67%	58%	72%	67%	69%	73%
	Percent of contacts with phone numbers reached within 24 hours	67%	78%	83%	65%	63%	80%
	Percent of contacts with phone numbers who completed interviews	50%	62%	69%	64%	76%	78%
	* Note: interviewed refers to cases who						

Note: interviewed refers to cases who answered the phone, but did not necessarily complete an interview

> d. Individuals contacted refers to cases/contacts who were attempted to be reached via phone; Individuals interviewed refers to those cases/ contacts who answered the phone, but did not necessarily complete a full interview

spread. Researchers from the COVID Collaborative – a coalition of experts in health, education, and the economy – suggest that, if there are more than 10 new cases each day per 100,000 population and if fewer than 80 percent of cases are able to be interviewed within 24 hours, priorities should shift to strengthening the preventive policies such as mask-wearing and prohibiting higher risk activities. They also should call for investigating the larger outbreaks and high-risk settings until incidence rates are better controlled.⁴⁷

Given the substantial growth in cases due to community spread of COVID-19 in Baltimore City, contact tracing was difficult due to the 24-to-48-hour lag between a positive case diagnosis and contact, plus the initial time in obtaining testing and receiving results, which was outside the control of the contact tracing program. Between mid-October and mid-November, the average time from specimen collection to test result increased by a full day, from 2.3 days to 3.3 days. The average time period from collection to test result ranged from 0.8 days to 7.4 days, depending on the lab processing the specimen. If contact tracing occurred after cases or contacts had already passed their most infectious period, it was impossible to reduce spread through contact tracing and case investigation alone. BHC contact tracers gradually improved their ability to contact cases on a timely basis within 24 to 48 hours and to link cases and contacts with care coordination services. However, it is unknown whether changes in contact tracing trends reflect the effectiveness or efficiency of the contact tracing and case investigation portion of the pilot.

Given the high COVID-19 caseload burden from November 2020 to January 2021, BCHD was able to adapt by supporting the outbreak investigations team using BHC contact tracer staff to focus on specific outbreak sources. BCHD also participated in statewide pilots to use: i) automated phone follow-up calls for cases and contacts in isolation and quarantine, and ii) pre-call text messages to alert patients to expect a call from the health department. Both processes have since been implemented state-wide following successful pilots, thus freeing up more time for contact tracers to elicit contacts, reach more individuals, and facilitate earlier contact with cases. In addition, the contact tracer workforce increased



39 percent with an additional 31 hires by January 31, 2021, greatly expanding capacity and enabling it to handle increased needs in case of future COVID-19 surges.

From June 4 to December 18, 2020, BCHD contact tracers were not using a case management approach. This meant they were not staying with the case/contact from the initial call through to the end of the case/contact's isolation or quarantine period. Rather, they were operating on a "call center" model. They would sign on to CovidLINK and complete calls in the assignment queue regardless of which contact tracers had originally reached out or connected with the case or contact. The process changed after December 18, 2022, when the BCHD contact tracers began managing their caseloads in a "case management" model designed to allow for relationship building, continuity, reduced duplication, and more efficient follow-up with assigned cases and contacts. It is too early to know the impact of this administrative change on the process of contact tracing.

2

OBJECTIVE

CARE COORDINATION



The following section focuses on Objective 3 and related activities. It describes the referral process used by HCAM and MAP care coordinators, and the services provided through care coordination.

Care coordination activities in BHC through Maryland Access Point (MAP) and HealthCare Access Maryland (HCAM) targeted vulnerable populations with social needs such as housing, quarantine and isolation support, food access, and financial support, regardless of COVID-19 diagnoses or contact. HCAM handles non-elderly populations drawing from its experience in Medicaid and the Accountable Health Communities, while BCHD's MAP program administers care coordination services to the 60-and-over elderly population, due to its existing capacity and focus on long-term care and disabled populations. Care coordination usage increased over time, with a 126 percent increase in use from November 2020 to January 2021. It is not known if sheer numbers of cases and exposures drove the increase due to the lack of data on eligible populations or underlying social needs across all residents.

Data collection as of January 31, 2021, the pilot's sixmonth point, was limited to characteristics of clients seeking referrals, mostly through HCAM. Data related to community members' access to care coordination were only available for those with perceived or realized access, meaning those who attempted to or actually used services. In order to improve data collection for care coordination, it would be helpful to develop a system to track referrals. However, denominator data on the population that needs overall care coordination are difficult to obtain or predict. Almost 73 percent of HCAM care coordination users are Black, while 10 percent are Latino. Care coordination addresses health equity in the city and, while HCAM disproportionately serves the Black population impacted by the COVID-19 pandemic (58 percent of cases), Latino residents are slightly underrepresented as users of care coordination given the share (11 percent) of COVID-19 cases they represent.

One of the core limitations thus far in care coordination is the link with contact tracing activities. Changes had to be made to referral processes and interaction with contact tracing staff to ensure appropriate hand-offs and facilitation of contact and needed services for eligible individuals. Referrals for care coordination can occur in a variety of ways, including self-referral, referral by a contact tracer, or a direct warm hand-off^e of a case to a care coordinator. A 77 percent majority of care coordination clients came through direct calls to the HCAM phone line. However, many of them were direct calls due to a referral from contact tracing. Only 31 percent of care coordination contacts were self-referral, while 53 percent were referred by BHC contact tracers. Care coordinators use a community resource database to identify resources and support services for clients, including: i) support for food such as Amazon grocery boxes,^f ii) financial support or utilities, iii) isolation housing for positive cases through the Lord Baltimore Hotel quarantine and isolation site run by the city, and iv) preventive housing services through four private hotels.

