A Waypoint on the Path to Health Equity: COVID-19 Vaccination at Month 11

November 2021

CommuniVax
A Coalition to Strengthen the Community's Role
in an Equitable COVID-19 Vaccination Campaign

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Executive Summary

This CommuniVax Coalition report represents a waypoint in the COVID-19 pandemic: an opportunity to pause to mark the distance traveled, alter the course if necessary, and set out on the next part of the journey. It describes progress made toward greater equity in the COVID-19 vaccination campaign and proposes steps to advance even further. CommuniVax is a national rapid research coalition of social scientists, public health experts, healthcare providers, and community advocates, and a part of the larger community of practice that has observed and participated in the COVID-19 vaccine rollout through an equity lens.

Earlier in the year, it was estimated that COVID-19 vaccines had averted nearly 140,000 deaths and between $625 billion and $1.4 trillion in associated costs in the United States. Initially, however, these enormous, lifesaving benefits were not equitably distributed to communities of Black, Indigenous, and other people of color (BIPOC). Despite early setbacks, more recent progress has been made in reversing inequities in COVID-19 vaccine coverage. In mid-September, similar shares of Hispanic/Latino (73%), African American/Black (70%), and White (71%) adults reported having received at least 1 dose of an approved COVID-19 vaccine.

However, while vaccine coverage is similar across racial/ethnic groups nationally, the same is not true at state and local levels. A better understanding of factors that have facilitated higher vaccine coverage within BIPOC communities in certain parts of the country can aid states and local jurisdictions still struggling with vaccination equity and/or unequal health outcomes. Such an inquiry can also help inform the development of outreach and engagement approaches for White communities that currently account for the largest proportion of unvaccinated individuals in the country.

To contribute to this effort, in early October 2021, CommuniVax undertook an assessment of its work, inviting other similarly engaged groups to reflect on the coalition's efforts and, more generally, on the COVID-19 vaccination rollout. Using a combination of listening sessions and a survey, we gathered feedback from an array of advocates, organizers, practitioners, and leaders representing state and local government, the public health sector, academia, professional associations, community-based organizations (CBOs), faith-based organizations (FBOs) and coalitions across the country to document successes, failures, and lessons learned that could be used to shape future efforts of vaccine promotion and health equity strengthening.

From this assessment, we identified early equity "wins" in the COVID-19 vaccine rollout and developed recommendations on how to ensure ongoing advances in health equity, now and into the future.

COVID-19 Vaccination Equity "Wins"

Capital Investments

Mobilizing stores of social capital and bridging sectors to amass more of the same, organizations and groups have built complex, novel partnerships to match immense vaccination-related demands. A long-needed investment of financial capital has also been game-changing. With emergency federal funding, public health departments have been able to implement urgently needed strategies, including hiring staff and community health workers (CHWs). CHWs, along with CBOs and FBOs, provide unequalled human capital, given their roots in and shared experiences with underserved communities. This trusted, community-based workforce has aligned vaccination implementers and community members' worlds, increasing greater access to and acceptability of COVID-19 vaccines.

Inclusive Governance

The urgency of the pandemic combined with mounting pressure for solutions has required leaders to experiment, develop new partnerships, and integrate health equity into decision making including hiring health equity strategists, standing up health equity workgroups and taskforces, and advancing equitable policies—such as offering paid leave to get vaccinated—through state legislatures. Using grassroots input and hard data (eg, COVID-19 cases and vaccination rates by ZIP code), decision makers have improved strategies for the delivery of vaccines and other services to hard-hit BIPOC communities.

Real World "Fit"

When vaccination implementers have adapted operations in ways that account for the life circumstances of lower-income BIPOC communities and support community members' autonomy and decision-making style, vaccination coverage and health equity have progressed. Critical elements have included providing accurate, culturally competent, and language-appropriate vaccine information in a nonjudgmental, ongoing conversation; designing delivery strategies that account for end user convenience, comfort, and confidence; and, making COVID-19 vaccines available alongside services for other needs like food insecurity, unemployment, and immigration concerns.

