Improving COVID-19 Vaccine Equity for the Latino Population in Baltimore City: Community-Informed Guidance

October 2021







Contributors

Principal Investigator

Sarah Polk, MD, ScM, MHS, Co-Director, Center for Health and Opportunities for Latinos (Centro SOL); Assistant Professor of Pediatrics, Johns Hopkins University School of Medicine

Team Members

Johns Hopkins University School of Medicine

Suzanne Grieb, PhD, MSPH, Assistant Professor of Pediatrics Mónica Guerrero Vázquez, MS, MPH, Executive Director of Centro SOL Marzena Maksym, MA, Research Program Coordinator, Centro SOL Jessica Marroquin Miranda, Community Health Worker, Centro SOL Kate Mieth, MPH, Research Assistant, Centro SOL Kathleen Page, MD, Associate Professor of Medicine

Johns Hopkins Bloomberg School of Public Health

Daniela C. Rodríguez, DrPH, Associate Scientist, Department of International Health

Graduate Student Researchers

Hugo Garcia, Johns Hopkins Bloomberg School of Public Health Rachel Storms, Johns Hopkins School of Nursing Kay Beth Tyson, Johns Hopkins Bloomberg School of Public Health

Note: This report is the local version of a multisite, national report released by the CommuniVax Coalition of which Centro SOL is a member. You can read the national report <u>here</u>.

Contents

Executive Summaryiv
Key Findingsv
Introduction1
Problem1
Approach7
Observations
Context: Impact of COVID-19 on the Baltimore City Latino Community 11
Key Findings
1. Naming Vaccine Hesitancy as "The Problem" Obscures a More Complex Set of Realities17
2. Assuming the Latino Community is Homogenous is a Critical Error
3. Hyperlocal Responses to the Pandemic Result in Better Outcomes
Recommendations
Urgent Actions
Essential Actions
Conclusion
References

Executive Summary

While Baltimore City has made great strides in its COVID-19 vaccination campaign, there is still a great deal of opportunity for continued work and improvement if the city is to put a stop to the pandemic.

Two areas that will be crucial as the city continues its vaccination campaign is figuring out how to reach and serve those Baltimoreans with consistent and continued low vaccine uptake and how to ensure that these initiatives are used as an opportunity to address systemic gaps and inequities within the local health system. Specifically, Baltimore City must do a better job of delivering vaccines to communities of color, including the Latino and immigrant community, in order to build a stronger, more effective, and more just public health infrastructure moving forward.

As in many other communities of color, the COVID-19 pandemic has exposed and amplified preexisting inequities experienced by Baltimore's Latino community. The Latino population has shouldered a disproportionate burden of COVID-19 cases and deaths as well as inequitable COVID-19 impacts in the areas of physical and mental health, community building and community cohesion, education, and personal finances, resulting in an increased need for social assistance. There have been significant and successful local initiatives to alleviate this burden from private and public organizations, though there is still much work to be done to address disparities.

COVID-19 vaccination campaigns are ongoing and remain critical as the Delta variant continues to spread. Learning from the experience of Baltimore's Latino community regarding the COVID-19 vaccine and the ongoing issues they encounter when interfacing with government services and relief efforts will be crucial to improve local programs' successes. There is now a vital opportunity to apply these community-driven solutions to current programs as well as capitalize upon and sustain the successful, hyperlocal initiatives that have responded to pressing socioeconomic and health needs, thereby strengthening the relationship between service providers and the Latino community citywide.

The following report provides city-specific guidance—both informed by and directly suggested by the Baltimore City Latino community—for how to best improve COVID-19 vaccination efforts throughout the city as well as to address the systemic issues that currently prevent and discourage vaccination. In the first half of the report, we outline findings from local, participatory, and ethnographic research conducted by the Center for Salud/Health & Opportunities for Latinos (Centro SOL) with the Baltimore City Latino community to assess community infrastructure; listen to community members, public health officials, and government leaders; and coordinate engagement activities to understand how best to promote awareness of, access to, and acceptability of COVID-19 vaccines. In the second half of this report, we present key findings and recommendations, which we believe will strengthen both local COVID-19 vaccination efforts and counter long-standing systemic racism and inequalities by building a more comprehensive, long-lasting, and equitable public health system throughout the city.

Key Findings

1. Naming vaccine hesitancy as "the problem" obscures a more complex set of realities

"Vaccine hesitancy" is used to describe the complex and diverse set of barriers that *lead to* vaccine hesitancy or a delay in vaccination. The current concept of "vaccine hesitancy" wrongfully places responsibility on individuals to receive the COVID-19 vaccine, rather than holding the systems that affect and are in charge of COVID-19 vaccination accountable for ensuring that vaccination is feasible, available, and acceptable to all. Vaccination on the part of the Latino community in Baltimore has been hampered—as in all communities—by fear of side effects, issues of distrust, and skepticism; however, obstacles to vaccine access have prevented many willing individuals to be vaccinated. Obstacles to access include language barriers, logistical issues (eg, navigating English-only, online-only communications systems, inability to take off of work from informal jobs, lack of transportation), availability of information, and uncertainty regarding legal status requirements. The barriers participants identified as making acting on their intention to vaccinate harder were not new, nor specific to the COVID-19 vaccine. Rather, these are barriers the Latino community had already been facing and that were exacerbated by the pandemic.

2. Assuming the Latino community is homogenous is a critical error

Baltimore City's Latino community consists of a diverse, multiracial, multinational, multicultural, mixed status population. Despite some commonalities (eg, Spanish language), one-size-fits-all solutions to improve vaccination rates within the Latino community will not universally succeed because every individual and family has different needs based on their unique and intersectional identities. Accounting for and responding to the diversity within Baltimore's Latino community will be critical to the success of vaccination campaigns.

3. Hyperlocal responses to the pandemic result in better outcomes

Large-scale federal, state, and city-level responses to the pandemic and vaccination efforts systematically exclude Latino people due to stringent eligibility requirements, language barriers, and logistics incompatible with daily life. At the beginning of the pandemic, local nongovernmental organizations and private organizations such as churches were forced to be the primary leaders in combating the effects of COVID-19 among the Latino community and improving the spread of accurate and trustworthy information regarding the COVID-19 vaccine. As local governmental organizations began to identify and locally address these shortcomings and service gaps, vaccination rates increased, indicating that solutions specifically designed and tailored to the diverse needs of the Latino community can improve vaccination rates.

Recommendations

Urgent actions: immediately improve vaccine coverage in the Latino community

- 1. Humanize delivery and communication strategies for COVID-19 vaccines To reach more unvaccinated individuals in the Latino community and improve trust in public health systems, the Baltimore City Health Department (BCHD), the Mayor's Office of Immigrant and Multicultural Affairs (MIMA), and local health systems (eg, Johns Hopkins and the University of Maryland) must continue to strengthen and establish permanent collaborations with private entities (eg, churches, nongovernmental organizations) and other government sectors (eg, schools, housing) that serve the Latino community, particularly in the realm of health communication. Specific collaborative actions are to: (1) bring COVID-19 vaccines directly to the community; (2) expand Spanish-language materials and services; (3) use modern, in-person, and personalized forms of communication rather than traditional mass media campaigns; and (4) involve local leaders and community members in both message development and delivery in order to build trust.
- 2. Anchor COVID-19 vaccination for hard-hit areas in a holistic recovery process Since highly successful models of service delivery already exist within the Latino community (eg, food distribution programs), private and public agencies alike should focus on streamlining service deliveries, such that one encounter can result in the receipt of several services. Additionally, public agencies must collectively identify all of the social services and relief programs (ie, both COVID-19 programs and programs not related to COVID-19) that are not accessible to many Latino people. Specific collaborative actions are to: (1) include vaccination efforts in ongoing, multisector social services campaigns in the community and (2) address the exclusion of Latino immigrants from COVID-19 relief efforts (eg, stipends, unemployment benefits) by creating local versions specifically targeted to the Latino community.

Essential actions: steadily drive system-level changes that advance health equity

3. Integrate successful, hyperlocal relief initiatives into standard operating procedures

Public health and government agencies should capitalize on the infrastructure and success of COVID-19-era initiatives by establishing a permanent, standing version of the multisectoral partnerships created at the beginning of the pandemic. This should include a plan that outlines how to transition to issues beyond COVID-19 and to assess and address the upstream causes of inequities experienced by the Latino community. Larger, well-funded organizations such the Maryland Department of Health, BCHD, MIMA, and Johns Hopkins Hospital System must allocate regular funding and grants that provide resources (eg, funding, personnel) and additional assistance (eg, technical and logistical support) to community-led and grassroots organizations, which are well poised to assess local need and design and deliver related services to meet those needs. 4. Develop a citywide immunization program to protect people throughout the life course

Rather than requiring families and individuals to come to health centers ad hoc to receive immunizations as needed or desired, the BCHD and local health systems should integrate vaccination campaigns into routine operations. For example, by providing free vaccinations on an ongoing basis at locations convenient and familiar to people of all ages such as schools, churches, and places of employment. Ensure that all data collected does not threaten the legal status or anonymity of any person and ensure communities are aware that this is the case.

5. Rebuild the city's public health infrastructure, with proper staffing for community engagement

In order to foster a long-term, trusted relationship between the Latino community and the city's public entities, offices need to prioritize hiring and maintaining staff who can consistently and appropriately engage with the Latino community. The BCHD and mayor's offices (especially MIMA) must increase the number of Spanish-speakers and Latino individuals on staff, rather than relying on single employees. These entities must also insist on cultural awareness in addition to Spanish proficiency to avoid unanticipated harms.

6. Stabilize the community health system as the backbone for equity and resilience

The BCHD should formalize and increase funding for community health workers/*promotoras* in order to continue building an enduring relationship with the Latino community and incorporating community needs and voices. *Promotora* program needs include expansion as well as appropriate pay, competitive benefits, job security, and a path for career advancement for existing and future *promotoras*.

Introduction

Problem

Direct health impacts of COVID-19

Latino Marylanders have shouldered a disproportionate burden of COVID-19 cases and deaths since the beginning of the pandemic. In July 2020, a *JAMA* study revealed that Latino individuals experienced the highest COVID-19 positivity rate in the Baltimore–Washington, DC area at an average of 46% positivity (with a peak of 53.4%), which is substantially higher than the 8.8%, 17.6%, or 17.2% positivity rates experienced patients who identify as White, Black, or as another race, respectively.¹



Figure 1. SARS-CoV-2 positivity rate by racial/ethnic groups in the Baltimore-Washington, DC region, March 11 to May 25, 2020¹

An additional study completed by Johns Hospital Health System using data from 5 hospitals and 30 outpatient clinics collected from March through May 2020 revealed that, out of the 42.6% of Latino patients who tested positive, 29.1% were hospitalized.¹

Through December 2020 and January 2021, the Latino population continued to hold the highest positivity rate (15%) among all racial and ethnic groups in Baltimore City.² Latino individuals made up 5% of reported deaths at the time,³ though Baltimore City officials believed the actual count of positive cases in the Latino community was much higher than what was being reported. This is because 41% of reported COVID-19 cases were missing ethnicity data, as private companies reporting testing results are not required to report ethnicity.⁴ Additionally, the BCHD was not releasing data on COVID-19 cases by ethnicity until 2 months into the pandemic and the Johns Hopkins Hospital System was not releasing race or ethnicity data regarding COVID-19 to the public at all,⁴ making it more difficult to assess and address the emerging issue at the local level. Several factors explained the observed disparity in COVID-19 cases and need within the Latino population. Low-income wages, the imperative to work, overrepresentation in Baltimore City's essential workforce and the high prevalence of multifamily and/or multigenerational households—all contribute to increased risk of COVID-19 exposure and led to disproportionate health and economic burden.^{1,5,6} Moreover, Latino individuals are less likely to seek care when they do get sick due to limited or no health insurance coverage and fear of the Public Charge.¹

Secondary effects of COVID-19 and related relief efforts

In a tragic cycle, poverty facilitated the spread of COVID-19 in Baltimore's Latino community and then COVID-19 worsened poverty in the same community. In addition to the direct health effects of the virus, COVID-19 resulted job loss, the threat of evictions, and food insecurity. Because Latino individuals are more likely to work in the service industries (eg, restaurant sector, cleaning industries), which have been heavily impacted by the COVID-19 pandemic, many have experienced cuts to their normal work hours or have lost employment altogether.⁴ Due to this lower earning, the percentage of the Latino population living in poverty has substantially increased. Some robust responses by public and private entities have helped to alleviate this. For example, many families are heavily relying on food banks and food distribution services, especially since many students who previously received meals at school are now studying from home.^{7,8} However, many Latino individuals, especially those who are undocumented, are not eligible for many of the ongoing safety net programs or the federal COVID-19 response and relief funds.¹

Ineligibility for national and state-level programs to alleviate the effects of COVID-19 such as financial relief through the Coronavirus Aid, Relief, and Economic Security Act (CARES Act), unemployment benefits, supplemental nutrition programs, small business relief programs, etc. invariably contributed to the devastating impact of the pandemic on Latino families. Of note, immigrants contribute a far greater percentage of funds to government programs that they use⁹ and the contributions of immigrants subsidize certain government programs such as Medicare.¹⁰

Unfortunately, prolonged shortfalls in the infrastructure, personnel, and resource allocation to adequately support the Baltimore City Latino community during "normal" times made it difficult for local governmental organizations to quickly respond to these increasingly profound service gaps at the beginning of the COVID-19 crisis. The real-time effects of these shortcomings is evidenced not only with high rates of COVID-19 and deaths due to COVID-19 within the Latino community described above, but also in secondary effects on personal finances, food security, housing, etc., which will be described later. With so much need and so little relief available, local nongovernmental organizations and other private organizations found themselves playing an outsized role in combating the effects of COVID-19 among the Latino community at the beginning of the pandemic.