Hiring and Training of Care Coordinators

HCAM hired care coordinators to support social needs for COVID-19 positive individuals, contacts, and other city residents who need support to isolate or quarantine or may have other health and social needs unrelated to COVID-19. HCAM trained care coordinators as CHWs by adapting an existing curriculum and process.

Although HCAM hired from the BHC applicant pool, the hiring process, training and onboarding, and activities of the CHW care coordinators were distinct from the contact tracers. To address this potential lack of integration, BCHD and HCAM/MAP created opportunities for contact tracers to interact with select care coordinators, in order to better understand the provided services and roles.

Several respondents suggested that cross-training could allow for contact tracing and light care coordination to be delivered by the same employees, which



e. A warm handoff occurs when a contact tracer makes a three-way call with the client and the care coordination team at HCAM or MAP, such that a direct connection is made between the client and a care coordinator.

f. Amazon partnered with the city to deliver grocery boxes to seniors (age 60 and over). Details are available in this CBS Baltimore news segment: <u>https://baltimore.cbslocal.com/2020/05/13/</u> baltimore-city-amazon-team-up-to-provide-grocery-kits-to-seniors/

would increase continuity, uptake, and integration of care coordination services with guarantine and isolation guidance from contact tracers. However, according to interviewees, BCHD's IT security and confidentiality concerns would make it difficult for the HCAM/MAP care coordinators to play a contact tracer role. In other words, this adaptation would be unidirectional. Sharing information between contact tracing and care coordinators could be helpful in managing case and contact needs. However, because care coordinators and contact tracers use different data systems and are employees of different organizations (BCHD and HCAM), there is no data or work flow integration outside of the referral process. The state's COVIDLink system is used by contact tracers to track cases and contacts and to collect information from the interviews. Thus, because HCAM obtains referrals outside of COVIDLink and its care coordinators do not have access to the system, duplicate information must be collected and referral processes must be handled manually.

decided early on to be proactive in supporting social needs via care coordination in areas including housing, isolation, food, and caretaking. This interest aligned with Baltimore City's participation in the Center for Medicare and Medicaid Services (CMS) Accountable Health Communities Model, in which HCAM and BCHD played lead roles. Care coordination was a well-resourced existing capacity of HCAM and, importantly, not an afterthought during the proposal process. As an existing program, care coordination focused on providing services to COVID-19 cases and other community members who needed support for chronic illness and other health needs that might be overlooked during a pandemic. One respondent noted, "We had existing relationships and structure in place, so we didn't really build anything from scratch. We augmented the existing care coordination workflows in the city with known partners and entities."

Recently, BCHD trained staff and implemented a new database to facilitate the referral process to HCAM and MAP. This resulted in an increase in the number of warm hand-offs (three-way calls) and referrals into care coordination.



Care Coordination Activities

As the pandemic continues to evolve in Baltimore, HCAM is deploying care coordinators to new settings. For example, they are working at testing sites and senior housing sites in Baltimore to engage with community members who may need care coordination services. The need for care coordination services has doubled since the beginning of the program, but volume has remained lower than expected. The most common needs addressed through care coordination has been access to food (30 percent), commodities/supplies (14 percent), quarantine support (13 percent), help with utilities (11 percent), and housing (8 percent). This change in job responsibilities and shift to in-person work has required messaging from senior HCAM leadership to ensure all care coordinators know what their expectations and responsibilities are, relative to shifting needs in the city.

Several interviewees made clear that Baltimore City, in partnership with The Rockefeller Foundation,

BARRIERS TO IMPLEMENTATION

To accomplish the three objectives described above, BHC developed a multi-partner, interdisciplinary approach that relied on active coordination, communication, timely data, and centralized administrative support. Early findings indicate there were struggles addressing these cross-cutting needs.

The team-based structure, discussed in the Organization Structure section of this report, leveraged multiple partners from various agencies and nonprofits. According to interviews with key informants, the workgroups varied substantially in terms of coordination, project management, and decision-making authority. The diverse set of agencies and nonprofit partners did not necessarily have experience working together on a project of this size and scope. However, the workgroup-based approach allowed individuals from the various agencies and partners to work together as teams to plan, develop, implement, and operate the program.

According to one of the key informants, they did bring a willingness to work together and commitment to the project goals. As also explained in the report's Organization Structure section, the workgroup structure and efforts to coordinate across the multiple partners were helpful in launching the BHC.

Decision-making silos

Several interviewees mentioned that as time went on, coordination within workgroups broke down and decision-making defaulted into silos, thus reducing decision-making across agencies. Some workgroups were collaborative with strong project management and communication channels. Others had individual members with information on what was going on across the pilot, which helped in terms of overall knowledge sharing. In the big picture, the BHC did foster integration and collaboration across agencies and partners, allowing connections and new communication channels to develop that could be helpful in future interdisciplinary collaborations.

Data system limitations

Limitations in data systems and management also proved a major barrier to collaboration and setting up a sustainable performance improvement model during the first six months of the BHC pilot. The pilot did not adopt a centralized data management system, resulting in diffused data collection activities and reporting structures. In addition, the reliance on the State of Maryland's CovidLINK system was problematic. One interview respondent stated: "It's easy to put data into the system, but very challenging to get it out." This is because the CovidLINK system was not built for data extraction or analysis. Furthermore, the process of running queries and extracting data from CovidLINK delayed the analytic work that BCHD planned to do around contact tracing, such as characterizing contacts who become cases, and monitoring performance.

