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COMMENTARY

# Community-Academic Partnerships to Address Covid-19 Inequities: Lessons from the San Francisco Bay Area

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Black, Latinx, and other socially and economically marginalized groups have been disproportionately affected by the Covid-19 pandemic. In response, a coalition of community and academic partners, as well as two local departments of public health, formed unique collaborations to successfully design and implement tailored Covid-19 testing and vaccination initiatives in San Francisco Bay Area communities with high transmission rates and at high risk for severe disease. These sustained partnerships have administered more than 40,000 coronavirus tests and more than 30,000 vaccine doses and have facilitated a broad array of linkages between community members and other needed services. Core principles important to the success of these initiatives include shared leadership, a focus on using Covid-19 initiatives to expand access to other services, data collection aimed at informing policy and advocacy, and cultivation of long-lasting partnerships to advance health equity. The authors outline the strengths of these community-academic partnerships as an approach to addressing Covid-19, as well as other health inequities that predate and will outlast this pandemic, sharing lessons learned to

inform ongoing Covid-19 testing and vaccination campaigns and broader public health response.

Within the first months of the SARS-CoV-2 pandemic in 2020, public health officials, community-based organizations (CBOs), researchers, and health care professionals recognized the disproportionate burden of Covid-19 on Black, Latinx, and other socially and economically marginalized groups.[1] Our coalition of community and academic partners, in collaboration with local departments of public health (DPHs) in San Francisco County (SFDPH) and Alameda County (ACPHD), formed unique partnerships that have carried out tailored initiatives in the San Francisco Bay Area to address under-testing in communities with high transmission and at high risk for severe disease. We outline the strengths of a community-academic partnership[2] approach to addressing Covid-19 inequities[3,4] and present lessons learned to inform Covid-19 vaccination campaigns and broader public health responses to longstanding health inequities.

The first partnership formed in April 2020 during California's shelter-in-place order, when a team of clinicians, epidemiologists, and infectious disease experts partnered with the San Francisco Latino Task Force, a coalition of community and business organizations that recognized the emerging impact of Covid-19 on the Latinx community. Together, as *Unidos En Salud* (United in Health), the partnership launched its first initiative: testing all residents and workers in one census tract in the primarily Latinx Mission District of San Francisco over a 4-day period (Figure 1).[5] Walk-up testing was offered at community sites regardless of symptoms, insurance, or immigration status at a time when testing was otherwise offered only at health care organizations, by appointment, for symptomatic patients.*Unidos en Salud* also provided support for those testing positive, including food, education, and connection to health care and financial resources.[6] The point prevalence and cumulative incidence data collected were among the first to reveal that Latinx populations were disproportionately affected; in-person work was the primary factor associated with infection; social factors related to the inability to shelter-in-place and maintain income were associated with contracting SARS-CoV-2; and more than half of those infected were asymptomatic.[5]

FIGURE 1

Unidos en Salud volunteers, who normally work in construction, canvassed within the Mission District of San Francisco to raise awareness about community-based SARS-CoV-2 testing.


Source: Mike Kai Chen / for UCSF



Our partnerships have since expanded to other Bay Area communities, including *United in Health: D10* in San Francisco's medically underserved District 10 with large Black, Pacific Islander, Chinese, and Latinx populations[7];*United in Health: Unhoused* reaching people experiencing homelessness in San Francisco[8];*Sanando Juntos: Fruitvale* in the primarily Latinx Fruitvale neighborhood of Oakland in Alameda County[9]; and*Umoja Health* focused on reaching Black and African American communities in Oakland.[10] These partnerships have now administered more than 40,000 coronavirus tests and have since expanded to vaccines, having collectively administered more than 30,000 vaccine doses.

## Shared Leadership for Community-Specific Campaign Design

Each initiative is a coalition of community and academic partners collaborating with local DPHs. Testing campaigns have been jointly driven by:

- Community leaders advocating for testing designed to meet the needs of populations most hard-hit by Covid-19

- Academics recognizing the need for data to understand and respond to evolving community-level SARS-CoV-2 epidemiology, variants, and transmission

- DPHs expanding programs built around these fundamental concepts to address the ongoing public health crisis

Leadership and decision-making are shared among CBOs, community advocates, and academics. The expertise derived from community members' lived experiences has been crucial to ensuring that these testing campaigns reach and meet the needs of each community.