However, strong advocacy efforts from faith-based, community-based, and nonprofit organizations; individual employees working at the large hospital systems in Baltimore City (eg, Johns Hopkins and University of Maryland); and MIMA led to increased awareness. Local organizations began working together and with Baltimore City government agencies to create a range of new programs aimed at addressing the specific needs of the Latino and immigrant community.

By the summer of 2020, the BCHD and MIMA had set up a formal COVID-19 Response Workgroup with about 12 local organizations to coordinate efforts and create a multipronged strategy.¹¹The workgroup was composed of 3 subgroups: (1) prevention/testing, (2) communication and outreach, and (3) resources and case management. The 3 subgroups met frequently and alternated between general, full workgroups and subgroup meetings (email communication from S. Grieb, December 2020). Notable programs that were either represented in or created by this workgroup and housed under these subgroups 3 were:

Prevention/Testing	Communication and Outreach	Resource and Case Management
 Free mobile community testing supported by JHH, BCHD, and BUILD Free COVID-19 testing site at the Sacred Heart of Jesus Church parking lot in May to reach the Latino community. The city estimated that the testing site reached 400 to 600 community members over the summer.⁵ Promotoras supported the JHED to provide timely delivery of results to Spanish-speaking patients and rapidly link them to aftercare and social services. Promotoras supported BCHD contact tracing team efforts. 	 Catholic Charities' Esperanza Center began a COVID-19 hotline as part of a resource navigation program that was able to field any questions regarding the virus and connect Latino individuals to Spanish- language COVID-19-related resources.¹¹ MIMA partnered with Latino news outlets (eg, Somos Baltimore Latino) and local Latino health leaders (eg, physicians from JHH's Centro SOL) to deliver a weekly bilingual "Ask Your Doctor" Facebook Live session to answer community questions about COVID-19.4 CASA's de Maryland Communications Campaign, including their Community Messengers program.¹¹ 	 Juntos Initiative—started by JHH in May¹²— established a team of bilingual clinicians to facilitate complex communications with patients and families and serve as cultural ambassadors. Juntos also established "Vive Sin Duda"¹³ after a crowdsourcing contest and extended community input to coordinate improved COVID-19 information sharing campaigns among the Latino community.

Table 1. Several Programs Either Represented in or Created by the BCHD/MIMA COVID-19 Response Workgroup

Abbreviations: BCHD, Baltimore City Health Department; BUILD, Baltimoreans United in Leadership Development; Centro SOL, the Center for Salud/Health & Opportunities for Latinos; JHED, Johns Hopkins Emergency Department; JHH, Johns Hopkins Hospital; MIMA, Mayor's Office of Immigrant and Multicultural Affairs.

Notable successes in programs that aimed to address the secondary effects of COVID-19 were largely led by local community organizations and MIMA. The Emergency Relief for Immigrant Families program,¹⁴ established in April/May of 2020, aimed to address ineligibility of the CARES Act for many Latino families and was borne of advocacy from

Baltimorean's United in Leadership Building (BUILD), funded and coordinated by MIMA, and supported logistically by the Esperanza Center hotline and Johns Hopkins Hospital testing services.¹⁴ Additionally, leaders at MIMA worked hard to address issues of eviction and struggling small businesses among undocumented immigrants specifically. Sacred Heart of Jesus Church and BUILD also started a food distribution program with 18 drivers delivering 800 boxes to families a week to respond to the food security issues.⁵ To help cover funeral expenses, Sacred Heart of Jesus Christ began to make monetary donations to families. Local community members installed donation boxes in their community to collect donations from others.⁵ Finally, CASA de Maryland, the largest Latino organization on the east coast, began cash assistance, food resources, immigration services, employment services, and links to healthcare services in the community.¹¹

COVID-19 vaccination campaign

A similar trend was seen at the beginning of the vaccination campaign, in which government entities charged with the planning and distribution of COVID-19 vaccines were not equipped to do so in an equitable manner at the outset. Preliminary national and state-level COVID-19 vaccination efforts that aimed to broadly cover the population did not include adequate planning for ensuring equity and reaching all Baltimoreans and Marylanders and were therefore insufficient, inconsistent, and led to inequitable vaccination rates within the city at the outset.

Maryland's initial COVID-19 vaccination plan was criticized¹⁵ for several reasons, 2 notable examples being (1) a relatively slow, confusing, online-only registration process coupled with inappropriate distribution of vaccines and (2) limited planning to ensure an equitable rollout.¹⁶⁻¹⁸

First, the state opted to decentralize vaccination delivery efforts by distributing limited doses to a variety of providers, rather than selecting a few key vaccination sites. Additionally, it then relied on individual citizens to navigate a "complex maze of online sign-ups created by the range of vaccinators" rather than allowing interested individuals to sign up with a centralized state register and then be assigned to or have the ability to choose a vaccination location afterward.¹⁵ In January 2021, in part to address these disparities, Baltimore City began a call line (ie, Maryland Access Point at 410-396-CARE [2273]) for older adults without access to the internet to provide assistance in registering for the COVID-19 vaccine, as it became available.¹⁹

Second, communities of color which had consistently been hit hardest by the disease received shots at disproportionately low rates at the beginning of the vaccination campaign. On January 25, 2021, only about 16% of the first doses of the vaccine administered in Maryland, for which race data is available, had gone to African American individuals, and 4.6% had gone to Latino individuals—groups representing 31% and 11% of the population, respectively. At that point, Black residents accounted for approximately 33% of Maryland's coronavirus cases and 35% of deaths from the disease; Latino residents 19% of infections and 9% of fatalities.¹⁵ White residents, who accounted for about 40% of the state's cases and 50.5% of deaths, had received 66% of the first shots administered for which race data was available, despite making up about 58.5% of

the population.¹⁵ As a result of these 2 issues, by the end of January 2021, Maryland was ranked 47 out of 50 states,¹⁷ with respect to vaccination efforts.²⁰

Again, similar to COVID-19 containment and relief efforts, local organizations serving the Latino community mobilized for equity. In February and March, the BCHD deployed mobile vaccination clinics (particularly to senior housing) and opened several mass vaccinations centers.²⁰ Johns Hopkins Hospital (JHH) partnered with the Maryland Health Department Equity Taskforce to begin vaccine clinics at Sacred Heart Church.

Additionally, the city planned COVID-19 promotion activities, hosted virtual town halls, and used the sound truck to drive through communities blaring a message about the importance of getting immunized.²¹ In a further effort to improve transparency and address ongoing concerns with the state of vaccination efforts, the new mayor, Brandon Scott, announced the release of a COVID-19 vaccination dashboard, similar to the city's COVID-19 dashboard.²² Additionally, the city launched initiatives such as the Vaccine Acceptance and Access Lives in Unity, Education, and Engagement (VALUE) that serves communities disproportionately impacted by COVID-19, the COVID Vaccine Taskforce and the community health worker *promotoras* program in collaboration with MIMA. Finally, the BCHD reoriented the work of the flu community engagement subcommittee to focus on COVID-19 vaccine rollout and the COVAX Community Engagement Subcommittee was created to support the development and dissemination of messaging aimed at instilling confidence in the COVID-19 vaccines, including targeted messaging to specific communities, one of which being the Latino community.¹⁹ Error! Bookmark not d efined.

Additionally, private organizations continued to roll out improved and updated COVID-19 services, such as the vaccine appointment hotline established at the Esperanza Center on March 15, 2021, to address registration issues such as language barriers.

Progress was slow and Baltimore City continued to fall behind in vaccinations, both nationally and at the state level. On March 3, the state of Maryland jumped in the state vaccination rankings—18 out of 50—with a reported 8.5% of its residents having received both vaccines.¹⁵ Yet, only 7.3% of Baltimore City residents had been vaccinated, ranking it the third lowest county in the state. Of that 7.3%, only 3.1% of vaccines had been administered to Latino residents.²⁵



Source: Baltimore Sun, Baltimore City Health Department

However, Maryland's and Baltimore City's vaccination coverage slowly began to improve. By May, the state ranked 9 out of 50 states.¹⁵ State officials attributed this improvement to augmented vaccination efforts, including expansion in the number and type of vaccination sites and equity task forces. Other health officials attributed this jump to state residents' increased willingness to be vaccinated as more vaccines became available.¹⁵ At this time, the BCHD reported that 39.6% of Baltimore City's Hispanic or Latino population had been vaccinated with the first dose and 29.1% had been vaccinated with the second.²⁴ These figures were similar to the non-Hispanic or Latino population, indicating that vaccination promotion efforts made by the city and private institutions had been succeeding in reducing the vaccination gap between the Latino and non-Latino populations.

As of August 4, the BCHD's vaccine dashboard reported that 63% of all Baltimore City residents had been vaccinated, and remarkably, that the percentage of the Latino population that has received 1 dose of the vaccine (58.6%) is higher than the non-Hispanic or Latino population (48.3%).²⁴ A slightly larger percentage of non-Hispanic or Latino population that received the first dose have received the second as compared with the Latino population.



Figure 2. Percentage of Latino population vaccinated.

Despite the aforementioned improvements, Baltimore City continues to have a lower than average overall vaccination rate as compared with the state of Maryland (in which 68% of residents have received their first dose),²⁵ and particularly in comparison with surrounding counties.²⁶



Figure 3. Maryland COVID-19 vaccination rates by county.²⁶

With limited ability to practice alternative COVID-19 preventative measures, Latino Baltimore residents, their families, and their housemates may need to rely on vaccination to prevent personal infection and continued community spread of the virus. Vaccination rates must continue to increase if the COVID-19 pandemic is to subside in the Latino community as well as the greater Baltimore City community, particularly with the highly transmissible Delta variant widely circulating across the country and state.²⁶

Limitations in COVID-19 data

All of the statistics presented above must be interpreted with caution however, as measuring the true number of Latino individuals who contracted COVID-19 and vaccination rates among the Latino population are challenging for several reasons. COVID-19 rates among the Latino population may have been systematically underestimated because (1) as previously mentioned, private companies were not required to report positivity rates by race; (2) language and other access barriers likely precluded certain individuals from seeking and getting tested; and (3) many undocumented individuals avoid public officials, lessening their chances of getting tested even if they had symptoms. In contrast, COVID-19 vaccination rates among the Latino population may have be inflated, as Latino individuals are undercounted in the census—particularly those who are undocumented—due to fears of deportation and retaliation as well as generally low levels of engagement.

Approach

To strengthen local vaccination efforts and address the issue of inequitable access and uptake of the COVID-19 vaccine within Baltimore City, Centro SOL joined the CommuniVax Coalition, a national multisite participatory action and hazard research project. This project aims to center Black, Latino, and Indigenous voices in assessing and addressing structural, cultural, and personal barriers to the uptake of the COVID-19 vaccine as well as identify campaigns and activities by which to improve awareness, access, and uptake of the vaccine. After receiving Johns Hopkins Bloomberg School of Public Health Institutional Review Board approval (IRB0015200), Centro SOL engaged in several participatory data collection methods including in-depth interviews, focus group discussions using the Photovoice methodology, social mapping exercises, and community and professional engagement activities.

Interviews

Interviews were conducted by members of the Centro SOL team between March and May 2021. Participants were asked questions about (1) their experiences with COVID-19 and how it had impacted their lives; (2) COVID-19 vaccination, including their willingness and ability to receive a COVID-19 vaccine (if they had not already), concerns about vaccination, sources of information for COVID-19 and vaccination, and barriers to accessing vaccination; and (3) what they believe is necessary to support a successful recovery from the COVID-19 pandemic.

Twenty-three interviews were conducted with Latino residents of Baltimore City: 14 identified as female and 9 as male. Participant ages ranged from 21 to 77 years, with 39 years as the average. All interview participants self-identified as Latino. Participants were geographically distributed among 8 zip codes around the City of Baltimore, with 59% living in the 21224 zip code, which was the zip code hardest hit by COVID-19 in Baltimore City. Only 14 participants provided income data, but the average annual income among these participants was \$15,364. At time of the interview, 4 participants were vaccinated and 19 were not vaccinated. Among unvaccinated participants, 12 expressed a definite intention to get vaccinated and 7 participants were unsure.

Photovoice

Twelve total focus group discussion sessions using Photovoice methods²⁷ were conducted with 2 groups: 6 women and 5 men (1 man dropped out). In the introduction session, a facilitator set expectations and provided an overview of the Photovoice methodology. The following sessions revolved around 2 framing questions: (1) "How has COVID-19 impacted your life?" and (2) "What would have to happen for you and the members of your community to want to get the COVID-19 vaccine?" In the following weeks, participants took photos during their daily life in response to the questions and sent each photo to a collective WhatsApp text messaging group. Participants were also encouraged to write down their thoughts about each photo so they could explain them during small group discussions in the future. During the subsequent sessions, participants presented their photos and reflections to the group, explaining why they chose to take the picture and what it meant to them. Participants identified themes that emerged from the dialogue process that they felt represented a collective "narrative."

The age of participants ranged from 28 to 56 years, with 43 years as the average. All 11 participants self-identified as Latino, with 5 also self-identifying as White, 5 as mixed race, and 1 as Indigenous. Participants lived in 6 different zip codes around the City of Baltimore, with 5 living in the 21224 zip code. Average annual income among participants was \$23,164. At the time of the interview, 5 participants were vaccinated and 6 were not vaccinated. Among unvaccinated participants, 3 expressed a definite intention to get vaccinated, 1 indicated they would probably get vaccinated, and 2 participants were unsure.