Actions Recommended to Sustain Vaccination Equity Wins

✓ Do Not Demobilize – Value and Continue Building Robust Partnerships

An admixture of well-established and newly emergent partnerships has been breaking logistical and attitudinal barriers to COVID-19 vaccination. These alliances are opening care to underserved populations and benefitting everyone through greater community immunity. Meant to be temporary, these linkages represent a more evolved system that can help address other complex community health issues into the future. Funding for, and institutional support of, partnerships developed during the COVID-19 pandemic are necessary for these innovative relationships to be maintained once the current crisis dissipates.

✓ Provide Sustained, Flexible Financing that Reaches the Community

The Coronavirus Aid, Relief, and Economic Security Act and American Rescue Plan Act unlocked billions of federal dollars to support states and local governments as they shepherd efforts to respond, recover, and rebuild. CBOs, FBOs, and CHWs, working with public health departments, have been essential in efforts to protect BIPOC community health and wellbeing in the pandemic context. Financing structures that CBOs and FBOs can more easily navigate and local/state American Rescue Plan Act planning that includes community voices can ensure that society will derive the full benefits of a community-based workforce now and in a postpandemic setting.

✓ Modernize and Energize Public Health with a Community-Centric Infrastructure

With stable and sufficient funding, the public health infrastructure can have capabilities to respond to emergencies like the COVID-19 pandemic and address challenges (eg, diabetes, heart disease) prevalent in BIPOC communities. Such investment can also facilitate the development of a public health workforce that mirrors the communities it serves—one more able to provide culturally competent services and to devise strategies to address social determinants of health. Health departments that have dedicated staff proficient at engaging communities can build feedback loops that allow community members to participate actively in public health programming and planning (eg, COVID-19 vaccine delivery strategies).

Develop Data Systems that Facilitate Accountability for Equity

Robust and sustainable public health data systems that incorporate race and ethnicity factors across all levels of government can facilitate the ongoing monitoring, evaluation, and communication of the impact of interventions aimed at supporting health equity. Having transparent, accurate, and longstanding data capture systems can ensure accountability, motivate course corrections, and provide objective public-facing proof that government and public health institutions are genuinely committed to remedying health inequities, which will, in turn, help to build community trust.

Implement a Diagonal Policy Approach to Advance Health Equity

Genuine advances in health equity for low-income and BIPOC communities hinge on having a diagonal approach where policies cut across, and simultaneously address multiple levels of health determinants: a strong community health system that delivers care appropriate to individuals' immediate needs and life circumstances (eg, neighborhood-based COVID-19 vaccine clinics); a Health in All Policies strategy that strengthens the social safety net and involves all sectors (eg, housing, transportation) in optimizing community wellness (eg, wraparound services, supportive workplace policies); and upstream structural reforms (eg, wealth redistribution, voter redistricting) that address root causes of health inequities.

Introduction

This report represents a waypoint—a pause to mark the distance traveled, alter the course if necessary, and set out on the next part of the journey. It recounts progress made toward greater equity in the COVID-19 vaccination campaign, and it proposes steps to advance gains made and to continue to evolve them to meet future needs.

The travelers' perspective in this account is that of CommuniVax—a national rapid research coalition of social scientists, public health experts, healthcare providers, and community advocates—and the larger "community of practice" concerning COVID-19 vaccine equity of which it is a part. Launched in November 2020, the coalition comprises 6 local research teams working in 7 distinct sites and a central working group with ties to national stakeholder groups in the United States including from government, public health, and community sectors. We have critically observed and engaged in the COVID-19 vaccination campaign, from the administration of the first SARS-CoV-2 vaccine in December 2020 to the vaccination of 220.7 million people in the United States (over the age of 12 years) with at least 1 dose of an approved vaccine, as of October 28, 2021.[1]