Diffused information sources

Many respondents reported using "workarounds" to collect, share and manage data, including Google Sheets or Excel spreadsheets. Partners often create their own reports that occasionally contain conflicting information and need consistent, almost constant updating. For example, Baltimore Corps had comprehensive data on applicants and recommendations made to BCHD, but the BCHD Human Resources data system does not communicate with the Baltimore Corps data tracking system. Instead, due to a lack of data sharing capacity, BCHD must provide records on successful hires manually and separately to Baltimore Corps and MOED so that applicant records can be updated and targets tracked. This decentralized data management model led to the generation of multiple versions of spreadsheets, budgets, and reports.

These diffuse sources of information also hampered performance improvement activities. Several interviewees suggested that data access and reporting were cumbersome, with one stating, "I felt kind of frustrated that there wasn't a dashboard functional sooner and that there still doesn't seem to be. It's hard to know the outcomes. It's hard to be data-driven when the data is not available."

Lessons Learned

The first six months of the BHC pilot provided lessons that can be helpful to Baltimore City and other localities, states, or federal agencies in developing an equity-based transitional jobs program – one with a focus on hiring and training CHWs in contact tracing and care coordination roles to mitigate the spread and health impacts of COVID-19.



EQUITY

Did BHC hiring prioritize equity based on the demographics of Baltimore City and the areas hit hardest by the COVID-19 pandemic?

BHC's hiring process specifically pursued equitable hiring, resulting in its generating a workforce that roughly approximates the Black and Latino populations in the city. BHC also succeeded in hiring people who were previously unemployed or underemployed. Approximately 70 percent of the hires came from within the city limits.



1. Equity targets should be based on available data to ensure timely implementation.

BHC hired a contact tracing and care coordination workforce that represented the broader demographic characteristics of the city. It used broader city-wide population data and BCHD-provided information on COVID-19 incidence by ZIP code, which aligned with neighborhoods with majority Black populations, to target outreach, recruitment, and hiring decisions. Black and Latino hires roughly approximated the diversity of the city. While the BHC workforce is representative of the 5 percent Latino population in the city, it did not keep pace with the underlying need, as 11 percent of COVID-19 cases are Latino. To address this gap, Baltimore City attempted to work with trusted community partners and increase the number of contact tracer offers going to Spanish-speaking applicants. However, there were subsequent challenges with those applicants accepting their job offer.



2. Prioritizing equity in hiring among unemployed or underemployed populations requires additional support for the employers, applicants, and hires to ensure employees are job-ready and able to succeed in their new roles.

BHC focused on hiring individuals with a wide variety of professional backgrounds. The application sought information on empathy, community involvement, customer service, and public-facing experience that would not be prioritized in typical BCHD hiring activities. There are trade-offs in this approach – while workforce members may not have advanced public health experience and will require additional training to get up to speed, they may have better customer service skills, language skills, and the ability to communicate easily with members of the community.

- In addressing a mismatch between applicant skills and workforce needs, BHC used BACH to train a portion of the applicant pool. Problems with digital literacy among hires was addressed through supplemental, optional online training facilitated by MOED.
- In establishing standards for review of potential hires that also value equity, the BHC experience found it is important to train reviewers to use equity-based rubrics and compare inter-reviewer scores during practice scenarios. It is also important to agree on criteria for scoring and ratings early in the process.

Existing capacity and experience of BHC partners helped with efficiency of BHC activities. Rather than the BCHD having to build its capacity to engage in recruitment, applicant screening, training, care coordination, job placement, career navigation, and providing support for transitional employees, BHC was able to use partners to address those needs.



3. Leveraging partners in city government and the nonprofit community that already had expertise and capacities to execute and engage in the BHC goals was vital.

BHC was built on interagency collaboration, both within and outside of city government. Careful thought was put into the functional role of each office, department, or nonprofit partner based upon its existing expertise and capacity (see Figure 3). The project appeared to benefit from experts in different areas coming together to accomplish distinct but interrelated program tasks. Several interviewees noted that deferring to the expertise of skilled partners – such as Jhpiego for workforce training and Baltimore Corps for outreach and recruitment to diverse applicants – allowed them to focus on their own areas of expertise, and their work was most effective if roles did not overlap.

One informant was impressed that so many stakeholders could work well together without tension, finding that "there was a lot of interpersonal kindness in aligning through those different stages of the processes."



4. To ensure adequate capacity to review applicants, hire, and onboard new staff quickly, attention should be paid to supporting administrative needs and centralized services such as human resources and information technology.

Although Baltimore Corps received funding to conduct recruitment and application screening in partnership with MOED, interview respondents indicated that in the case of BHC, the lack of funding for facilities, administration, and dedicated human resources staff in BCHD limited the throughput from application to hiring. Any city, county, or state attempting a similar program should ensure adequate additional coverage and support for these core functions that support hiring, onboarding, and daily operations, even if they do not result in "new" positions directly. BHC was able to equitably hire and train staff and launch a contact tracing program through BCHD to address the pandemic. However, challenges on the ground - related to state contact tracing, testing availability, test turnaround time, city contact tracing capacity, and community spread of COVID-19 - hampered its ability to mitigate spread in November and December. The cases from November 2020 to January 2021 far exceeded the numbers contact traced during the first wave of COVID-19 in March and April, rendering contact tracing less effective in mitigating spread as designed. However, without BHC's investment in developing contact tracing capacity, which started in August 2020, the city would have faced an even greater challenge. During the second surge in November and December 2020, approximately 80 contact tracers had been hired. By January 31, 2021, BHC employed 111 contact tracers and had reached planned capacity.