Academic and DPH partners have provided health expertise along with financial and in-kind support, but the fundamental structure, processes, and messaging associated with each effort has been community-led, ensuring each effort is tailored to its population of focus.

> *"The expertise derived from community members' lived experiences has been crucial to ensuring that these testing campaigns reach and meet the needs of each community."*

While some testing campaigns have used large-scale stationary events, others have used smaller, mobile models, notably *Umoja Health* and*United in Health: Unhoused*.*Umoja Health's* leaders from Oakland's Black community and collaborators from ACPHD recognized that Black populations were underrepresented in large-scale testing events and clinic-based testing sites.*Umoja Health* postulated that the geographically dispersed Black population in the Bay Area could more effectively be reached through smaller pop-up events at locations identified and staffed by credible messengers, such as local community advocates, artists, and faith community leaders, in census tracts with the most concentrated Black and African American populations (Figure 2). This pop-up model has increased engagement and participation within Oakland's Black community, with Black individuals regularly constituting more than 60% of testers at each site and over half of tested individuals self-reporting as first-time testers.

FIGURE 2

Credible messengers from the local Black community are core leaders of Umoja Health and central to the design and promotion of pop-up testing events.


Source: Mike Kai Chen / for UCSF



Efforts to reach unhoused populations similarly began with testing near CBOs that provide services to homeless individuals. *United in Health: Unhoused's* community leadership soon recognized that mobile testing would be more effective, expanding to include street teams led by community ambassadors with current or past experiences of homelessness.[11] These mobile teams administer testing where unsheltered people gather, including sidewalks and encampments (Figure 3). Community leaders across these initiatives have also prioritized offering a suite of services at testing sites, including HIV testing, diabetes screening, veterinarian services for pets, census form completion, voter registration, referrals for temporary shelter, and applications for stimulus checks.

FIGURE 3

After initially providing SARS-CoV-2 testing at a stationary site near established community-based organizations, United in Health Unhoused transitioned to a mobile testing model.

Source: Maurice Ramirez / for UCSF



## "Test-to-Community-Care" Model

Community leaders of each campaign recognized from the start that testing alone would be insufficient to break chains of SARS-CoV-2 transmission. These leaders identified serious challenges and disincentives to testing and isolation, such as difficulty following up with test results, risk of job loss, overcrowded housing, and inability to access food while quarantining.[12] To address these challenges, we developed a "Test-to-Community-Care" (T2CC) model that provided services to support clients during isolation and quarantine. Testing also served as a bridge to initiatives launched by local DPHs.[6]

> *"Community leaders of each campaign recognized from the start that testing alone would be insufficient to break chains of SARS-CoV-2 transmission."*

The T2CC model — created by the *Unidos en Salud* partnership, with the Latino Task Force leading the design — is now a central feature of all our testing campaigns. A "Community Wellness Team" reaches out to clients at the time of positive test result disclosure. Composed of case managers and community health workers who are fluent in the languages common in each community (e.g., Spanish and the Mayan language Mam) and have longstanding ties to each community,[6,13] team members are personally recommended by community leaders and are compensated. Teams have around-the-clock back-up from medical staff and have provided medical, social, and psychological support to more than 1,000 clients who have tested positive, and their households, through the full isolation period. Community Wellness Teams provide health information, evaluate ongoing symptoms, and deliver food, cleaning supplies, and masks to clients' homes during quarantine (Figure 4). They assist clients with enrolling in insurance, navigating government assistance programs, and connecting with primary care providers. For clients experiencing homelessness, the teams also assist with relocation to isolation/quarantine hotels, or, if the client prefers, resources such as a tent and food to safely isolate in place.

**FIGURE 4**

The Unidos en Salud Community Wellness team prepares bags of supplies, including cleaning supplies and groceries, to deliver to community members who tested positive for COVID-19 and are quarantining.