Social mapping

Social mapping²⁸⁻³⁰ interviews were conducted by Centro SOL team members between April and July 2021. Before the social mapping interview, participants were provided

with a large sheet of paper and markers to use in making their map. During the social mapping interviews, participants were asked to draw and discuss the various places they go (eg, religious services, food/groceries, school, healthcare services, to socialize). Aspects of the physical and social environment of the location were explored—how they learned about the location, how they get to the location, how they feel about the location and the people there, what they like or dislike about the location, why they go to this location rather than another similar location, and how the pandemic influenced their use of the location. The participants and interviewers used the creation of the map to facilitate discussion. Finally, questions regarding COVID-19 vaccination, including sources of information for COVID-19 and vaccination, barriers to accessing vaccination, and experience getting the vaccine (if applicable) were asked.

A total of 22 social mapping interviews were completed. Ten participants identified as male and 12 as female. Of the 18 who provided demographic information, the age of participants ranged from 26 to 56 years, with 38 years as the average. In terms of ethnicity, all interview participants self-identified as Latino and reported their countries of origin as Honduras, El Salvador, Guatemala or Mexico. Participants were geographically distributed among 4 zip codes around the City of Baltimore, with 11 participants living in the 21224 zip code, which was the zip code hardest hit by COVID-19 in Baltimore City. Participants reported annual household incomes ranged from \$13,000 to \$98,000.



Figure 4. Two examples of photomaps created during the project.

Other methods

Professional networking: Our team has worked together with multiple organizations and individuals, leveraging the existing partnerships and creating new collaborations to address the impact of COVID-19. Since the beginning of this project, 28 organizations have been collaborating with us from implementers, policymakers, media and outreach groups including health systems, medical centers, providers, and community and faithbased organizations among others. One such example is the Latino Family Advisory Board at Johns Hopkins Bayview Pediatric Clinic.

Community engagement: Our team worked in 3 different ways to engage the community: (1) we worked with existing partnerships throughout the project and built new partnerships for the project, (2) we continuously worked with 12 organizations including nongovernmental organizations and faith-based organizations to share information about the vaccine distribution; and (3) we collaborated with Esperanza Center, a community clinic, to assist with appointments and reminders for second doses. It is important to note that the collaborations with faith-based organizations and local media have been instrumental in delivering messages and identifying areas of work.

Observations

Context: Impact of COVID-19 on the Baltimore City Latino Community

It's like being in a cage, having the children locked up, afraid to take them out or they might get sick. Several of us are left without work and sometimes without food, [it's] very sad. (Interviewee)

In order to adequately understand the observations and recommendations made over the course of this study regarding the COVID-19 vaccine and the Baltimore City Latino community, it is vital to understand the context by which the community has experienced the COVID-19 pandemic. Almost all participants expressed deep concerns about COVID-19, including concerns about getting sick or dying of COVID-19, running out of work or food, and worries that the virus may strengthen and that the pandemic will not subside. All of the discussed concerns can be broadly categorized into: physical and mental health, equity, community building and community cohesion, education, economic impacts, and an increased need for social assistance.

Health

Participants in the study indicated concerns about themselves and their relatives being infected or reinfected with COVID-19, and the risk of death due to the disease.

I think it's not easy because it's been a very strong virus and one is worried about going out and getting sick or the children [getting sick] or my husband [getting sick].... I think about what we would do if he were to get sick since he is the one who supports the family. I don't even want to think about it. (Interviewee)

I was pregnant, I am hypertensive, and I had a high-risk pregnancy ... I was pregnant with twins. So, every week, every 2 weeks, I had to go to the hospital for an ultrasound. The truth is that I felt traumatic every time ... almost all the time my blood pressure was high. Once I almost had to stay in the hospital for 2 days while they normalized my blood pressure.... I was afraid that there might be a patient with coronavirus, and I wouldn't realize it. I didn't want to sit on the beds, and I didn't want to put on my clothes, I was very afraid of knowing that maybe while I was in the hospital, I would catch COVID. (Female Photovoice participant)

Several expressed concerns about their mental health due to social isolation, as new and growing issues with depression and anxiety were often brought up.

I had never had any problems ... [but now] I felt very stressed, very anxious, more than anything it was anxiety.... I woke up not every day in the same way and I realized that something was not right. But thank God ... I took the mindfulness classes with Centro SOL and the truth is that they helped me a lot to learn to control myself.... I was able to get ahead, but I have 4 friends who are still in depression, 1 has panic attacks and 2 others have a lot of anxiety, that is, they are in bad shape ... I have another [friend] who says she has nothing, she tells me that [she is] very afraid of COVID, [she] doesn't go out anywhere, I mean, she is always at home ... you realize that we are not just 1 or 2 or 3, but that most people are very stressed about this.[...] Yes, the COVID has taken over a lot of our minds. (Female Photovoice participant)

Equity

Participants reported that, before the COVID-19 vaccine, the aging population was disproportionately affected by the pandemic. In addition, participants highlighted concerns about how COVID-19 continues to disproportionately affect the Latino population, as they more often work jobs in the essential worker categories (eg, construction).

You can see a white bag on the coat rack, [it] is my husband's masks. There are a lot of masks because in construction, unfortunately, they can't [socially] distance ... it's impossible because that's their job. I feel sometimes they say that Latinos are more prone to get sick and I don't think that's



true. I think that Latinos are the ones who can't work from home, and I think that we are the ones who don't have the advantage of being able to [socially] distance because in construction they work side by side, that is, it's not like you can take distance with another person. That or in factories, packing things ... so that is what makes us more vulnerable, and it is not precisely perhaps our race, but that we do not have the advantage that other people have of being able to do their work in that way. So what I represent in my photograph is, for me, nostalgia, it makes me nostalgic to think that we cannot have a normal life as we had before. (Female Photovoice participant)

Community building and community cohesion

Participants shared the social and emotional impact of COVID-19 preventative measures, including exercising excessive caution when engaging in activities outside the home, limiting outdoor activities for children, and physically distancing from loved ones. Several also reported being impacted emotionally by deaths in their community, both in the United States as well as in their countries of origin. [It's] a little bit rough. Seeing a lot of people die. On the news we see a lot from other countries, from my country, how people were dying. (Interviewee)

Some participants also mentioned that, because of ongoing safety concerns and violence against Latino people in their neighborhoods, they often felt limited in their ability to go to places such as parks and other outdoor community areas—spaces that offered one of the few options for safe community building and exercise outside of the home during the COVID-19 pandemic.

I feel insecure because in that park there are always muggings, there are a lot of people and sometimes you go out to distract yourself, but you don't know the intentions of the other people. It's not that you don't like people of color, but you have that perception. You think that they attack us Latinos. There is a lot of racism from them towards us. They think we have money, and they attack us with the little money we have. I don't feel safe at all. I don't go to this park. I feel very insecure. It's not [only] at night because during the day all that happens. I feel a little insecure about it. (Social mapping participant)

Education

Parents shared the negative impact remote learning has had on their children with regard to both social isolation and often deteriorating educational outcomes.

I have 4 children, I enrolled 1 of my children, I didn't want to enroll him, but he is the only one who has problems because he is very distracted ... the others are each in their own room ... [he] has never had bad grades until now that this happened ... I have had communication with every teacher and in all the grades he is very low. They told me that the only thing I could do is to enroll him to raise his grades ... [we'll] see what change there is in him. It is something that has affected us a lot. (Female Photovoice participant)

Economic

Participants reported loss of employment and a decrease in overall income as a result of the pandemic as one of the biggest issues.

My husband does not stop working. If there are 3 days, three days he goes [to work] because we have to pay the rent.... If there are no jobs, there is no money to build, to paint the houses. (Female interviewee, 30 to 49 years old)

Last year when COVID started in March, [many] have been out of work for 5 or 6 months. There are many people who do not have documents and have had to use their savings, have had to borrow, have had to go into debt. (Male Photovoice participant) Loss of livelihood was not the only issue, as the threats of food insecurity and housing instability were also huge areas of concern.

These are things that I must buy for my house because in my case, I have noticed that many people have help from the government. So, in my house I don't have any help and I think that's what has impacted me the most in my family because all the food [cost] has increased a lot...we used to buy so much food and I think we even filled our fridge, but now with [the same] \$200 we only buy the most necessary things... only my husband works and I



have 2 girls, a boy. One has even been limited in buying clothes because first one thinks of the children and when one goes to the store many stores that at times... more convenient because of the price, have closed. (Photovoice participant)

I have also been going through economic problems and the truth is that I thought I felt very self-sufficient.... I thought that this was not going to happen to me because I work, because I thought those things, that is for people who do not work. But now I realize that it is not like that. I have had to go to look for food as one of the compañeras said last time. I had never gone [before] because I thought ... that is for the people who really need it, because if you go and take food from those who really need it then you are doing something bad.... But I know that it was not only us, if companies as big as JCPenney, New York Company ... are going bankrupt then what are we going to expect as well? (Female Photovoice participant)

Finally, participants often mentioned that the economic situation was also bad in their home countries, and how that has affected their lives in the United States as well.

[COVID-19] has affected the economy, it has been quite strong, both for those of us who are here, as well as for our relatives in our [home] countries because, we who are here and work, we can help them with the little we can so that they can also get [financially] ahead. But, with this COVID, it has become very difficult for us who are here. In our countries the economy is already a little bad ... there are many people who are still going through situations where they cannot pay the rent or the energy bills, gas, and all that and sometimes, not only that, but

all the members of the family have been affected by COVID. None of the family has been able to work and it's quite complicated. (Male Photovoice participant)

Increased reliance on social systems

Due to the aforementioned economic situation, Latino families often rely on social systems such as local clinics and food distribution centers to meet their daily needs regarding health, food, and housing.

There are many people who need food for their families, maybe there was a little need before, but not like now. Many people who do not have jobs, who lost their jobs, [or work didn't] call them back ... It is something that makes me sad ... many things have accumulated.... I never imagined I would go through this. (Female Photovoice participant, referring to her picture of the food distribution line)



Notably, this relief more often comes from private organizations rather than public programs, as Latino participants noted that there was little to no support from the government, especially for those without documentation and who plan to/are pursuing formal US citizenship.

But for us Hispanics it is very difficult when suddenly they tell us that we have to be in quarantine, [that] we can't go out because we have been infected ... because we don't have help from the government... we don't have a social [security number], so we Hispanics can't say, "I'm sick, so I'll get unemployment because I can't work or I ran out of money." ... I would like to have received support ... [Hispanics] pay taxes every year, but we don't get support from the government. (Social mapping participant)

You are always afraid because you are illegal ... [there are] so many things that happen and you see on TV, we have stayed that way. For example, right now I haven't worked, I need help but I can't, I've been sick, I owe 2 months' rent and we've looked for help but we can't. Nobody wants to lend it and the landlord doesn't want to lend it. Nobody wants to lend it and the owner of the house won't authorize it. They were calling us to help pay the rent but he didn't want to, he said he wouldn't give anything, he wouldn't allow them to help us and you have to respect the owners when you are renting. If they say no, it is no. They told us that if we didn't pay them, we should find somewhere else to go, but when you don't have the facility to do that you have to put up with everything. (Social mapping participant) Additionally, people remain afraid to apply for government services they are interested in for their citizen children out of an understandable, though misplaced, fear of the Public Charge, meaning that accessing public benefits would jeopardize any opportunity to regularize their legal status. Fear of the Public Charge keeps eligible individuals from receiving the care and support that they need, indicating that if services were more accessible to such individuals—in reality and perception—they would utilize them.

I would like in the future to apply for food stamps, because I have never had it, and since I don't have a job it makes it a little difficult for me ... [but] not right now.... We are in an immigration process right now with documents and I know it's not a problem to have stamps but I feel it's not good right now to be a burden on the government. I would like to have that in the future. (Social mapping participant)

Vaccination

Regarding the COVID-19 vaccine, respondent concerns focused on: (1) the vaccine rollout and availability to meet demand; (2) vaccine safety; and (3) the possibility of reinfection postvaccination. Several Photovoice participants noted that the only way to recover from the pandemic would be to get all people vaccinated.

I don't know how everything can go back to normal. I think the only hope would be in vaccines, but whether people want to get them ... that is another important point. (Photovoice participant)

Key Findings

Over the course of the study, we discussed the COVID-19 vaccine given the context explained above, and 3 key findings emerged.

1. Naming Vaccine Hesitancy as "The Problem" Obscures a More Complex Set of Realities

Many have been quick to cite "vaccine hesitancy" as the primary driver of disparities in vaccination rates between Latino groups and other racial and ethnic groups or overall vaccination rates in Baltimore City. Participants' opinions, perceptions, and experiences with COVID-19 and the vaccine demonstrated that vaccine hesitancy itself is not "the problem," however. Rather, "vaccine hesitancy" is a catch-all term obscuring a complex and diverse set of ongoing and worsening socioeconomic and structural barriers that *lead to* vaccine hesitancy or a delay in vaccination. Vaccine hesitancy also places responsibility on the individual to receive the vaccine, rather than keeping public health systems accountable for making the vaccine feasible, available, and acceptable to all.

Latino individuals are largely willing to get vaccinated

Most interview participants (70%) reported having received COVID-19 vaccination at the time of the interview or being willing to get vaccinated. Of those, reported reasons for vaccination included a desire to protect themselves and loved ones from severe illness and death, to be able to socialize safely again, and vaccine requirements at their workplace. Vaccine hesitancy exists and persists but may not be as widespread as initially feared.

> I also want to go back to embrace those I know because it is not that I have a family here, but I go to a church and in that church, they are used to hugging a lot and I miss that. (Photovoice participant)

Access, not unwillingness, was more often the issue

Most of the discrepancy between the large number of people willing to get vaccinated and low vaccination numbers can be attributed to systemic, structural barriers preventing willing individuals from getting vaccinated. The barriers participants identified as making acting on their intention to vaccinate harder were not new, nor specific to the COVID-19 vaccine. Rather, these are barriers the Latino community had already been facing and that were exacerbated by the pandemic.