5. Consider adjustments to contact tracing based on community spread and burden

A 59 percent majority of BHC contact tracers and supervisors were hired between August and October 2020, which in retrospect was when Baltimore City had the lowest number of cases of the pandemic, so it was easier for them to absorb the calls with limited staff. From November 2020 to January 2021, BHC contact tracers were pushed to the limit as case numbers exploded, rendering contact tracing less effective based on guidance and recommendations from the COVID Collaborative, supported by its own review of the evidence. BHC continued hiring to develop its contact tracing capacity and brought on another 84 contact tracers and supervisors from November 2020 through January 2021. As needs changed and contact tracing capacity expanded in December and January, BCHD was able to pivot to support a call center for inbound calls and also support the outbreak investigation team with contact tracing staff.

 Longer test turnaround times make it more difficult to contact new cases while they are still infectious or can change behavior, rendering contact tracing less effective in mitigating spread. Public health departments should consider redirecting resources to higher priority tasks – such as supporting testing capacity and expediting test results, large outbreak investigation, and quarantine support – when specific benchmarks are not met in terms of disease burden (10 per 100,000 people or less) and timeliness of interviews (80 percent of new cases interviewed within 24 hours). National and local capacity limitations around COVID-19 testing hampered BHC's ability to conduct timely contact tracing and ensure early referrals to social services and resources via care coordination. Resources could be used to facilitate more rapid testing through an investigation of current bottlenecks in the testing appointment, processing, or results process to ensure contact tracers are able to support COVID-19-positive patients efficiently and effectively and to alert their contacts to isolate and test. By improving test availability and test turnaround time, BHC contact tracers could potentially conduct interviews with cases and contacts two to three days earlier, when there is a better opportunity to mitigate spread of COVID-19. Federal plans to develop a national testing strategy and additional funds to support local testing and contact tracing activities in the American Rescue Plan Act could alleviate some of this problem.



6. Carefully consider the model used to assign cases and calls to contact tracers

Until December 18, 2020, BHC contact tracers were assigned calls based on a queue of contact tracing calls that needed to be made across all residents in Baltimore City who tested positive or were a contact of someone who tested positive. This "call center" model meant that multiple contact tracers would call the same person at different times, which made it difficult to develop rapport and ensure adequate response to follow-up calls during quarantine and isolation. Then, as of December 18, 2020, BHC moved to a "case manager" model, which will allow contact tracers to manage one case from start to finish. This could facilitate improved communication and potentially take advantage of interpersonal connections between cases and their assigned contact tracer, thanks to their local knowledge, familiarity with an area, community or population, or other commonalities.

If building a team of community members to do contact tracing, using a case manager model could make better use of the skills and community connections in the contact tracing workforce.

CARE COORDINATION

Did BHC successfully provide care coordination services that met the community's needs?

Baltimore City residents did not use care coordination services related to COVID-19 or other health issues as much as anticipated. Although there were problems with referral and data exchanges early on, they have been largely resolved through ad hoc solutions which were fashioned by individual personnel, rather than systematically implemented. It is not clear if care coordination services meet community needs, due to a lack of data on underlying community needs around quarantine, isolation, food access, or other factors. Data at this point are limited to the actual utilization of services, not the underlying need of the population as a whole. The care coordination leaders are adjusting the roles and settings where services are available to ensure improved take-up and interaction with communities in need through flu clinics, testing sites, and other venues.



7. Limitations due to data security, data availability, and data collection present challenges to coordinating across agencies.

BHC care coordinators did not have access to the CovidLINK system, making them reliant on referrals directly from contact tracers who provided warm hand-offs at the end of a contact tracing call. MAP and HCAM would also receive inbound calls from clients in need to help. The lack of data access hampers the ability of BHC's care coordination partners – HCAM and MAP – to analyze data proactively in order to identify people in need.



8. Cross-training or consolidating roles could help maximize resources and reduce excess capacity

BHC's inefficiencies in contact tracing and care coordination referrals could be addressed by combining or consolidating efforts. In the face of a rapidly changing pandemic, BHC was reliant on testing capacity and timeliness of testing to control spread through contact tracing. Care coordinators at HCAM and MAP were reliant on BCHD contact tracers for referrals. BHC could improve efficiency by combining roles and providing additional training so that contact tracers could facilitate requests for guarantine housing, food distribution, or other support services that care coordinators typically recommend. Alternatively, contact tracers and care coordinators could work in inter-agency teams to address needs and facilitate smoother transitions and fewer delays, and improve use of social support and resources. Currently, HCAM is increasing in-person activities by working with potential clients directly at testing locations, but there is still limited interaction and integration between BCHD contact tracers and HCAM or MAP care coordinators outside of the referral process. Proactively soliciting feedback from BHC employees, asking them to share their understanding of any gaps or pitfalls, would be an important first step in streamlining the process.

Conclusions

Numerous informants noted that the rapid development of the BHC pilot could not have been accomplished without the collaboration of key partners with expertise in recruiting, hiring, communication, project management, financing, community health worker training, career navigation, transitional workforce supports, public health, and care coordination. One BCHD informant noted "there's no way we would've been able to do this alone as the health department to recruit and hire and staff ... a huge team like this. So it's been totally essential to have [Jhpiego and Baltimore Corps] on board for the training components and the hiring support."