In August 2021, it was estimated that the vaccines had averted nearly 140,000 deaths and between $625 billion and $1.4 trillion in associated costs in the United States.[2] Initially, however, these enormous, life-saving benefits were not equitably distributed to communities of Black, Indigenous, and other people of color (BIPOC): the US Centers for Disease Control and Prevention (CDC) reported in January 2021, for example, that among 6.7 million vaccine recipients who had disclosed their race or ethnicity, 60.4% identified as White, 11.5% as Hispanic/Latino, 6% as Asian, 5.4% as Black, 2% as American Indian/Alaska Native, and 0.3% as Native Hawaiian/Pacific Islander.[3] Comparatively the US population as a whole identifies as 60.1% White, 18.5% Hispanic/Latino, 13.4% Black, 5.9% Asian, 2.8% two or more races, 1.3% American Indian/Alaska Native, and 0.2% Native Hawaiian/Other Pacific Islander.[4]

Despite early setbacks, progress has been made in reversing inequities in COVID-19 vaccine coverage. As of October 21, 2021, the CDC reported that 50.9% of American Indian/Alaska Native individuals were fully vaccinated, along with 44.2% of Asian, 33.7% of African American/Black, 39.8% of Hispanic/Latino, 43.2% of Native Hawai'ian/Other Pacific Islander, and 40.8% of White individuals.[3] In early October 2021, the Kaiser Family Foundation (KFF) also reported that rates of COVID-19 vaccine uptake appear to be increasing faster among Black and Latino populations in the United States relative to their White counterparts—a development indicative of a narrowing racial coverage gap.[5] KFF further noted that White individuals currently account for the largest proportion of unvaccinated individuals in the country.

As the US response to the COVID-19 pandemic progresses through its second year, the ongoing need to identify and implement strategies for improving vaccine equity among BIPOC communities—especially amid historic disparities in healthcare access and utilization—remains. In that spirit, CommuniVax undertook an evaluation of its work on equity in COVID-19 vaccination. Also recognizing the difficult and creative efforts undertaken by various collaboratives and in jurisdictions throughout the United States, we invited other similarly engaged groups to reflect on coalition activities and the COVID-19 vaccination rollout thus far. This collective assessment could help to identify successes, failures, and lessons learned for future efforts around vaccine promotion and building health equity in BIPOC communities.

To this end, the CommuniVax core team gathered feedback in the first half of October 2021 from people who held street-level and bird's eye views on COVID-19 vaccine equity. Each local CommuniVax team provided written self-assessments of their efforts, and the central working group convened to discuss the Coalition's national impact. The team also convened listening sessions with community, public health, and government stakeholders from each of the 7 local research sites; the staff of 9 national associations that represent state and local public health and government; and leads from 14 other coalitions working on vaccine equity locally and/or nationally. Lastly, the team conducted an anonymized online survey of end users for CommuniVax work (ie, written reports, policy/practice guidance, webinars), gleaning responses from 196 people. Almost half (49%) of survey respondents reported working in healthcare or public health, and a majority (56%) indicated they serve/represent racial and ethnic minority communities.

Drawing upon qualitative data generated in those activities, the core team engaged in an iterative evaluation, identifying major themes in people's assessment of the equity advances (or "wins") made during the US COVID-19 vaccine rollout and the conditions needed for such gains to endure beyond the acute phase of the pandemic. This report summarizes the findings in 3 parts. First, we contextualize early vaccine equity wins by sharing vignettes of relationship-building, just-in-time interventions, and other successful strategies from BIPOC communities across the United States and revisiting our prior investigations of vaccine equity challenges.[6,7] Next, we synthesize recommendations on how to sustain gains made as the COVID-19 response continues, highlighting strategies for integrating successful community mobilization processes into the country's public health infrastructure. Last, we reflect on the CommuniVax experience as whole, outlining circumstances that have enabled, and benefitted from, the coalition's rapid, solution-focused, and community-engaged research amidst a health crisis.