Lack of accessible, accurate, trusted information in Spanish regarding the vaccine

The most frequently mentioned barrier was around language, as most participants did not speak, read, or write English fluently. This is common in the Baltimore City Latino community, and thus many are not aware of or cannot engage with messaging about the vaccine. There was a notable lack of reliable information in Spanish about the vaccine itself (eg, effectiveness, side effects) as well as how to register or where and how to access it, particularly at the beginning of the vaccination campaign. Several participants noted missed opportunities such as being called for an open appointment but the operator did not speak Spanish or needing to rely on other household members—including children—to interpret information over the phone. These obstacles decreased over time, as gradual increases in vaccine availability and the advent of walk-up clinics allowed people to circumvent language barrier-ridden scheduling systems.

Additionally, community members' knowledge around information and services related to COVID-19 and the vaccine was quite poor. The majority reported that they had little access to official, reputable information sources and that led to a delay in being able to get vaccinated.

Yes, I wish I would have gotten it sooner, but as I say, I had no information on where I could get it. (Social mapping participant)

A much smaller number of individuals reported they had a lot of access to information, generally through schools and churches, and to a lesser degree nonprofit organizations such as CASA de Maryland and Centro SOL. Thus, people who are already well connected with community organizations and resources and who were able to dedicate time to engage in information gathering were much more able to get the vaccine without delay. Whereas those who presumably have more overall need and less time to try and find information on their own, are left behind.

Men, they don't have the time, or they work, so they don't get informed. They don't go to groups like this one and that's why they don't have 100% access to decide to get vaccinated. (Female Photovoice participant)

Logistical barriers

Much like other Marylanders, Latino individuals had difficulty navigating online registration sites, particularly at the start of the year. Those with limited English proficiency and the elderly especially experienced linguistic and technical difficulties when attempting to register, thus making the vaccine less available to them.

You had to sign up, you had to make an application. Then when you were enrolled you had to call a number to see where you were going to go.... My son [helped me]. For him it was easy because he knows a lot about computers. For me it's more difficult because I don't know English. (Social mapping participant)

The lady who lives also here with us tried to register on the internet and it was difficult at first, but then ... she had the phone number of a guy there and he quickly told her that they are vaccinating in these locations today and she went and got vaccinated right away. I think that having contacts, phone numbers where you can call, that is very important because you have a lot of accessibility to information and many of us Hispanics do not have the ability to go to the internet and navigate and see there or fill out an application with all the information you are asking for or many times the information is in English and we do not have the ability to do that. I think those are some of the barriers that Latinos face in this country. (Male interviewee)

They gave me a place to make the appointment. At first, I wasn't sure because sometimes they send you links ... [that] are not secure, they are to hack you. The person who sent me the link was not to get my information so when I opened the link it didn't say anything, just the day and time. Then I talked to this person and told her that I didn't get anything, just the date and time and she told me, "You have to tell her what day you want to go and at what time." Then I found out that I had to put my name and fill in my information. (Social mapping participant)

Other barriers included not being able to take time off work to receive the vaccine, lack of transportation to attend a vaccine site, lack of childcare to leave and get a vaccine, and operating hours of vaccine clinics not being compatible with work hours and daily activities.

The school, that would be an option, because, although I have several hospitals nearby, it is very difficult to move around here walking because of the weather, the risks, so many things. In a place like [the school] you go with confidence if you have to move around with your child, there is no problem. So that is another factor that, in a clinic, in a hospital, they do not allow children to enter if they are not going to get vaccinated. That was another problem I had, even though I wanted to get the vaccine I couldn't because the place that gave me [an appointment] said that I had to get it alone. So, there are several factors that stop you from making the decision [to get vaccinated]. (Photovoice participant)

For example, the second social mapping participant quoted on page 18 noted that the site they assigned him to was 50 minutes away by car. He happened to have a vehicle, but for the hundreds of Latino individuals who rely on public transportation and have limited hours in which to spend on getting vaccinated, that appointment would have been nearly impossible to attend.

Sometimes it is a little complicated with appointments. I will give you the case of my husband. When I got the vaccine, they came to the school, the school that is near here. So that day I was able to go because I am here at home, I don't work, as my sister, but in the case of my husband, who is working, they gave him an appointment and he was unable to go. Later they told him that they would give him an appointment for Friday, which is the day he spends here at the house, but now they called him supposedly for tomorrow, but they gave ... him [a vaccine site that was] far away. According to what I understood, they told him that he had to be there 2 hours before. So, I feel that in this aspect, it is a little complicated. Sometimes even the person wants to get a vaccine but has to go far away and they don't have transportation. (Female Photovoice participant)

[There is a need] to have [the vaccine] in accessible places.... I had an appointment, but as my husband works, I could not go, because in my case I can't drive, so I could not move around because with the children I do not risk riding the bus, as the situation is right now. (Female Photovoice participant)

COMPOSITE NARRATIVE: ANA'S STORY

Ana lives in the Highlandtown neighborhood of Baltimore City with her husband Julián and her 3 kids: Tomás (age 7), Lucía (age 5), and Alejandra (age 2). Her family came to the United States from Honduras to flee constant violence and economic insecurity that had taken over their hometown in the past decade. With her husband working double shifts most days, she is usually home alone while taking care of their children. She often feels lonely and socially isolated, and the pandemic has only made that worse.

Before last year, Ana was able to meet with other moms at Patterson Park when her older children were in school. But now, after hearing about a lot of deaths in her community from COVID-19, she's too scared of catching it to go. She and her children have basically stayed home all day since the start of the pandemic to protect themselves from getting COVID-19.

Even though she doesn't want to catch COVID-19. she's not that eager to get vaccinated. Her husband got vaccinated about a month ago, but he was originally against getting it because of all the rumors about side effects and because he was afraid of getting deported if he gave their information to officials at a vaccination site. With all her responsibilities at home taking care of the kids, she doesn't feel like she should prioritize herself in that way and believes staying isolated at home is precaution enough. Plus, even if she did want to get vaccinated, she doesn't know what to look out for or where to go. There would be no one to watch the kids and she doesn't drive, so she would have to rely on her husband to drive her on a day off, which he almost never has. Most of what she sees about the vaccine is what her friends and family members post on the internet. It's all conflicting information and she knows that half of it is lies and rumors, but she's not sure which half is that and which half is true. Plus, a lot of the information she's hearing about the vaccine from her family in Honduras might not even apply to the United States.

Her 2 youngest children were born in the United States, so she's able to take them to a local pediatrician who speaks Spanish through Medicaid coverage, even though she doesn't have access to healthcare herself. At a recent visit, her pediatrician asked her if she'd been vaccinated and she said no, for all the reasons mentioned. Her pediatrician urged her that, with her kids now going back to in-person school and possibly bringing COVID-19 home with them, as well as her diabetes, she'll be at even more risk of catching COVID-19 and suffering from a severe case. Ana raised her concerns about side effects and her pediatrician urged her to consider how much worse it would be on her children if she were to be hospitalized for weeks or die from COVID-19 as compared with some cold-like symptoms for a day or so. After thinking about it in that way, Ana is considering getting vaccinated in the next couple of weeks before her kids start school.

Given other life stressors, getting vaccinated sometimes took lower priority

Given the widespread financial, housing, and food insecurity caused by the pandemic, some individuals simply chose not to get vaccinated because they were unwilling to risk their limited income by taking time off to get vaccinated. Relatedly, others were afraid of or unwilling to risk getting side effects (or COVID-19 itself) from the vaccine, given their other daily responsibilities.

"I don't think [I will get vaccinated] ... because of the reaction I was told it gave. No one at home has taken it. (Social mapping participant)

If I am going to get vaccinated on Friday ... then on Saturday and Sunday [I'll need] to stay at home, calmly ... sometimes you feel dizzy or have a reaction from the vaccine and it is better to stay at home and not have any commitment to go out because you may have a reaction outside. (Social mapping participant)

This was especially true for men, as they have less time to look up information regarding side effects given the scarcity of information and they often do not have time to take a sick day or be sick while working. Female participants echoed this sentiment, sharing that, in their experience, men in their communities often deprioritize their health and don't often see doctors, if at all. In these cases, it is not that the individual is unwilling to get the vaccine, it is that they feel that there are more important and pressing issues to attend to.

"Well, I also think that Latino men, many are alone in this country. So, I think that's why they don't get vaccinated because they don't pay attention to themselves. It is difficult for them to go to a doctor or if we are talking about the percentage of Latinos ... [who] have not gone, it is because they are always working. (Female Photovoice participant)

Composite narrative: The convergence of barriers – José's story

José came to Baltimore in 2010. Like many undocumented migrants, he came to earn money to support his family—a wife, 3 children, and 2 grandchildren—back home in El Salvador. He had hoped to be able to earn enough money to return home, but the expenses of living in Baltimore combined with the unsteady pay from his under-the-table, intermittent jobs as a handyman, painter, and landscaper have prevented him from



doing so. With the exception of a complicated trip home for a few months in 2014, during which he was unsure if he would be able to return to the United States, he has spent the past 10 years in Baltimore away from his family. To save as much money as he can, José lives with 5 other men in a 2-bedroom apartment. The apartment is run down and in a neighborhood that was particularly hard hit by the pandemic. Like José, many of the people in this poorer area of Baltimore work in the service sector and as manual laborers— "essential" workers with no option to work from home. Many people in José's neighborhood were exposed to COVID-19 through their work and, when they returned home, spread the disease to their housemates and family members.

Two of José's roommates were sick with COVID-19, but so far José has not experienced symptoms himself. He is very concerned about getting the disease, not because he feels it will kill him—José believes he is young enough and healthy enough to get through—but because he doesn't have the money to spend on hospital bills.

One of the men José works with had COVID-19 and ended up in the hospital. He told José that he was intubated, that he couldn't communicate with his family, and that hardly anyone spoke Spanish. He was scared and alone. Leaving the hospital was in some ways even worse. José's friend had missed a month of work, there was no money for rent, no money to send to his family in Mexico, and no money to pay the substantial hospital bills. The financial aspects of his friend's story terrified José the most. He couldn't afford not to work, his family in El Salvador need the money and he desperately wants to earn enough to go home for good.

José has heard about COVID-19 vaccines, largely from the Spanish radio station he listens to, but he doesn't know how to get one. Even if he knew where to go, he isn't sure he can take the time off from work. If he takes time off, he loses the entire day of pay and he needs the money. Additionally, the work isn't stable. José often waits at the home improvement store with many other daily laborers. If he's not there he could quickly be replaced by another man in line waiting for a job, and if he's replaced even once there's a chance his regular boss won't take him back.

José has also heard, from YouTube videos he watches on his phone, that some people died after being vaccinated. However, a friend from work who didn't want to get vaccinated, finally got the vaccine. This friend talked to José about this concern and explained that only a few people died from the 1-dose vaccine. He suggested José get the 2-dose vaccine instead.

José is actively considering this, especially if he could get a vaccine outside of work and somewhere close, or at least somewhere the bus goes. However, he also worries about having his identification checked and possibly being deported. It's enough of a risk that he isn't sure what he will do.

Most reasons for hesitancy can be attributed to lack of information and misinformation

As in all communities, there was also a section of the Latino population that was hesitant to get vaccinated, and who generally fell into the following 2 groups: (1) fear of the vaccine, especially regarding side effects, largely due the spread of misinformation and rumors via social circles; and/or (2) general distrust of the government and the health institutions promoting the vaccine.

Information sharing regarding the vaccine

Likely due to the vacuum of official and reliable information previously mentioned, peer communication dominated the information space regarding COVID-19 and the pandemic. Nearly all participants reported that they and their community members primarily got information from social circles, whether in-person from family, friends, and coworkers or through other means of communication, such as text messaging, phone conversations, and social media (eg, WhatsApp groups, Facebook messenger, and Facebook groups). While this form of social communication can be positive when used to connect people to legitimate resources and encourage vaccination among communities and loved ones, it also bred the perfect environment for misinformation, rumors, and conspiracies about the vaccine to circulate.

I heard a case of someone who said ... that if I get the vaccine, I will be sterile and I will not have children ... so I say to him, "But what do you think? ... [T]here are no studies that say that the vaccine can affect you in that sense or that it can cause side effects if you go to those extremes."... There are so many theories about the vaccine—that you

will become blind, that you will become sterile, that is, in short, for the same reason, for the lack of information that they do not look for the right people to inform themselves well. (Female Photovoice participant)

I am going to give you the example of what I told my friends yesterday because they tell me they are afraid of the vaccine ... they [ask] "Is it true that they say that in 5 years those of us who get vaccinated are going to die?" And I say "No, they don't say [that]." (Female Photovoice participant)

Because many people maintain close connections to their friends and loved ones, people also often received information coming from their countries of origin that may not be factual and may or may not reflect local realities in Baltimore City. For example, a few participants noted concerns about the cost of accessing the vaccine in the United States because they had heard that vaccines were being sold in their origin countries.

Yes, like they said, that the [United States] asked for a certain amount [to get vaccinated] and Mexico asked for so much and they paid so much, and how are they going to sell it. As far as I know the vaccine is free and that we should report those who are selling it. (Female interviewee, 30 to 49 years old)

Other common concerns included whether the vaccine works and about potential harm resulting from vaccination. However, among participants hesitant to get vaccinated, there was an expressed desire for more information and willingness to get vaccinated if it were required, further underpinning that it is often a lack of information, rather than disagreeing with available information from official sources, that leads to the hesitancy.