In only six months, BHC learned about what worked and what did not work in all aspects of the program. There were struggles with communication, decision-making, politics, data, changing guidance from state departments, and meeting population health needs due to the dynamics of the pandemic. These struggles have led to and informed refinements and changes in the BHC model, ranging from consistent training updates and refreshers for contact tracers due to changes in the state system (CovidLINK) to decisions on targeting specific populations for hiring due to disproportionate needs among specific populations or areas of the city. BHC pursued equity in hiring and service provision and adapted to address the needs of residents thanks to its flexibility, dedicated staff, willingness to change, buy-in from leadership and key team members, strong existing partnerships, and a desire to use data to drive decisions. However, there were gaps and challenges in the BHC implementation that serve as lessons learned for Baltimore and other localities seeking to set up similar programs. The following recommendations are based on those lessons and should be considered during program budgeting, design, implementation, staffing, leadership decisions, and operations. The "specific recommendations" relate specifically to BHC as it refines its program over the next six months, while "broader recommendations" are for other audiences that may be interested in designing and deploying a similar program to address COVID-19.

Based on Baltimore City's experience with the BHC pilot, several opportunities were identified to improve and leverage new resources to support the continuation and adaptation of the pilot.



Take advantage of funding available through Section 2501 the American Rescue Plan Act of 2021 to invest in the CHW workforce. The plan invests in training and deploying CHWs to address COVID-19 and continuing support for them to address social determinants and health disparities. Transitioning the BHC contact tracing and care coordination workforce into these roles will ensure continued employment and also facilitate public health careers that will improve equity due to their diversity, empathy, and dedication to their local communities and Baltimore City.

Develop a centralized information technology infrastructure to collect and share data across partners in a federated way. This type of investment would facilitate active performance improvement for the remainder of the pilot and would also serve as a proof of concept for other interdisciplinary projects with nonprofit partners in the future. Due to the lack of funding for localities to pursue this type of IT infrastructure to support public health independently, BCHD should leverage new grants or funds available through the American Rescue Plan Act of 2021 (Section 2401(b)(5)) to support COVID-19-related public health activities.

Consider revisiting the original goals of the program by assessing newly available data and potential gaps uncovered or exacerbated during the pandemic. Leveraging more recent data on unemployment claims in certain ZIP codes, increases in COVID-19 cases among certain vulnerable populations - such as races, ethnicities, age groups, or neighborhoods - and unmet needs related to health care access could help target new investments in specific areas or vulnerable populations. The city could also leverage stakeholder input from its effort to develop its state-required Local Health Improvement Coalition (LHIC)⁴⁸ or other stakeholder groups to identify neighborhoods for additional employment support or to address issues such as care coordination and management of chronic illness during the pandemic for high-risk subgroups.

Broad Recommendations for Developing and Implementing a Similar Program

Baltimore City's experience in developing and implementing the BHC offers an exemplar for states and localities, drawing on successes and lessons learned.



OPEN COLLABORATION AND COMMUNICATION

Use existing contractors and relationships to facilitate the work. It will be fast-paced and high pressure. Familiarity, open communication, and the ability to quickly execute contracts and start funds flowing will be vital.

Use a multidisciplinary team-based approach for planning and execution that breaks down traditional silos between economic development and public health to ensure buy-in across agencies and leverages everyone's domain expertise.

Allocate resources to support a dedicated project manager across the program with experience working across the city, county, or state with the partners involved.

- If using a workgroup or team-based model, ensure that project management support is provided for all groups with key roles and ensure accountability.
- Ensure there is an established point of contact or project manager within each organization.

Delineate leadership and decision-making authority for workgroups and the overall program.

• Ensure teams know who the key decision-makers are within the teams and across the program.

Develop strong linkages and coordination with other departments or programs not involved in the contact tracing and care coordination activities. Communicating with local leaders and industry partners focused on testing, patient care, and other aspects of disease control will be vital to success.



PREPARE THE WORKFORCE

Ensure existing staff and leaders have necessary training and learn the values needed to engage in equitable review and hiring practices.

• Collaborate early to craft job descriptions, criteria for review, rubrics, and scoring processes.

Supplement initial training with on-the-job training and a supportive mentorship that allows for continuous skills-building.

Remove barriers where possible for applicants and new hires related to criminal history background checks and drug-testing requirements to encourage workforce equity and facilitate faster hiring.

Leverage existing training models and adapt the curriculum to meet the specific needs of the program.⁴⁹ Also, repurpose training to support eventual vaccine outreach, uptake, and administration.

 Incorporate data collection into training and employee performance assessments to evaluate achievement of competency and make adjustments if needed.

Involve community-based organizations to provide additional services or resources such as computer literacy training and interview preparation. These organizations can help remove technology barriers during the pre-interview process and identify potential applicants. Offer support to encourage and ensure post-program placement opportunities, including career navigation, behavioral health, legal services, job placement assistance, and financial empowerment training.

Work with employers in the region who have similar needs, in order to create a pipeline for referrals into longer-term positions for employees.



IMPLEMENT AND MAINTAIN FLEXIBILITY

Be flexible during the program's design and implementation, so leaders and staff feel empowered to pivot quickly in addressing challenges.

- Be receptive to employee/participant feedback to improve processes or practices.
- Consider the use of thresholds around test turnaround time and contacts made within 24 hours in terms of COVID-19 contact tracing, in order to inform decisions to redeploy resources for other purposes.

Facilitate hiring and investment in data analyses to manage multiple data sources, do near-time performance tracking, and facilitate data access for partners to inform performance improvement and midstream adjustments to the program.