Source: Mike Kai Chen / for UCSF

Pairing testing with linkages to care and supportive services has been central to reaching communities that are most at risk of SARS-CoV-2 infection and least likely to engage with traditional testing-only services. Further, the funding for the community-led teams, provided by academic partners through philanthropic sources and institutional funding, and supplies and support, provided by local DPHs, serves as additional community investment during a time of economic crisis. An early focus on philanthropic sources of funding mobilized by the academic partners allowed for flexible, nimble investment and enabled the rapid launch and easy iterative adaptation of these initiatives. The close communication and alignment with DPHs facilitated transitions to more traditional contracting and payments and sustained local government DPH support over time, as well as hybrid models of support from local government, research and public health grants, and philanthropy. For example, several partnerships include a mix of funding with local DPHs directly supporting certain components (e.g., contracts with community-based organizations to provide linkages to supportive services; staffing and supplies for testing and vaccinations) and philanthropic and grant funding supporting others (e.g., data collection and analysis, academic personnel, additional funding for community partners for expanded activities).

## Data to Inform Public Health and Policy

The pandemic requires ongoing data collection to inform community programs and public policy. Guided by community partners, our academic partners have strived to analyze and return actionable data directly to communities and policymakers. Our DPH partners — who have supported each testing campaign with staff, supplies, and infrastructure for case investigation and contact tracing — have been critical to the rapid translation of data and new testing models into programs at scale.

> *"Teams have around-the-clock back-up from medical staff and have provided medical, social, and psychological support to more than 1,000 clients who have tested positive, and their households, through the full isolation period."*

For example, *Unidos en Salud*'s earliest testing campaign revealed that more than 50% of positive cases were asymptomatic when tested and that the inability to shelter-in-place and maintain income was a significant risk factor for recent infection.[5] These findings led to changes in local policies to increase access to testing for asymptomatic frontline workers[14] and to launch programs in San Francisco[15] and Alameda County[16] providing financial support for individuals during isolation and recovery. More recently,*Unidos en Salud* evaluated and confirmed the efficacy of rapid, low-cost antigen-based alternatives to PCR tests, which are now offered at pop-up testing sites through a partnership with SFDPH (Figure 5). This finding has informed testing policy on a national scale.[17,18] Using these data,*United in Health: Unhoused*, in conjunction with SFDPH, the Department of Homelessness and Supportive Housing, and nonprofit shelter operators, has begun conducting twice-weekly rapid testing in all San Francisco homeless shelters.[19] In addition,*Sanando Juntos: Fruitvale* identified that the Mayan population was particularly severely affected by the pandemic (Figure 6).[20] These data formed the basis of a community campaign to advocate for economic

resources for the Fruitvale neighborhood and expanded Mayan-language interpretation services at vaccination sites.

**FIGURE 5**

Unidos en Salud located a SARS-CoV-2 testing site at a public transit station many Latinx frontline workers use to get to work and evaluated the efficacy of rapid, low-cost antigen-based tests.

Source: Mike Kai Chen / for UCSF

FIGURE 6

Sanando Juntos: Fruitvale identified that the Mayan population was particularly severely affected by the COVID-19 pandemic.

Source: Barbara Ries / for UCSF



## Cultivating Partnerships for the Future

Our community-academic partnerships have laid the groundwork for continued collaboration, particularly on vaccination campaigns. When Covid-19 vaccines were first being developed, community leaders within the *Unidos en Salud* partnership cautioned that the initial testing initiatives should explicitly not include vaccine outreach, conveying that many community members were skeptical of the vaccine, specifically in the historic context of medicine's exploitation and abuse of marginalized populations.[21,22] As *Unidos en Salud* continued dialogue and, with SFDPH partners, provided accessible updates on vaccine trials, community interest in vaccination grew. By January 2021, 86% of the 4,133 persons surveyed at a *Unidos en Salud* testing site said they would accept a vaccine.[23] In February 2021, *Unidos en Salud,* in partnership with SFDPH, launched a neighborhood vaccination site, which has now administered more than 26,000 vaccine doses and provided vaccine navigation support to more than 2,300 people with referrals to higher-capacity SFDPH-run vaccination sites nearby (Figure 7).[24] *Unidos en Salud* also created a *Latinx Covid-19 Collaborative* across three counties to facilitate dialogue on the scaling and local

adaptation of community-academic partnerships for expanded testing and vaccination efforts in Latinx communities.*United in Health: Unhoused* is similarly partnering with SFDPH to deliver vaccines in San Francisco.

FIGURE 7

A volunteer checks in eligible residents lined up for COVID-19 vaccination appointments at the Unidos en Salud community vaccination site in the Mission.