COMPOSITE NARRATIVE: ROSA'S STORY

Rosa is 31 years old and lives in southeast Baltimore. She came to Baltimore City from Peru 5 years ago and has worked as the environmental services staff at a local public middle school since then. One afternoon, when she was arriving at work, she ran into someone who worked at the front office who she occasionally has conversations with. She's not sure what the woman's role is, but she likes talking to her because she's one of the few people at the school who speaks Spanish and has always been friendly with her.

While talking, they got on the topic of the pandemic and the woman from the front desk asked Rosa if she'd gotten the COVID-19 vaccine yet. Rosa said that no, she hadn't. The woman asked her why not, and Rosa said that she's not sure how or where even to get the vaccine, since most of the vaccine information she sees is only in English. Her coworker said that makes sense, but she'd just gotten the vaccine and would be happy to share the information on how to sign up with Rosa. Rosa asked if it took long, since she doesn't have a lot of free time or have a car. Her coworker said that she was in and out in 10 minutes and that she got vaccinated around the corner from the school. Rosa asked her coworker to share the location and times it was open.

Later that week, while Rosa's sister was visiting her at home, they both decided to go to the vaccination site and get vaccinated together, since they finally knew where to go and felt safer knowing someone who'd gotten vaccinated there with no issues.

Distrust in the government and immigration status

Many described concerns about strict criteria around documentation or insurance status to access the vaccine. This echoes the well-documented local dip in healthcare utilization among immigrants during Trump-era highly anti-immigrant campaigns.³¹ Additionally, participants noted the need for addressing people's concerns regarding whether documentation status could be threatened by getting the vaccine.

Several participants also mentioned that community members often distrusted the US government and thus the vaccine. One respondent mentioned wanting to act as an example by getting vaccinated to quell their fellow churchgoers' concerns regarding trusting the vaccine.

[T]he government or the people, let's say the high society, are not going to get a vaccine so that people die because then everybody will die because the majority of people are getting vaccinated and the important people are getting vaccinated. (Photovoice participant)

One participant mentioned that many times community members do not trust the government in the United States because they did not trust the government in their countries of origin due to issues such as corruption.

[W]e have to start believing a little bit more in the government and in the country where we live because maybe as Latinos, we are used to the fact that many times in the country where we come from, the government lies, the government can harm, and that is why people are a little bit more scared about what the government here can do [it] too ... it is something illogical because we have seen that the government of the United States supports its citizens when there is a disaster.... Do you think that the US government is going to put its people to death [due to the vaccine]? We don't think anymore, maybe because everyone says that we are Latinos, but we have to be a little more thoughtful about the fact that we are not the only ones who are getting vaccinated. In fact, most of the Whites are the first ones to get vaccinated, so it is just a matter of having a little more confidence in what is going on around us, thinking a little more that we are in another country, that we are not in the same country that we sometimes believe that people can lie to us. (Female Photovoice participant)

Summary

Overall, participants made it clear that, while some vaccine hesitancy exists within the Latino community due to fear of side effects, issues of distrust, and skepticism around the vaccine, more often language barriers, logistical issues, availability of information, and requirements around legal status prevented otherwise willing individuals from getting vaccinated.

2. Assuming the Latino Community is Homogenous is a Critical Error

Latinos in Baltimore City are part of an incredibly diverse, multiracial, multinational, multicultural, multi-income level, mixed status community. Given this heterogeneity within the Latino community, one-size-fits-all solutions to improve vaccination rates will not universally succeed. Considering these differences and creating a set of activities that address a multitude of experiences will be critical to the success of vaccination campaigns.



Data Source: United States Census Bureau "Summary File" 2014-2017 American Community Survey, U.S. Census Bureau's American Community Survey Office, 2017. Web. 15 March 2019.

Figure 5. Hispanic/Latino population by race and country of origin in Baltimore City, 2017.

Countries of origin

Latinos are from a multitude of countries spanning over several continents. Diverse cultural practices in regards to religion, dialect, and social norms reflecting different regions and countries affect perceptions and beliefs around getting vaccinated. For example, if a certain rumor regarding COVID-19 vaccines is spreading in Mexico, that rumor may reach someone whose country of origin is Mexico and whose family members still reside there, but perhaps won't reach someone whose country of origin is Ecuador.

Notably, people from Guatemala in particular are often acutely aware of the history of abuse Guatemalans have faced at the hands of medical science. The United States Public Health Service Guatemala Syphilis and Gonorrhea Study, which intentionally infected over 1,300 vulnerable people in Guatemala with syphilis and gonorrhea without their consent to test the effectiveness of penicillin as a prophylactic and postexposure treatment from 1946 through 1948, is still remembered for its inexcusable abuse of Guatemalan people.³² Though the study was not conducted by the Johns Hopkins Hospital or University, several faculty and associate professors chaired the 12-member Public Health Services board that approved and oversaw the study, and it was a Johns Hopkins alumnus who designed and headed the project itself.³³ Unsurprisingly, the legacy of this infamous study has led to increased skepticism of US health and science institutions among the Guatemalan community in particular.

Race

As noted in the introduction, participants identified with a variety of racial groups. Notably, the concept of race is not standard across all countries and cultures, and thus the US conceptualization of race is quite foreign to many. For example, many participants considered "Latino" to be their race and ethnicity, despite that fact that a traditional demographer would likely want to record a distinction between the 2. Another example is that a participant first answered that their race was "normal" when asked as part of the intake form for this study.

Another vital consideration that has been less explored is that the approximately 11% of Latinos in Baltimore City who identify as Black likely face several levels of discrimination when seeking care, given the long-documented historical and continued structural racism within all city systems, including its healthcare systems.

Language

Language is one of the areas that lends to more similarity than difference, as the majority of Latinos in Baltimore City speak Spanish. However, since Latino immigrants represent a variety of different countries, factors like dialect, region-specific slang, and accents can vary widely from person to person.

Additionally, English proficiency levels vary widely, as personal English-proficiency levels can span from native or fluent to extremely limited proficiency, or any level in between. Mirroring national demographic trends, the number of Latinos in Baltimore City with "limited English proficiency" (ie, those "having English as a second language and possessing limited ability to read, write, speak, and understand the English language") is increasing.³⁴

Documentation status

Accurate counts and overall demographic characteristics of the Latino population are difficult to find because Latino individuals—particularly those who are immigrants—are systematically undercounted in the census.^{35,36} However, current figures estimate that 28.6% of Baltimore City Latinos are undocumented.³⁷

While we did not ask about immigration status during the study, the citizenship status of many participants became clear over the course of the study and their responses because their documentation status is such a huge part of their lives and often informs how they experience things.

Undocumented individuals and those who are anywhere along the process of applying for citizenship have less access to healthcare and government assistance and are often under constant threat of deportation. Thus, Latinos who are undocumented have a different set of needs when seeking the COVID-19 vaccine as compared with their documented peers.

Additionally, many individuals who are citizens but are part of mixed-status families (ie, families in which some members have citizenship and others do not) also interact differently with social systems and use them less, as they worry that the involvement of an eligible person in government programs could threaten the safety of those who are undocumented around them. For example, due to her own legal status, an undocumented mother may be afraid to apply for food stamps for her child who is eligible.

Assurance the vaccine will not threaten their safety or increase chances of being deported must be addressed first and foremost if undocumented individuals are to trust the process enough to seek vaccination.

Gender

Latino men and women interact with the health system differently and have different needs when it comes to lowering barriers to access. Men were more often unable to prioritize getting vaccinated if it meant threatening their ability to work. Additionally, men more often work throughout the days late into afternoons, meaning that finding time during the day on weekdays to get vaccinated was nearly impossible.

There are men who work double shifts, so they work in the morning and in the afternoon, so it is not possible [to get vaccinated] because of that. I would say that there should be [vaccinations] on the weekend, so that they can attend ... they work in the morning and in the afternoon, they leave one job and go to the other. (Female Photovoice participant)

On the other hand, some women mentioned that, while many men are getting vaccinated at higher rates because of obligations at work, they were also freer than women not to get vaccinated, because they have more chances to find another job.

I have the case of a friend who left 2 jobs because he said he was not going to get vaccinated and, in both jobs, they told him he had to get vaccinated. He has to get vaccinated, so he said, "No. I better get out and go get another job," he says, "If they are going to force me to get vaccinated," he says, "not even my mother forced me to get vaccinated and I am not going to get vaccinated," he says. So, in that sense, because for men it is very easy to go and look for another job and that's it, but for a woman it is more complicated to leave the job and say no, well if they force me. (Female Photovoice participant)

Women, on the other hand, more often mentioned transportation and childcare as significant barriers to getting vaccinated, as women often relied on their husband or partner to drive the household's car (if there was a car).

Socioeconomic level

As can be seen as part of the participant demographics previously described, income levels vary widely within the Latino community, which has wide implications on an individual or family's access to services and overall levels of need. However, overall, the Baltimore City Latino population is generally lower-income compared with the national Latino population.⁵

Collinearity of sociodemographic characteristics

While not universally true, it is important to note that certain characteristics are often associated with each other. For example, Latinos who have limited English proficiency and/or are undocumented are more likely to be lower-income and have less access to healthcare as compared with their English-speaking peers and/or those with a stable legal status within the United States.^{38,39} In the case of receiving the COVID-19 vaccine, being low-income, having limited English proficiency, and lacking legal status are independently associated with barriers to vaccine access and together may be compounding vulnerabilities.

3. Hyperlocal Responses to the Pandemic Result in Better Outcomes

As already outlined in the introduction, large-scale federal and state-level responses to the pandemic (eg, CARES Act, unemployment benefits, supplemental nutrition programs, small business relief programs) systematically excluded many Latino people, as these broad recovery efforts required Latino individuals to navigate a series of stringent eligibility requirements, language barriers, and logistics incompatible with daily life.

> Well, what I've seen is that the government has tried to help people a lot with those economic stimulus ... unfortunately we Latinos, many Latinos do not qualify for it and it is not that we do not have needs, I think everyone has needs, but because of immigration status or whatever, many people do not qualify, even when those people do taxes every year, they pay taxes every year, but their status does not allow them to qualify for it. (Male interviewee)

Additionally, some city-level initiatives that began at the beginning of the pandemic were insufficient. For example, while the BCHD provided contact tracing and testing services in Spanish from the outset,¹¹ a history of weak relationships and levels of mistrust between the Latino community and local government led to limited use.
In contrast, many of the city-level and hyper-local COVID-19 relief initiatives (outlined in the Introduction) established by private, public, academic, and community organizations alike saw immense success. As of September 2nd, 2021, the Esperanza Center's COVID-19 Hotline and resource navigation program has fielded 5.871 calls, has placed 2,109 testing orders, and scheduled 1,638 COVID-19 vaccination appointments (email communication from K. Phillips, September 2021). The Emergency Relief for Immigrant Families program¹⁴ led by BUILD and MIMA and supported logistically by the Esperanza Center hotline and Johns Hopkins Hospital testing services, reportedly financially supported over 2,000 families and 250 individuals.¹⁴ Food Distribution efforts led by BUILD and Sacred Heart Church have reached hundreds of families struggling with food insecurity and hunger. MIMA successfully addressed issues of eviction and struggling small businesses among undocumented immigrants on a caseby-case basis. Participants often mentioned the variety of Spanish-language communications campaigns and events led by MIMA, JHH, CASA, and others, which were published and held on social media sites and local Spanish-language news outlets; these led to thousands of Latinos being reached with clear, reliable COVID-19 information.

Similarly, broad, federally and state-led COVID-19 vaccination efforts were largely ineffective at reaching the Latino population and led to the vaccination disparities outlined in this report. Yet, local initiatives such as JHH holding vaccination clinics at locations such as Sacred Heart Church (see Figure 7) and Home Depot (ie, an area where day laborers can often be found), and Spanish-language vaccination communications campaigns hosted on social media platforms and featuring prominent community leaders have been extremely successful.

Cumulative COVID-19 Vaccinations at Sacred Heart Church		
Partially vaccinated individuals	881 ^b	
Totally vaccinated individuals	3,887 ^c	
TOTAL number of individuals	4,768	

Table 2. Current Results of the JHH/Sacred Heart Church Vaccination Campaign ^a

^aEmail communication, August 2021, sent by R. Saxton with the title Re: Weekly Vaccine Clinic Wrap Up—Sacred Heart Vaccination Numbers.

^bIncludes 765 individuals who received the first dose and 116 individuals who are due for their second dose, but are missing.

^cIncludes 145 individuals who received their first dose elsewhere and 21 individuals who received their second dose elsewhere.

These successful COVID-19 relief and COVID-19 vaccination programs were co-led, cocreated, and highly tailored to the needs of the Latino community and were for those same reasons successful in their aims.

It is extremely important to note that, while many participants were familiar with COVID-19 relief and vaccination efforts that were led or supported by government agencies, such as the BCHD, MIMA, and specific leaders within those organizations, few participants were aware that government organizations were running them. For example, participants would frequently mention food distribution efforts that were promoted by a MIMA leader or financial relief programs through Sacred Heart Church but would not realize that they were officially sponsored by or financially supported by government agencies.

> [The churches] help a lot thanks to God, today more than anything in this past year you see that we have not received any help from the government, we who don't have documentation, we haven't received any help from government. If it weren't for the [churches], we wouldn't have any kind of help. (Social mapping participant)

This points to the immense amount of work to be done to continue building a strong, explicit, and lasting relationship between the Latino community and government organizations.