Vaccination Equity "Wins" and Enabling Conditions

In mid-September 2021, similar shares of Hispanic/Latino (73%), Black (70%), and White (71%) adults reported having received at least 1 dose of an approved COVID-19 vaccine.[8] This national milepost indicates that the US vaccination campaign has covered much distance since its start when significant disparities in COVID-19 vaccination by race/ethnicity existed (Figure).[5]

Figure. Percentage of Total Population that Has Received at Least 1 COVID-19 Vaccine Dose by Race/Ethnicity, March 1 to November 1, 2021
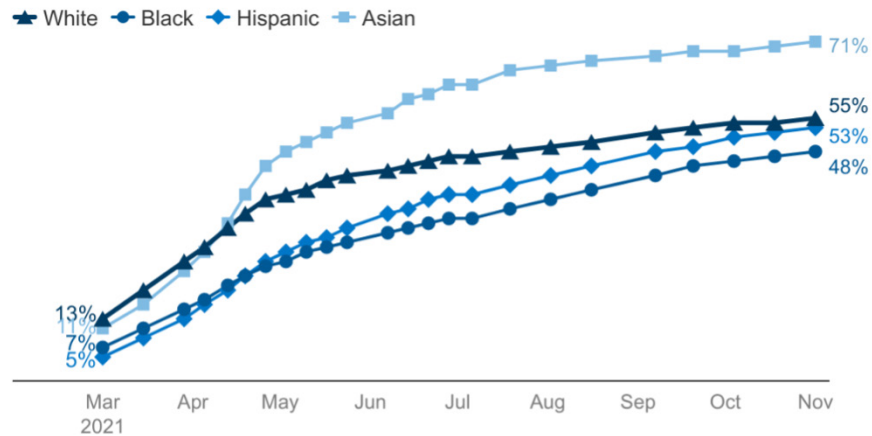
SOURCE: Vaccination data based on KFF analysis of publicly available data on state websites; total population data used to calculate rates based on KFF analysis of 2019 American Community Survey data. Number of states included in analysis varies based on available data at time of data collection.

The narrowing of the gap in vaccine coverage among racial/ethnic groups has been attributed to a mix of factors including workarounds for access and logistical barriers, intensified education and outreach among persons of color, motivations posed by spread of the Delta variant, and more vaccinations among younger adults and adolescents who comprise higher shares of persons of color compared to other adults.[8,9] More work is still needed, however: state reported data on COVID-19 vaccination coverage by race/ethnicity indicate varying degrees of success in reducing disparities across the country.[5]

For this section, the CommuniVax core team queried the community of practice emerging around COVID-19 vaccines equity in the United States about "wins" they have helped propel and/or witnessed in their own jurisdictions, coalitions, and/or networks, and the conditions that made these wins possible. Here, we catalog the mileposts they cited, illustrating them with sample quotations (Table 1) and concrete examples, some identified by listening session participants and others taken from local CommuniVax team self-assessments. Boxes 1 to 3 in the Real World "Fit" section offer further examples from the local teams on equity progress made.

We use the word "win" with some hesitation. We recognize the hard work, commitment, and creativity of the many organizations and individuals that have pulled together to close the gap in COVID-19 vaccination rates between African American/Black and Hispanic/Latino people and White people. At the same time, we acknowledge that many BIPOC community members have died during the pandemic and that unequal life circumstances and systemic racism made vaccine equity initiatives necessary in the first place and, in many ways, were done too late and

too slowly. Moreover, the pandemic is far from over; indeed, some stakeholders shared their fears that the country was starting to "look in the rearview mirror" at COVID-19, despite ongoing economic, physical health, and psychological hardships for BIPOC communities.