Invest in centralized data management capacity
 and tools



ADDRESS VULNERABLE GROUPS

Attempt to analyze data on the race/ethnicity of the unemployed population to ensure targets are representative of those at increased likelihood of suffering from loss of work or chronic unemployment.

Conduct focus groups or interviews with community members to improve understanding of needs and the impact of programs on their employment and health outcomes.

Appendix A: BHC Funders

Abell Foundation

- The Annie E. Casey Foundation
- Baltimore City allocation of United States' Coronavirus
- Aid, Relief, and Economic Security Act funds
- Baltimore Community Foundation
- Baltimore Gas and Electric
- Baltimore Ravens
- Bank of America
- Bloomberg Philanthropies
- CareFirst BlueCross BlueShield
- France-Merrick Foundation
- Goldseker Foundation
- Harry and Jeanette Weinberg Foundation
- Hoffberger Foundation
- Jacob & Hilda Blaustein Foundation
- Johns Hopkins Bloomberg School of Public Health
- Kaiser Permanente
- Leonard & Helen R. Stulman Charitable Foundation
- Maryland Department of Labor
- **Open Society Foundations**
- PepsiCo Foundation
- **Rauch Foundation**
- T. Rowe Price Foundation
- The Rockefeller Foundation



Appendix B: Schematic of BHC Hiring Process



Appendix C: BHC Workgroup Structure

		RECIPIENTS	OUTPUTS	PROCESS	INPUTS	PARTNERS
	COMMUNICATION	Maryland and Baltimore City residents	Unemployed/underem- ployed individuals apply for job positions within the BHC Pilot	 Decisions made on strategy and coordination of public commu- nications, including graphics for advertising and press outreach BCHD and HCAM writes job descriptions (i.e., contact tracers, care coordinators, directors, supervisors, managers, and operational support staff) BCHD advertises within communi- ty-based organizations to spread awareness of BHC positions (e.g., using TV/radio ads, Facebook, and flyers in grocery bags) MOED and Baltimore Corps advertise job positions on respective websites 	Main Staff: BCHD Human Resources BCHD Senior Director of External Affairs BCHD Public Information Officer BCHD Deputy Commissioner Technology/Data: Crelate Google Drive Excel Slack	 Baltimore Corps BCHD Jhpiego OPI MOED
TEAM LEADS		BHC Pilot pro- gram partners and teams	Coordination across work groups to stay on top of BHC pilot program imple- mentation, development, and support	 Project Manager coordinates project documents, communications, budget, and meeting notes Weekly half hour long meetings to discuss program progress Issues that cannot be solved are referred to governing board Governing board approves any changes 	Main Staff: Project Manager from OPI Technology/Data: Microsoft Teams Google Sheets	 Baltimore Corps BCHD Civic Fund HCAM Jhpiego OPI MOED UMD
FUNDRATSTNG/FUNDFR	ENGAGEMENT	BHC Pilot funders	Updates on program progress and decisions and new areas for funder support and advocacy identified	 Monthly updates on program progress and outcomes. Moved to semimonthly in 2021. Funders provide input around reporting and evaluation and coordi- nation around additional fundraising and engagement Civic Fund convenes and circulates notes based on funder commentary 	Main Staff: Civic Fund President Civic Fund Program Director BCHD Health Commissioner MOED Director Baltimore Corps President Technology/Data: Microsoft Teams Excel	 Baltimore Corps BCHD Civic Fund Jhpiego OPI MOED
EVALUATION	REPORTING	BHC Pilot funders and partners	Data and metrics around BHC Pilot objectives	 Coordinate information capture and sharing that flow to the Management Board and Funder Advisory Board Collect and organize metrics around program objectives Biweekly meetings 	Main Staff: Jhpiego Director, Actionable Measurement and Learning MOED Strategist OPI Data Lead BCHD Epidemiologist	 Baltimore Corps BCHD Civic Fund HCAM Jhpiego MOED OPI
MEASUREMENT AND F	EVALUATION	BHC Pilot program and partners	Early lessons report Final report Survey development and administration	 Learning questions refined Weekly meetings to discuss project development, progress, and evalua- tion plan Logic model developed Key informant interviews Analyze program data in relation to each project objective Write two reports based on early lessons and final program outcomes 	Main Staff: UMD evaluation team Technology/Data: Microsoft Teams Box Google Drive COVIDStat	 Baltimore Corps BCHD HCAM