Recommendations

The findings of this research outline a set of acute and chronic issues that have led to an insufficient effort to include Latinos, particularly low-English proficiency Latinos, in COVID-19 vaccination efforts. Thus, our recommendations have been broken down into 2 parts: (1) Urgent Actions, which have the potential to immediately improve vaccination rates within the Baltimore City Latino community, and (2) Essential Actions, which aim to address the systemic inequalities that have underpinned the disproportionate impact COVID-19 has had on Latino communities as well as inequitable vaccination rates.

URGENT ACTIONS – Immediately improve vaccine coverage in the Latino community 1. Humanize Delivery and Communication Strategies for COVID-19 Vaccines			
Baltimore City Health Department (BCHD) Johns Hopkins Hospital Systems Local nonprofits Community leaders Community health workers/ promotoras Schools Religions leaders Media personalities COVAX	 Bring COVID-19 vaccines directly to the community. Remove logistical access barriers to vaccination by increasing the number of mobile vaccination clinics and partner with trusted community organizations such as schools and churches to offer consistent vaccination clinics in those spaces. Diversify the areas where mobile clinics are offered to include spaces such as common work areas and gathering places for essential workers. Allow individuals to bring their children into vaccination areas and provide transportation support (eg, information, shuttling). Continue to expand Spanish-language materials and services. Professionally translate all communications, messaging, and services regarding COVID-19 and the vaccine into coherent Spanish. Additionally, create Spanish-specific communications targeting the gaps in messaging and areas of concern outlined in this report. Focus on delivering simple, understandable information and ensure that people can be directed to additional, relevant Spanish-language resources if they would like to learn more. Continue to clearly communicate that the vaccine is free, immigration status does not affect eligibility, and that deportation is not a risk of vaccination. Test and evaluate dissemination plans to ensure information reaches the desired audience. Use modern, in-person, and personalized forms of communication. Capitalize on trusted influencers and local Spanish language media outlets to provide consistent access to high-quality information in popular formats. Harness 	 Increased vaccine uptake in the Latino community Increased trust in the safety and efficacy of the COVID-19 vaccine Improved relationship between the local health department and the community Establishment of more relevant and effective communication channels between the BCHD and the Latino community 	

Table 3. Recommendations: Urgent Actions and Essential Actions

	the already widespread use of peer communication via messaging and social media platforms (eg, texting and WhatsApp) by tailoring and sharing all communications regarding the COVID-19 vaccine, how to get vaccinated, and common myths and misconceptions to these platforms to ensure that reliable information is quicker and easier to find and share. For those not on social media or with data limitations, put up physical flyers in the hardest-hit communities. Finally, communications funding must include providing brief trainings to community-facing leaders and social servants whose natural daily interactions with the Latino community can be harnessed as a space to ask questions, address worries, and refer to vaccination clinics. Center local leaders and community members in both message development and delivery to build trust. Rather than relying primarily on medical professionals and government officials to spread the word about vaccination, include trusted and well-known local leaders and community members in the development and deployment of these messaging campaigns. Ensure that they are properly compensated for their time to ensure economic justice. Include testimonies of leaders and community members who are already vaccinated to reinforce its safety and focus on how vaccination protects everyone's wellbeing, including that of the family.	
2. Anchor COVID-	19 Vaccination for Hard-Hit Areas in a Holisti	c Recovery Process
Actors	Actions	Outcomes/Impacts
Mayor Mayor's office, especially the Mayor's Office of Immigrant and Multicultural Affairs (MIMA) BCHD Johns Hopkins Hospital Systems Community health workers/ promotoras COVAX	Include vaccination efforts as part of the ongoing, multisectoral social services campaigns. Successful models of well-known and highly used service delivery programs already exist within the community (eg, food distribution). Rather than continuing to reinvent the wheel, incorporate vaccination campaigns into these programs so that people can easily get vaccinated or registered while engaging with the programs that they already engage with. Match logistics to community preferences. Continue to address gaps in all multisectoral COVID-19 related relief programs that leave Latinos behind. Supplement insufficient and inapplicable national programs with local versions that are accessible. Examples include MIMA's programs to provide economic payments after stimulus checks were released but unavailable to many Latinos and support with rent relief.	 Increased vaccine uptake in the Latino community Improved relationship between the local health department and the community Improved conditions in several social determinants of health

Actors	ssful, Hyperlocal Relief Initiatives into Standa Actions	Outcomes/Impacts
BCHD	Sustain the critical multisector	Improved relationship
DCIID	partnerships that were established during	
MIMA	the pandemic. The BCHD and MIMA should	between the local health
WIIWIA		department and the
COVID-19	establish a permanent, standing version of the multisectoral partnerships established at the	community
Workgroup	beginning of the pandemic whose function	 Improved conditions in
workgroup		several social
Johns Hopkins	extends beyond COVID-19 support. Create a strategic plan that ensures the continuation of	determinants of health
Hospital Systems	these partnerships and the continuation of shared	 Improved ability to
nospital systems	interventions. Eventually transition to include	swiftly and adequately
I agal nonprofita	assessing and addressing the more upstream	respond to future crises
Local nonprofits		_
Community loadon	causes of these inequities experienced by the	• Increased trust in the
Community leaders	Latino community.	safety of the public
Community health	Reallocate more public resources to	health system
workers/	supporting community and grassroots	Creation of a full network
promotoras	organizations. Larger, better-funded	of relationships between
promotorus	organizations such the Maryland Department of	the BCHD and the Latino
Schools	Health, BCHD, MIMA, and large health systems	community
SCHOOIS	such as Johns Hopkins must allocate regular	-
Religions leaders	funding and grants that provide resources (eg,	
Religions leaders	funding, personnel) and additional assistance (eg,	
Media personalities	technical and logistical support) to community-led	
media personanties	and grassroots organization, who are well poised	
COVAX	to assess local need and design and deliver related	
	to assess local need and design and deliver related services to meet those needs.	
4. Develop a Cityw	to assess local need and design and deliver related	Throughout the Life
4. Develop a Cityw Course	to assess local need and design and deliver related services to meet those needs. ride Immunization Program to Protect People	_
4. Develop a Cityw Course Actors	to assess local need and design and deliver related services to meet those needs. ide Immunization Program to Protect People Actions	Outcomes/Impacts
	to assess local need and design and deliver related services to meet those needs. ide Immunization Program to Protect People Actions Reframe the way vaccinations are	Outcomes/Impacts Increased vaccine
4. Develop a Cityw Course Actors BCHD	to assess local need and design and deliver related services to meet those needs. ide Immunization Program to Protect People Actions Reframe the way vaccinations are promoted, distributed, and monitored.	Outcomes/Impacts Increased vaccine uptake in the Latino
4. Develop a Cityw Course Actors BCHD Johns Hopkins	to assess local need and design and deliver related services to meet those needs. ide Immunization Program to Protect People Actions Reframe the way vaccinations are promoted, distributed, and monitored. Rather than requiring families and individuals to	Outcomes/Impacts Increased vaccine uptake in the Latino community
4. Develop a Cityw Course Actors BCHD Johns Hopkins	to assess local need and design and deliver related services to meet those needs. ide Immunization Program to Protect People Actions Reframe the way vaccinations are promoted, distributed, and monitored. Rather than requiring families and individuals to come to health centers ad hoc to receive	Outcomes/Impacts Increased vaccine uptake in the Latino community Creation of an
4. Develop a Cityw Course Actors BCHD Johns Hopkins Hospital Systems	to assess local need and design and deliver related services to meet those needs. ide Immunization Program to Protect People Actions Reframe the way vaccinations are promoted, distributed, and monitored. Rather than requiring families and individuals to come to health centers ad hoc to receive immunizations as needed or desired, integrate	Outcomes/Impacts Increased vaccine uptake in the Latino community
4. Develop a Cityw Course Actors BCHD Johns Hopkins Hospital Systems Community health	to assess local need and design and deliver related services to meet those needs. ride Immunization Program to Protect People Actions Reframe the way vaccinations are promoted, distributed, and monitored. Rather than requiring families and individuals to come to health centers ad hoc to receive immunizations as needed or desired, integrate vaccination campaigns into daily activities.	Outcomes/Impacts Increased vaccine uptake in the Latino community Creation of an
4. Develop a Cityw Course Actors BCHD Johns Hopkins Hospital Systems Community health workers/	to assess local need and design and deliver related services to meet those needs. ide Immunization Program to Protect People Actions Reframe the way vaccinations are promoted, distributed, and monitored. Rather than requiring families and individuals to come to health centers ad hoc to receive immunizations as needed or desired, integrate vaccination campaigns into daily activities. Provide consistent and free vaccinations in	Outcomes/Impacts Increased vaccine uptake in the Latino community Creation of an established system of vaccination that can be
4. Develop a Cityw Course Actors BCHD Johns Hopkins Hospital Systems Community health workers/	to assess local need and design and deliver related services to meet those needs. ide Immunization Program to Protect People Actions Reframe the way vaccinations are promoted, distributed, and monitored. Rather than requiring families and individuals to come to health centers ad hoc to receive immunizations as needed or desired, integrate vaccination campaigns into daily activities. Provide consistent and free vaccinations in locations people of all ages already frequent, such	 Outcomes/Impacts Increased vaccine uptake in the Latino community Creation of an established system of vaccination that can be employed should the
4. Develop a Cityw Course Actors BCHD Johns Hopkins Hospital Systems Community health workers/ promotoras	to assess local need and design and deliver related services to meet those needs. ide Immunization Program to Protect People Actions Reframe the way vaccinations are promoted, distributed, and monitored. Rather than requiring families and individuals to come to health centers ad hoc to receive immunizations as needed or desired, integrate vaccination campaigns into daily activities. Provide consistent and free vaccinations in locations people of all ages already frequent, such as schools, churches, and places of employment.	 Outcomes/Impacts Increased vaccine uptake in the Latino community Creation of an established system of vaccination that can be employed should the need for additional, new
4. Develop a Cityw Course Actors BCHD Johns Hopkins Hospital Systems Community health workers/	to assess local need and design and deliver related services to meet those needs. ide Immunization Program to Protect People Actions Reframe the way vaccinations are promoted, distributed, and monitored. Rather than requiring families and individuals to come to health centers ad hoc to receive immunizations as needed or desired, integrate vaccination campaigns into daily activities. Provide consistent and free vaccinations in locations people of all ages already frequent, such as schools, churches, and places of employment. Ensure that all data collected does not threaten	Outcomes/Impacts Increased vaccine uptake in the Latino community Creation of an established system of vaccination that can be employed should the need for additional, new vaccinations arise
4. Develop a Cityw Course Actors BCHD Johns Hopkins Hospital Systems Community health workers/ promotoras COVAX	to assess local need and design and deliver related services to meet those needs. ide Immunization Program to Protect People Actions Reframe the way vaccinations are promoted, distributed, and monitored. Rather than requiring families and individuals to come to health centers ad hoc to receive immunizations as needed or desired, integrate vaccination campaigns into daily activities. Provide consistent and free vaccinations in locations people of all ages already frequent, such as schools, churches, and places of employment. Ensure that all data collected does not threaten the legal status or anonymity of any person and	 Outcomes/Impacts Increased vaccine uptake in the Latino community Creation of an established system of vaccination that can be employed should the need for additional, new vaccinations arise Improved relationship
4. Develop a Cityw Course Actors BCHD Johns Hopkins Hospital Systems Community health workers/ promotoras COVAX	to assess local need and design and deliver related services to meet those needs. ide Immunization Program to Protect People Actions Reframe the way vaccinations are promoted, distributed, and monitored. Rather than requiring families and individuals to come to health centers ad hoc to receive immunizations as needed or desired, integrate vaccination campaigns into daily activities. Provide consistent and free vaccinations in locations people of all ages already frequent, such as schools, churches, and places of employment. Ensure that all data collected does not threaten the legal status or anonymity of any person and ensure communities are aware that this is the	 Outcomes/Impacts Increased vaccine uptake in the Latino community Creation of an established system of vaccination that can be employed should the need for additional, new vaccinations arise Improved relationship between the local health
4. Develop a Cityw Course Actors BCHD Johns Hopkins Hospital Systems Community health workers/ promotoras COVAX Local employers	to assess local need and design and deliver related services to meet those needs. ide Immunization Program to Protect People Actions Reframe the way vaccinations are promoted, distributed, and monitored. Rather than requiring families and individuals to come to health centers ad hoc to receive immunizations as needed or desired, integrate vaccination campaigns into daily activities. Provide consistent and free vaccinations in locations people of all ages already frequent, such as schools, churches, and places of employment. Ensure that all data collected does not threaten the legal status or anonymity of any person and	 Outcomes/Impacts Increased vaccine uptake in the Latino community Creation of an established system of vaccination that can be employed should the need for additional, new vaccinations arise Improved relationship between the local health department and the
4. Develop a Cityw Course Actors BCHD Johns Hopkins Hospital Systems Community health workers/ promotoras	to assess local need and design and deliver related services to meet those needs. ide Immunization Program to Protect People Actions Reframe the way vaccinations are promoted, distributed, and monitored. Rather than requiring families and individuals to come to health centers ad hoc to receive immunizations as needed or desired, integrate vaccination campaigns into daily activities. Provide consistent and free vaccinations in locations people of all ages already frequent, such as schools, churches, and places of employment. Ensure that all data collected does not threaten the legal status or anonymity of any person and ensure communities are aware that this is the	 Outcomes/Impacts Increased vaccine uptake in the Latino community Creation of an established system of vaccination that can be employed should the need for additional, new vaccinations arise Improved relationship between the local health department and the community
4. Develop a Cityw Course Actors BCHD Johns Hopkins Hospital Systems Community health workers/ promotoras COVAX Local employers Schools	to assess local need and design and deliver related services to meet those needs. ide Immunization Program to Protect People Actions Reframe the way vaccinations are promoted, distributed, and monitored. Rather than requiring families and individuals to come to health centers ad hoc to receive immunizations as needed or desired, integrate vaccination campaigns into daily activities. Provide consistent and free vaccinations in locations people of all ages already frequent, such as schools, churches, and places of employment. Ensure that all data collected does not threaten the legal status or anonymity of any person and ensure communities are aware that this is the	 Outcomes/Impacts Increased vaccine uptake in the Latino community Creation of an established system of vaccination that can be employed should the need for additional, new vaccinations arise Improved relationship between the local health department and the community Increased trust in the
4. Develop a Cityw Course Actors BCHD Johns Hopkins Hospital Systems Community health workers/ promotoras COVAX Local employers	to assess local need and design and deliver related services to meet those needs. ide Immunization Program to Protect People Actions Reframe the way vaccinations are promoted, distributed, and monitored. Rather than requiring families and individuals to come to health centers ad hoc to receive immunizations as needed or desired, integrate vaccination campaigns into daily activities. Provide consistent and free vaccinations in locations people of all ages already frequent, such as schools, churches, and places of employment. Ensure that all data collected does not threaten the legal status or anonymity of any person and ensure communities are aware that this is the	 Outcomes/Impacts Increased vaccine uptake in the Latino community Creation of an established system of vaccination that can be employed should the need for additional, new vaccinations arise Improved relationship between the local health department and the community