Source: Mike Kai Chen / for UCSF



In Oakland, *Umoja Health* partnered and ultimately merged with the Alameda County African American Covid-19 Community Response Circle[25] to expand weekend testing and vaccinations in the Black and African American community, vaccinating more than 4,500 residents. With support from ACPHD,*Umoja Health* has also launched pop-up vaccination clinics running 4 days a week at community sites like churches and has administered more than 3,500 vaccines (Figure 8). This pop-up vaccination approach is being adapted in nearby San Mateo County, with funding from the integrated managed care consortium Kaiser Permanente of Northern California. In addition, the*Sanando Juntos: Fruitvale* partnership is organizing multilingual speakers for CBOs, schools, and unions to answer community members' questions about vaccines. These sessions have reached nearly 60,000 people in eight languages.

FIGURE 8

Community members wait in line to enter the Umoja Health pop-up vaccination site outside a church in Oakland.

Source: Mike Kai Chen / for UCSF



While developed in response to the Covid-19 pandemic, the campaigns' foundations of improved trust will be a powerful force in efforts to improve community health more broadly; Covid-19 spread in the context of preexisting economic and health disparities spanning numerous conditions that disproportionately impact these same communities. Too often when academic researchers and institutions attempt to increase health care impact outside clinic walls, the process is extractive and time-limited; researchers enter communities, collect data, and leave.[2] Importantly, our testing campaigns involve a commitment to ongoing collaboration between community, academic, and public health partners. Progressing toward health equity requires non-transactional, year-round partnership.

## Building Trust

Building and maintaining sustainable community-academic partnerships is challenging. Trust and mutual respect between community and academic partners is essential, but is not automatic.[2] Historic and ongoing exploitation of communities of color and low-income communities by

medical research institutions is rife.[21,26] Academic partners, in particular, must demonstrate humility, acknowledge the power and privilege associated with their role, and actively seek out, listen to, and work to center the expertise of communities to ensure that decision-making is equitably shared.[2,26]

> *"Our community-academic partnerships have laid the groundwork for continued collaboration, particularly on vaccination campaigns."*

Each partnership has regularly experienced the tensions inherent in balancing the time-intensive process of stakeholder engagement with the exigencies of a public health emergency. For example, early meetings of the *United in Health: D10* testing partnership included frank, unvarnished comments from community members regarding the historical neglect and mistreatment of San Francisco's Black community and the role played by academic and government institutions. Some expressed surprise after one particularly heated meeting that a follow-up meeting was even being scheduled, and then appreciation that attendees showed up for the subsequent meeting despite the prior heated exchanges, signaling a willingness to listen and take the next step in planning together.

Urgency of action was key to developing an effective pandemic response, but not at the expense of having these crucial conversations. The partnership-building process required space and time for community partners to air these serious concerns and for academic partners, including institutional leadership, to genuinely listen and commit to an ongoing process of change and continuing to build trust. The pandemic has accelerated the alliance of trust and collaboration to respond to our shared crisis, and we have built upon prior structural investments in community-academic partnerships (e.g., the UCSF Cancer Center's Men's Health Committee[27] addressing cancer disparities) and public health partnerships (e.g., San Francisco's "Getting to Zero" initiative[28] focused on HIV/AIDS). Further, many of the academic partners are people of color, themselves members of the communities that the initiatives aim to serve, with decades of experience engaging in multi-sector coalitions in pursuit of health equity. All these factors have been critical to the partnerships' successes.

The mantra "Nothing about us without us is for us" aptly distills the central tenet of our collective work to address Covid-19 inequities. The core principles of shared leadership, facilitating connections to a range of medical and social services, gathering data to inform policy and advocacy, and cultivating long-lasting partnerships to advance health equity hold promise for responding to new phases of this pandemic and other health inequities that predated, exacerbated, and will outlast Covid-19. These core principles have enabled effective community-academic partnerships that allowed for effective deployment, adaptation to diverse communities, and evolution over time to meet the needs of the pandemic; direct collaboration with public health has laid the groundwork for long-term sustainability. While we contend that these core principles can and should be scaled in other regions, local community leadership must drive these efforts in order to build on each community's unique strengths and meet each community's unique needs.

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