	RECRUITMENT/SCREENING/HIRING	Individuals unemployed or underem- ployed prior to or as a result of COVID-19	 Hire hundreds of unemployed or underemployed individuals to work at BCHD or HCAM Train new hires or potential hires to be Community Health Workers/Case Investigators 	 1. 2. 3. 4. 5. 6. 	MOED and Baltimore Corps screen applicants using an algorithm and use recorded interviews and review applicants to "recommend" for hire to BCHD/HCAM Manage continuing recruitment and hiring needs Adapt HR policies and processes as needed Identify insights around the recruited staff that should inform other Health Corps operations Hold weekly call to discuss progress Jhpiego proposes changes to BCHD	Main Staff: Baltimore Corps BCHD HR staff BCHD Head of Case & Outbreak Investigations and Testing Jhpiego Senior Program Manager MOED staff Technology/Data: Crelate	 JI M C U 	hpiego 10ED)Pl IMD
RAINING TEAMS	CHW TRAINING	BHC Pilot applicants and new hires	 New hires learn transferable skills such as effective communication, health insurance, stress management, medical terminology, reflective listening, health literacy, and client interview techniques BACH trainees enhance public health knowledge and increase their likelihood of becoming employed 	1. 2. 3.	New hires undergo 4-week training on how to use COVID-Link software, the basics of contact tracing and COVID-19 disease information Candidates that were not highly qualified allowed to enroll in 4-week BACH training to learn public health competencies Weekly meetings to discuss training progress	Main Staff: Project Manager from Mayor's Office MOED Director MOED Strategist Technology/Data: COVID-Link Salesforce	 B C B H JI C M 	ACH saltimore Corps SCHD ICAM hpiego DPI IOED
T	CT TRAINING	BHC Pilot applicants and new hires	New hires learn transfer- able skills such as effective communication, health insurance, stress manage- ment, medical terminology, reflective listening, health literacy, and client interview techniques	1. 2. 3.	Orientation provided by Jhpiego Training provided by Jhpiego that includes skills assessment, software training, and virtual skills building sessions Weekly meetings to discuss training progress	Main Staff: Jhpiego Senior Program Manager BCHD Head of Outbreak Investigations and Testing Technology/Data: COVID-Link Salesforce	• B • H • Jł	ICHD ICAM hpiego
	CONTACT TRACING	Residents of Baltimore impacted by COVID-19	Identify cases and contactsTrack data	1. 2. 3. 4.	Contact Tracers assigned cases to contact via Salesforce Contact Tracers meet daily quotas Jhpiego assists with case and testing expansion Data gathered from contact tracing informed	Main Staff: Senior Managers Managers Supervisors Community Health Workers/ Case Investigators Technology/Data: Salesforce COVID-Link	• B	CHD hpiego
OPERATIONS TEAMS	CARE COORDINATION	Residents of Baltimore impacted by COVID-19	 Refer residents to appropriate services (e.g., housing, isolation, caretaking needs) Track trends in care coor- dination referrals 	1. 2.	Care Coordinators connect residents to appropriate service Partner organizations assist residents with access to needed services (e.g., healthcare, housing, resources related to self-isolation or caretaking)	Main Staff: HCAM CEO BCHD Deputy Commissioner of the Division of Aging Technology/Data: Salesforce	 B H N N P N 	CHD ICAM IAP Iaryland Ihilanthropy Ietwork
	CAREER NAVIGATION AND SUPPORT	Newly hired Community Health Workers and Case Investigators (i.e., the "workforce")	 Workforce gain access to additional career ser- vices to remove barriers to future employment Workforce gain access to additional support ser- vices (e.g., legal services, behavioral health, and financial counseling) 	1. 2. 3. 4.	MOED, with the assistance of Mathematica, helps hires set goals using Goal4 It! program Maryland Volunteer Lawyers Service provides legal support services Catholic Charities provides individu- als with behavioral health services MOED connects individuals to financial counseling/empowerment services	Main Staff: Career navigators at MOED and BHC Technology/Data: MOED staff trained to provide financial counseling	 B C B H C N N 	altimore Corps ICHD ICAM DPI IOED Iathematica

Appendix D: Schematic of BHC Training, Performance Support, and Career Development Process



Appendix E: Jhpiego/BCHD Case Investigation and Contact Tracing Schedule and Content for all Contact Tracing CHW, Supervisors, and Managers

CASE INVESTIGATION & CONTACT TRACING TRAINING

	DAY 1 THU	DAY 2 FRI	DAY 3 MON	DAY 4 TUE	DAY 5 WED	DAY 6 THU	DAY 7 FRI
	9:00AM-5:00PM	9:00AM-5:00PM	9:00AM-5:00PM	9:00AM-5:00PM	9:00AM-5:00PM	9:00AM-5:00PM	9:00AM-5:00PM
MORNING	 Arrive BCHD Equipment assignment and laptop setup Administrative set up (badges, key cards) Introductions and Housekeeping Official BCHD Welcome Trainee Introductions Introduction to CI/CT Program Pre-training Assessment 	• Continue JHU Introduction to Covid-19 Contact Tracing	 Common vision of Contact Tracing Cl&CT Workflow Introduction to Covid Link Navigating Covid Link Interview Scripts Logging In and Routine Case Studies 	 Communication Café: Navigating Complex Scenarios Community Needs and Making Referrals Case Studies in Pairs Communication Café: Navigating Complex Scenarios Community Needs and Making Referrals Case Studies in Pairs 	 Can You Hold It" Self-Care Strategies Special Cases: Settings at Risk of Potential Outbreaks Hands on Practice with Case Studies - Care Coordination 	 Transition onto the unit! Supervisors facilitate in-brief: Review follow-up calls and referrals. Trainees start making live calls! Supervisors and trainers on site to answer questions, sup- port just in time learning needs as questions arise 	 Supervisors facilitate in-brief: Using Your Resources, Problem Solving, Troubleshooting Supervisors and Trainers on site to answer questions, sup- port just in time learning needs as questions arise "Ask Me Anything" session with Sr. Managers for transition to on-the-job
AFTERNOON	 HR Orientation Workforce Supports Orientation Begin JHU Introduction to Covid-19 Contact Tracing 	 Group reflection on e-learning modules Covid-19 and disproportion- ate impact on populations in Baltimore Logging into Workday Payroll, time- keeping, and direct deposit Logging into Salesforce/ covidLINK Sandbox 	 Communications Café: "Finding Your Voice" and Script Snags Exposure Source Information MD Covid Alert Before and After Making Calls Managing Assignments Special Workflow: Households Hands on Practice with Case Studies: Households 	 Testing Resources in the Community Handling Special Cases Hands on Practice with Case Studies - Special Cases Revisiting Follow-up Interviews for Cases and Contacts 	 Documenting Care Coordination Referrals and RedCap Peer Practice and Feedback Session Logging into Salesforce/ covidLINK Live and AWS Dialer Set-up Scavenger Hunt (Quiz) End of Day Reports and Temporary Supervisors 	 Supervisors and Trainers on site to answer questions, sup- port just in time learning needs as questions arise Supervisors facilitate debrief: "Grand Rounds" suc- cess stories, unique call scenarios, and ongoing challenges 	 Supervisors and Trainers on site to answer questions, support just in time learning needs as questions arise Supervisors facilitate debrief: "Grand Rounds" success stories, unique call scenarios, and ongoing challenges Complete post-training assessment and training feedback