5. Rebuild the City's Public Health Infrastructure, Properly Staffing It for Community Engagement		
Actors	Actions	Outcomes/Engagement
BCHD Mayor's office (especially including MIMA) Community health workers/ promotoras	Increase the number of Spanish-speakers on staff at the health department and mayor's office. The BCHD and mayor's office must significantly increase hiring of Latinos and Spanish-speakers who can adequately serve the Latino community on behalf of the city. Require cultural awareness in addition to Spanish proficiency to avoid unanticipated harms.	 Capacity to appropriately engage with and communicate with primarily Spanish- speaking communities Improved relationship between the local health department and the community Creation of a full network of relationships between the BCHD and the Latino community, rather than single employees acting as sole bridges
6. Stabilize the Co	mmunity Health System as the Backbone for I	Equity and Resilience
Actors	Actions	Outcomes/Engagement
BCHD Johns Hopkins Hospital Systems Federally qualified health centers Local nonprofits Community leaders Community health workers/ promotoras Schools Religions leaders	Formalize and increase funding for the community health worker/promotoras program. Recognize the importance and value of community health workers by expanding the program and ensuring proper financial compensation, competitive benefits, job security, and career growth.	 Expansion of the community health worker/promotoras program Increased capacity to prevent disease rather than only address it Redistribution of power back to community leaders and members, making them the leaders of their health and wellness Improved relationship between the local health department and the community Creation of a full network of relationships between the BCHD and the Latino community, rather than single employees acting as sole

Urgent Actions

1. Humanize delivery and communication strategies for COVID-19 vaccines

To truly reach those in the Latino community who have yet to be vaccinated, the BCHD, local health systems including the Johns Hopkins Hospital System, and all organizations hosting vaccination sites must reverse their expectations regarding which party should be travelling as part of vaccination campaigns (ie, vaccination clinics should travel to people as much as possible, not vice versa). Additionally they must radically reimagine the delivery of how, when, where, and why messaging around the vaccine, as well as who is delivering that message.

Bring COVID-19 vaccines directly to the community

Interview participants identified the need to bring vaccinations closer to community either by hosting community-based vaccination clinics or facilitating transportation to existing sites. Given the many reasons individuals are unable to travel to vaccination clinics (eg, restrictive job hours, limited access to vehicles, fear of catching COVID-19 when using public transportation to get there) the simplest way to remove logistical barriers would be to continue to bring vaccines to places where people already are, or often frequent. Several local organizations have successfully established and supported mobile vaccination clinics and sites that are hosted at staple community locations; increasing support and funding for such clinics should be prioritized over expanding vaccination elsewhere. Participants specifically suggested churches, schools, and workplaces as ideal locations and also mentioned increasing hours to include evenings and weekends, as that is when less men are at work. Additionally, these mobile clinics must match logistics to community preferences between consistent, recurrent vaccination sites at one place (eg, Sacred Heart Church on Thursday evenings) or deploying mobile vans that frequently change sites. Local partners have communicated that it is more effective to have vaccinations take place at a recurring and consistent time and place, rather than hosting several smaller clinics that frequently move, as it is simpler for community members to remember and recognize. However, both have a role and should be calibrated per community response. Regardless of the format, expanding the number of locations and varying the hours of operation for mobile clinics will allow a larger and broader coalition of people to get vaccinated.

Additionally, all vaccination sites should allow parents to bring their children and provide some level of transportation support, as it is unreasonable and impractical to expect that parents will be able to afford or logistically support childcare for a limited and unknown amount of time, as well as find transportation, in order to get vaccinated.

Continue to expand Spanish-language materials and services

At a bare minimum, all communications, messaging, and services regarding COVID-19 and the vaccine must be professionally translated into coherent Spanish to ensure equitable access to vital health information. This means moving beyond running English-language materials through translation software. Spanish-specific communications should target specific gaps in messaging and areas of concern outlined by Latinos in this report. Messaging should focus on delivering simple, understandable information and include links to additional relevant Spanish-language resources for those who would like to learn more and should continue to emphasize that the vaccine is free, immigration status does not affect eligibility, and that deportation is not a risk of vaccination. Finally, there must be testing and evaluation of dissemination plans to ensure that information reaches the desired audience.

Use modern, physical, and personalized forms of communication

While local Spanish-language communications campaigns about the COVID-19 vaccine have been substantially improved and expanded upon, it is vital to consider that "traditional" mass media channels may not be the most effective way to reach the Latino community. Additionally, given the diversity of the Latino community, a multiprong communications approach will be required to reach as many individuals as possible.

To harness the already deeply imbedded culture of peer communication via messaging and social media within the Latino community (especially through texting and WhatsApp) as well as combat the spread of misinformation, disinformation, and irrelevant information about the vaccine causing hesitancy, messaging campaigns should take the form of quick, easy to understand, and easy to share Spanish-language content (eg, videos, pictures, infographics). The source's reputability should be highlighted via including appropriate logos and messengers (more below). Specifically breaking down common myths and misconceptions in this format will be critical since a large proportion of myths are first seen on the internet. Additionally, focusing on where to go and how to sign up will be critical in ensuring those who are interested have increased access to the vaccine. One example of effective modern health communications is the previously mentioned weekly Q&A series on Facebook Live.

For those less able to engage in social media and online content either due to internet literacy issues (eg, most common among the elderly), or having less access to internet/a lack of a sufficient data to be regularly online, communications campaigns should aim to create data-lite versions of digital communications. Physical flyers that include similar information to that described above must be displayed in local gathering spaces in the hardest-hit communities.

Finally, for those participants who were originally hesitant and later decided to get vaccinated, a common thread was the presence of a kind, trustworthy, Spanish-speaking healthcare worker or colleague who was able to take the time to answer any questions and address any concerns with them. Importantly, these individuals were often not formal healthcare workers, but were general community members in other fields with general knowledge. The BCHD, MIMA, and local health systems such as Johns Hopkins and the University of Maryland should allocate formal and significant communications funding to providing brief trainings for not only healthcare workers, but also community-facing public servants, who often interact with the Latino community (eg, teachers, social workers, community liaisons). This could potentially be the most effective way to spread vaccine information, address concerns, help individuals register for the vaccine, and visit or identify vaccination sites in their area.

Center local leaders and community members in both message development and delivery to build trust

Current messaging relies heavily on using medical professionals, government officials, and public health officials as the mouthpieces. However, language limitations of these individuals in combination with widespread distrust of the government point to a need for not only including but centering well-known local leaders (eg, pastors, media personalities, grassroots organization leaders) and community members in the development and deployment of these messages. Community members will not only speak the language better and better understand the many different cultures of the Latino community in Baltimore City, but will also be able to capitalize on established trust within the community, and their own presence within it, to address questions and talk personally with other community members. Include testimonies of leaders and community members who are already vaccinated to reinforce its safety and focus on how vaccination protects everyone's wellbeing, including that of the family.

One example of this is Centro SOL's iVacúnate! social media campaign due to be released by the end of August 2021. The campaign is composed of 30-second Spanish language videos of community members and leaders sharing their personal experiences with COVID-19 and the reasons they chose to get vaccinated. The videos can be shared easily over most social media platforms, WhatsApp, and Facebook Groups.

2. Anchor COVID-19 vaccination for hard-hit areas in a holistic recovery process

Similar to bringing vaccination opportunities to the community, relying on existent and successful community support infrastructure will ensure that vaccination isn't an isolated effort or service, but rather part of a broader network of services that already benefit the community. These efforts would mirror and/or complement community-oriented relief efforts that emerged as the pandemic dragged on.

Include vaccination efforts as part of the ongoing, multisectoral social services campaigns

Successful models of well-known and highly used service delivery programs already exist within the community (eg, food distribution). Rather than reinventing the wheel, incorporate vaccination campaigns into these programs so that people can easily get vaccinated or registered while engaging with these programs.

It would be easier for people to get vaccinated ... if we try by all means ... in all possible ways, in the churches, in the stadiums, put medical things, just as they put the COVID test in Sacred Heart [church], they can vaccinate there too. It would be more decentralized; people would be vaccinated faster. (Male interviewee, 65+ years old)

Continue to address gaps in all multisectoral COVID-19 related relief programs that leave the Latino community behind

As already well-established, local efforts to address gaps in federal- and state-level services across sectors such as nutrition, personal finances, and employment, have been

crucial to reaching Latino families. Continuing to develop and establish local analogs and supplements to these relief programs in such a way that they are universally accessible to the Latino population will be critical to continuing to address inequities in the impacts of COVID-19 and rebuild trust between the Latino community and the government and community health infrastructure.

Essential Actions

3. Integrate successful, hyperlocal relief initiatives into standard operating procedures

It is clear that the success of COVID-19 relief and COVID-19 vaccination programs are contingent on them being hyperlocal and highly tailored to the needs of the Latino community. However, success is also often contingent on programs being co-led and cocreated by a coalition several partners.

Sustain the critical multisector partnerships that were established during the pandemic The multisectoral partnerships established at the beginning of the pandemic to address the disparities caused by COVID-19 must continue far beyond the pandemic. These partnerships were established in large part to address the increasingly exposed, standing gaps in service provision that existed in Baltimore City, meaning that these gaps must be addressed in the long term to prevent continuing inequities in social systems. The BCHD and MIMA should establish a permanent version of the workgroup whose function extends beyond COVID-19 support. Additionally, this workgroup should have the opportunity to create a strategic plan that ensures the continuation of these partnerships and shared interventions. Ideally, this workgroup must also transition some of their work to assess and address the more upstream causes of these inequities in the first place.

Reallocate more public resources to supporting community and grassroots organizations

Community-led and grassroots organization are well-poised to assess local need and design and deliver related services to meet those needs. However, they are not always adequately resourced (eg, funding, personnel) and often need additional assistance (eg, technical and logistical support) to fully implement such programs. Meaning, it would be unreasonable to expect these organizations alone to address the changing needs of the Latino community. This is where larger, better-funded organizations, such the Maryland Department of Health, BCHD, MIMA, and especially large health systems such as Johns Hopkins, must continue to offer their support. Thus, these aforementioned organizations must specifically set aside regular funding and grants to continue to support community organizations in the long term. Understanding the strengths of each organization and working together to play up those strengths must be prioritized when creating social programs.

4. Develop a citywide immunization program to protect people throughout the life course

The widespread COVID-19 vaccination campaign must be used as a means to strengthen Baltimore City's overall vaccination efforts.

Reframe the way vaccinations are promoted, distributed, and monitored

Baltimore City already has established organizations that aim to improve overall vaccination rates (not just COVID-19) among the Latino population, a notable example being "Mejor Vive Sin Duda" (sinduda.org). The COVID-19 vaccine campaign should be integrated into existing campaigns to reach people already being reached through current vaccination efforts and to streamline the vaccination system—community members would know where to find information and where to get vaccinated for any disease at any time. The idea that families and individuals should come to health centers and vaccination sites ad hoc to receive specific immunizations as needed or desired should be de-emphasized.

Additionally, provide consistent and free vaccinations in locations people of all ages already frequent (already described above) such as schools, churches, and places of employment.

It is critical to ensure that all data collected does not threaten the legal status or anonymity of any person and make communities acutely aware that this is the case.

5. Rebuild the public health infrastructure, with proper staffing for community engagement

No one knows how long the pandemic will last, nor when the next public health crisis will hit Baltimore City. So, if we are to use this widespread COVID-19 vaccination campaign as an opportunity to build public health infrastructure that can address systemic inequities, then properly funding necessary changes to that infrastructure is imperative.

Increase the number of Spanish-speakers on staff at the health department and mayor's offices

Historically, these offices have been ill-equipped to engage with and support Latino residents. No materials (online or print) were available in Spanish before the pandemic and only 2 Spanish-speaking people were employed by the health department. Additionally, when asking participants about where they were receiving health information and support, the names of those 2 Spanish-speaking employees were sometimes mentioned, but participants were either largely unaware of their affiliation to the BCHD and/or mayor's offices or did not fully connect with the idea that they were working on behalf of those departments.

For all of the reasons described above, having more bilingual staff who are dedicated to providing and creating Spanish-language content and engaging in community-facing

public health efforts will be a bare-minimum requirement for increased engagement and trust between the Latino community and city entities.

Additionally, Baltimore City has a critical shortage of bicultural workers, not just bilingual workers. Thus, it will be critical to properly train bilingual staff members in cultural humility, as language proficiency without cultural proficiency often results in unanticipated harms. Additionally, it is important to invest in training and hiring initiatives that are paired with appropriate compensation and a range of career opportunities to prevent high turnover. Outreach work and community engagement require skills beyond Spanish proficiency for which screening and training should be available.