Appendix F: Methodology

The preliminary data included in this report on progress of the BHC Pilot come from the following sources:

- **1.** Monthly performance reporting from MOED and Baltimore Corps
- 2. Hiring Demographics reporting from Baltimore Corps
- 3. Aggregated data reports from COVIDStat
 - Analyses of MDH REDCap case/death data, testing data from MDH National Electronic
 Disease Surveillance System (NEDSS), and MDH
 CovidLINK case investigation and contact tracing data, including by age, sex, race/ethnicity, etc.
 - b. Summary reports from Baltimore Corps on hiring activity, plus characteristics of applicants, hires, etc.
- 4. Summary of training activities from Jhpiego
- 5. Semi-structured interviews with key stakeholders to reflect on early lessons, challenges, and implementation activities through November 2020.
 - a. 25 interviews were conducted from December 14th, 2020 to January 7th, 2021 with key stakeholders from MOED, BCHD, HCAM, Baltimore Corps, Jhpiego, previous city leaders and employees, and other partners



OBJECTIVE 1

Create hundreds of skill-developing Community Health Worker (CHW) jobs in contact tracing, care coordination and program operation, building sustainable employment paths both during and after the COVID-19 epidemic.

RECRUITMENT AND HIRING

To what extent did the workforce hired include people of color, those unemployed due to or prior to the pandemic, those living in areas hardest hit by COVID-19, those with little or no public health experience, and those with lower levels of educational attainment?

How closely did the candidate pool and the workforce hired reflect the city's demographics?

TRAINING AND ONBOARDING

To what extent did BACH training result in employment with the BHC or elsewhere? What was the benefit of this training?

How did BHC hires who completed BACH training perform in contact tracer training or on the job relative to those who did not? How did they compare in post-BHC employment outcomes?

How well did BCHD/Jhpiego contact tracer training prepare BHC employees to serve as effective contract tracers?

How well did BCHD/HCAM training prepare BHC employees to serve as effective care coordinators?

WORKFORCE SUPPORTS

To what extent did BHC employees utilize career navigation services? What was the benefit of these services?

To what extent did BHC employees utilize financial empowerment counseling? What was the benefit of this counseling?

To what extent did BHC employees utilize legal services? What was the benefit of these services?

To what extent did BHC employees utilize behavioral health services? What was the benefit of these services?

EMPLOYMENT

To what extent did this initiative create short-term employment opportunities?

To what extent did it create long-term employment opportunities?

CHANGE IN CAREER TRAJECTORY/ECONOMIC MOBILITY

To what extent did the BHC influence or change career prospects?

To what extent did BHC employment lead to a sustainable career pathway in community health or another field of interest? To what extent did it otherwise affect career goals?

To what extent did the initiative increase participant earnings? To what extent did it increase earning potential?

OBJECTIVE 2

Develop and implement an effective COVID-19 case investigation and contact tracing program using trained CHWs

CONTACT TRACING

How well did BHC staff support contacts around their exposure and provide diagnosis and counseling options to clients?

How much additional care and social support were utilized by clients through the care coordination program?

What is the contact tracing outreach response rate for Health Corps staff and how does it differ from the response rate for state program staff?

What is the RO measured in the Baltimore city area? If possible, how much of a change can be attributed to contact tracing?

How long does it take for a CHW to reach a specific competency level related to contract tracing?

- of cases contacted / # of cases assigned
- of cases contacted / # of cases assigned
- of contacts elicited / # of cases interviewed
- Total # of interviews (cases + contacts) completed per person

CASE INVESTIGATION AND CONTACT TRACING FOR VULNERABLE POPULATIONS

How well were program staff able to reach more vulnerable populations (including the elderly, those with language barriers, etc.) during contact tracing?

How did case investigation and contact tracing performance metrics vary by case/contact characteristics (e.g. age, sex, race, ethnicity, language, etc.)?

OBJECTIVE 3

Address the social needs of Baltimore's most vulnerable populations (i.e., older adults, the uninsured, and those who are pregnant and have young children) and their family members, through enhanced care coordination

VALUE AND IMPROVEMENT

As a pilot program, what efficiency improvements could be made for a national, regional, state, and local adoption of this program?

CARE COORDINATION AND CONTACT TRACING OUTCOMES

How well did these staff support contacts around their exposure and provide diagnosis and counseling options to clients (including positive cases and contacts)? What types of referrals and what did uptake look like for services in social needs domains?

CARE COORDINATION FOR VULNERABLE POPULATIONS

What referral types (care coordination, contact tracing, direct aid, etc.) were provided across different racial, age, geographic, and other distributions? How well were program staff able to contact vulnerable populations during contact tracing and care coordination?

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