6. Stabilize the community health system as the backbone for equity and resilience

Formalize and increase funding for the community health worker/promotoras program In response to the pandemic, new community health workers have been trained and hired through MIMA and the BCHD. Programs such as this must continue to be funded and expanded to improve the applicability and usefulness of government-run public health efforts within the Latino community. Through their trust and knowledge of the community, *promotoras* will be able to continue to build bridges between the city and the Latino community while helping individuals overcome their personal set of barriers to accessing health services, whether they be navigating online and in-person systems, addressing individual and community concerns, bringing care directly to the community, or identifying needs early and advocating that city officials build programs specifically around those needs.

City entities must also recognize the importance and value of community health workers by transitioning away from volunteer models, which suffer from quick turnover, and ensure proper financial compensation, competitive benefits, job security, and career growth.

Conclusion

Creating equity in COVID-19 vaccination and in overall health and wellbeing is imperative for Baltimore City. Employing the recommendations provided in this report will not only lead to improvements in overall vaccination coverage in the Latino community, but also continue to build a lasting, equitable public health system for years to come, better able to tackle problems and crises that arise.

Humanizing delivery and communication strategies for COVID-19 vaccines through bringing vaccines directly to the community, expanding Spanish-language materials and services, using multiple communications channels and methods, and centering local voices will begin to build trust in and knowledge around the vaccine and thus increase vaccination rates, as well as build a healthier relationship and set of communication channels between the Latino community and local health entities.

Anchoring COVID-19 vaccination in hard-hit areas in a holistic recovery process that both harnesses the proven success of campaigns (eg, food distribution) and addresses and covers gaps in social relief programs currently inaccessible to Latinos will broaden the proportion of the population who has access to the vaccine and necessary social services. Additionally, it will combat several health concerns at once and improve the relationship between city and local health departments and the Latino community.

Integrating successful, hyperlocal relief initiatives into the standard operating procedures and budgets of public health and government entities will ensure that these programs and related partnerships continue well beyond the pandemic. It will also increase the city's capacity to adequately and equitably respond in times of crisis, better address the social determinants that caused the disparities seen in the Latino community from the outset, support flourishing multisectoral, private/public/academic/grassroots organizational networks, and ensure that future initiatives are fully and responsibly resourced.

Developing a citywide immunization program by reframing the way vaccines are currently promoted, distributed, and monitored to emphasize vaccination as a continuous way to protect oneself throughout their life span, rather than a one-off event, will improve overall vaccination coverage (including COVID-19) and increase public trust in the safety and benefits of the public health system.

Rebuilding the city's public health infrastructure by properly staffing it for community engagement by increasing the number of Spanish-speakers on staff at the Health Department and mayor's office will increase these office's capacity to properly engage with and communicate with primarily Spanish-speaking communities, create broader networks between the Latino community and city offices, and thus improve the relationship between the city and the Latino population.

Stabilizing the community health system as the backbone for equity and resilience through continuing to fund and expand the community health worker/*promotoras* program will similarly create broader networks between city offices and the Latino

community; increase reach to those who are currently being left behind; and ensure that community members are able to appropriately influence, implement, and improve the public health system to their specific needs in a secure and rightly compensated professional setting.

Creating vaccine equity and appropriately placing the onus of improvement onto the systems, which can actively discourage and prevent individuals from getting vaccinated rather than unjustly blaming individuals for their "hesitancy" is the only way forward. Baltimore City institutions and organizations must continue to work in active partnership to fight for the health rights and needs of their Latino neighbors if improvements are to be made and lasting, systemic change is to occur.

References

- 1. Martinez DA, Hinson JS, Klein EY, et al. SARS-CoV-2 positivity rate for Latinos in the Baltimore–Washington, DC region. *JAMA*. 2020;324(4):392.
- 2. City of Baltimore Coronavirus 2019 Disease (COVID-19). Baltimore city COVID-19 dashboard. Accessed August 4, 2021. <u>https://coronavirus.baltimorecity.gov</u>
- 3. Baltimore County government. Updates and Guidance for COVID-19. Published August 25, 2021. Accessed August 4, 2021. <u>https://www.baltimorecountymd.gov/covid-19/index.html</u>
- 4. Juarez T. Latinos disproportionately hurt by coronavirus in Maryland, Baltimore and among Johns Hopkins patients. *Baltimore Sun*. May 12, 2020. Accessed August 4, 2020. <u>https://www.baltimoresun.com/coronavirus/bs-md-covid-latinos-20200512-s3cjb6swbbfofmmfg7afmj3zw4-story.html</u>
- 5. García S. 'We started weeping in April, and we haven't stopped': Baltimore's Latino community racked by coronavirus. *Baltimore Sun*. November 24, 2020. Accessed August 4, 2020. <u>https://www.baltimoresun.com/coronavirus/bs-hs-coronavirus-latino-community-20201124-edpnzyaik5carmfv7j52vwue3m-story.html</u>
- 6. Sullivan E. Baltimore's Latinos are disproportionately hit by COVID-19. One Program Aims To Change That. *WYPR- 88.1 FM Baltimore*. December 18, 2020. Accessed August 4, 2020. <u>https://www.wypr.org/post/baltimore-s-latinos-are-disproportionately-hit-covid-19-one-program-aims-change</u>
- 7. City of Baltimore Mayor's Office of Immigrant Affairs. Food sites. Published April 21, 2020. Accessed August 4, 2021. https://mima.baltimorecity.gov/coronavirus/food-sites
- 8. City of Baltimore Mayor's Office of Immigrant Affairs. Monthly update. Published August 10, 2021. Accessed August 4, 2021. <u>https://mima.baltimorecity.gov/coronavirus/biweekly-update</u>
- 9. Zallman L, Woolhandler S, Himmelstein D, Bor D, McCormick D. Immigrants contributed an estimated \$115.2 billion more to the Medicare trust fund than they took out in 2002–09. *Health Aff (Millwood)*. 2013;32(6):1153-1160.
- 10. Zallman L, Wilson FA, Stimpson JP, et al. Unauthorized immigrants prolong the life of Medicare's trust fund. *J Gen Intern Med*. 2015;31(1):122-127.
- 11. Opilo E. Baltimore offers financial relief for immigrants affected by coronavirus. *Baltimore Sun*. December 18, 2020. Accessed August 6, 2021. <u>https://www.baltimoresun.com/politics/bs-md-pol-baltimore-coronavirus-hispanic-20201218-ytviukgxp5gzld6qc3scz5dmgy-story.html</u>
- 12. Johns Hopkins Medicine Office of Diversity and Inclusion, Johns Hopkins Medicine, Cetro Sol. Full summary of the program *Juntos* — Spanish-speaking provider consultation team. Accessed August 6, 2021. <u>https://www.hopkinsmedicine.org/diversity/_documents/juntos.pdf</u>
- 13. Mejor vive sin duda la vacuna. Mejor vive sin duda La vacuna. Accessed August 6, 2021. <u>https://www.sinduda.org/</u>

- 14. City of Baltimore Mayor's Office of Immigrant Affairs. Emergency relief for immigrant families. Accessed August 6, 2021. <u>https://mima.baltimorecity.gov/erif</u>
- 15. Mann A. How does Maryland's COVID vaccination effort compare with others'? After slow start, state ranks among best in country. *Baltimore Sun*. May 21, 2021. Accessed August 4, 2021. <u>https://www.baltimoresun.com/coronavirus/bs-md-national-covid-vaccine-picture-20210521-qfert6fgavbs7acvswyfj7vvey-story.html</u>
- 16. Maryland Department of Health. Maryland's phased COVID-19 vaccine distribution. Published January 14, 2021. Accessed August 4, 2021. <u>https://covidlink.maryland.gov/content/wpcontent/uploads/2021/01/Maryland%E2%80%99s-Phased-COVID-19-Vaccine-Distribution_1.15.pdf</u>
- 17. Maryland Department of Health. covidLINK: COVID-19 vaccine. Accessed August 4, 2021. <u>https://covidlink.maryland.gov/content/vaccine/</u>
- 18. Wood P, Stole B. Maryland expands vaccine rollout, with people 75 and older, teachers eligible next week. *Baltimore Sun*. January 14, 2021. Accessed August 4, 2021. <u>https://www.baltimoresun.com/coronavirus/bs-md-hogan-vaccines-thursday-20210114-4k6xh532lfesnnabrwhqnlhrz4-story.html</u>
- 19. City of Baltimore Coronavirus 2019 Disease (COVID-19). COVID-19 vaccine information. Published July 14, 2021. Accessed August 4, 2021. https://coronavirus.baltimorecity.gov/covid-19-vaccine-information
- 20. City of Baltimore Coronavirus 2019 Disease (COVID-19). COVAX updates from the Baltimore City Health Department. Published August 24, 2021. Accessed August 4, 2021. https://coronavirus.baltimorecity.gov/covid-19-vaccine-information/covax-updates-baltimore-city-health-department
- 21. Mann A, Miller H, Cohn M. Red flag raised about race disparity in Maryland's early coronavirus vaccine rollout data. *Baltimore Sun*. January 25, 2021. Accessed August 4, 2021. <u>https://www.baltimoresun.com/coronavirus/bs-md-vaccine-rollout-disparity-20210125-d2mwyfe7evfthgeoswe54tsb54-story.html</u>
- 22. City of Baltimore Mayor Brandon M. Scott. Mayor Scott, health commissioner launch new COVID-19 vaccination dashboard. Published February 5, 2021. Accessed August 4, 2021. <u>https://mayor.baltimorecity.gov/news/press-</u> <u>releases/2021-02-05-mayor-scott-health-commissioner-launch-new-covid-19-</u> <u>vaccination</u>
- 23. Baltimore Sun staff. How are Maryland COVID cases, vaccinations and other metrics trending? Here are the latest numbers. *Baltimore Sun*. September 27, 2021. Accessed March 20, 2021. <u>https://www.baltimoresun.com/coronavirus/bs-md-coronavirus-cases-statewide-maryland-20200726-rk7n7qam4fd33ka7zvrxv3xybe-htmlstory.html</u>
- 24. Baltimore City COVID-19 Vaccination Dashboard. Accessed August 4, 2021. https://baltimore.maps.arcgis.com/apps/dashboards/4b64b6e8c0014b6998d767f cf077bfaf

- 25. Maryland Department of Health. Coronavirus disease 2019 (COVID-19) outbreak. Accessed August 30, 2021. <u>https://coronavirus.maryland.gov</u>
- 26. Miller H. Less vaccinated pockets of Maryland remain vulnerable as delta variant of COVID-19 spreads. *Baltimore Sun*. July 30, 2021. Accessed August 4, 2021. <u>https://www.baltimoresun.com/coronavirus/bs-md-maryland-delta-variant-coronavirus-20210730-q2djgdk57rhotpobg7avmh2tky-story.html</u>
- 27. Wang CC. Photovoice: A participatory action research strategy applied to women's health. *J Womens Health*. 1999;8(2):185-192.
- 28. Emmel N. Toolkit #3 Participatory Mapping: An innovative sociological method. Manchester, UK: Real Life Methods; 2008. Accessed August 4, 2021. <u>http://eprints.ncrm.ac.uk/540/2/2008-07-toolkit-participatory-map.pdf</u>
- 29. Wolcott HF. *Ethnography: A Way of Seeing*. Lanham, MD: Altamira Press; 2008.
- 30. Earl L. Children's food maps: using social mapping to understand school foodscapes. *Ethnography Educ.* 2017;13(4):508-528.
- 31. Nwadiuko J, German J, Chapla K, et al. Changes in health care use among undocumented patients, 2014-2018. *JAMA Network Open*. 2021;4(3).
- 32. Kruse TK. Leadership on syphilis studies for better and for worse. Johns Hopkins Bloomberg School of Public Health. Published September 1, 2020. Accessed August 30, 2021. <u>https://www.jhsph.edu/news/stories/2020/leadership-on-syphilis-studies-forbetter-and-for-worse.html</u>
- 33. Rodriguez MA, García R. First, do no harm: the US sexually transmitted disease experiments in Guatemala. *Am J Public Health*. 2013;103(12):2122-2126.
- 34. Foiles Sifuentes AM, Robledo Cornejo M, Li NC, Castaneda-Avila MA, Tjia J, Lapane KL. The role of limited English proficiency and access to health insurance and health care in the Affordable Care Act era. *Health Equity*. 2020;4(1):509-517.
- 35. US Census Bureau Public Information Office. Census Bureau releases estimates Of undercount and overcount in the 2010 census. Published May 22, 2012. Accessed August 30, 2021.

https://www.census.gov/newsroom/releases/archives/2010 census/cb12-95.html

- 36. Macagnone M. Census misses create worries of Hispanic undercount. *Roll Call*. April 29, 2021. Accessed August 30, 2021. <u>https://www.rollcall.com/2021/04/29/census-misses-create-worries-of-hispanic-undercount/</u>
- 37. IPUMS USA. IPUMS online data analysis system. Accessed August 4, 2021. https://usa.ipums.org/usa/sda/
- 38. Zong J, Batalova J. The Limited English Proficient population in the United States in 2013. Migration Policy Institute. Published July 20, 2020. Accessed August 30, 2021. <u>https://www.migrationpolicy.org/article/limited-english-proficient-population-united-states-2013</u>

39. Hsin A, Ortega F. What explains the wages of undocumented workers? *Econofact*. July 24, 2019. Accessed August 30, 2021. <u>https://econofact.org/what-explains-the-wages-of-undocumented-workers</u>