Table 1. Sample Stakeholder Quotations Taken from the National Survey and Stakeholder Listening Sessions, October 2021 – Enabling Conditions for Health Equity "Wins"

Factors Contributing to a More Equitable COVID-19 Vaccination Campaign	National Stakeholder Survey "In your professional view, what factor has most enabled COVID-19 vaccine equity work to proceed? Please consider political, economic, social and technological conditions."	Listening Sessions "What COVID-19 vaccination equity 'wins' have occurred? What were the circumstances or ingredients for success that facilitated these 'wins'?"
1. CAPITAL INVESTMENTS		
Cross-Sector Partnerships Mobilizing networks of established and emergent partnerships to tackle complex tasks	"Locally, the collective will of health and medical professionals coupled with faith leaders and the interest of local government have enabled COVID-19 vaccine equity work."	"One other area is to use the relationship of funeral home directors and morticians in the Black community. They have a strong relationship with people in the community. They are seeing the results [of COVID-19] firsthand and may be able to articulate it better than others."
Cash Pipelines Streaming CARES Act and ARPA funds to state and local government for community response/recovery	"It may not be the number one factor, but grant funding, relief funding, etc. has made a major impact on the ability of health departments, cities, universities, researchers and others to do this work."	"[O]pened up more resources. Now it's a firehose. People don't have the capacity to do everything. That's one win."
Community-Based Workforce Employing CHWs (trusted advocates, educators, liaisons) as vaccination champions	"CBOs and FBOs on the ground efforts. Especially the Black churches; their efforts with the testing recruitment were followed up with encouragements to vaccinate and practice safe behaviors, including changing the delivery of church services."	"Our health department is fabulous, and they hired Latinos to do door-knocking and they paid a lot of the community development organizations so that all these trusted ambassadors were on the ground and going door-to-door. Our success is proof that hiring members of the community works."
2. INCLUSIVE GOVERNANCE		
Bold Leadership Incorporating health equity into state and local government organizational charts	"I'd love to say otherwise, but so many things come down to top-level prioritization. In this case that amounts to results of political pressure. Our elected leadership has been mostly reactive."	"[We] saw an investment in infrastructure – staff – placed in the response effort that hadn't been traditionally there. A health equity strategist came in to help with planning at early stages. Big win because it was a chance to integrate their work into equitable vaccine distribution."

Data and Feedback Loops Guiding strategic decisions with race/ethnicity data and community feedback	"Good data and a national narrative that centered the issues."	"One of the keys in our state has been better, faster access to data. Our localities seem to have access to at least weekly vaccination data and week-by-week changes, which has helped identify priority areas for emphasis. Our local health departments have tried to focus efforts on those areas. Now the ZIP codes with the largest increases in vaccination are minority populations that have received increased focus."
3. REAL WORLD FIT		
Tailored Communication Aiding individual vaccination decision making with ongoing and culturally appropriate information	"Information has been the key; while I feel that it can be over-emphasized at times, the need is real and extremely important to communicate, especially for those who work in the healthcare segment. We need to go into the communities that are not getting this information and try to have forums where we can give this information out […]."	"We first sought to understand rather than to be understood. We need more listening sessions – give people a chance to explain their position. I feel that this will advance what we are doing in a much more significant way."
Broken Access Barriers Designing vaccine delivery systems around end user convenience, comfort, and confidence	"Taking vaccines out to communities who are most vulnerable and least served by medical institutions."	"A Latino supermarket was doing vaccinations right in the market, and I think that was good!"
Whole Person Care Bundling vaccination with resources and services that help with other needs (eg, food, housing)	"Focusing on vaccine acceptance while ignoring the other longstanding injustices is not the foundation for a long-standing or trust-based relationship between communities of color and public health."	"We've also taken opportunities to offer wraparound services to address overall health equity – very successful – providing vaccines and immigration, voting, and food security services."

Abbreviations: ARPA, American Rescue Plan Act; CARES, Coronavirus Aid, Relief, and Economic Security; CBO, community-based organization; CHW, community health worker; FBO, faith-based organization.

The purpose of this section is to document strategies that have worked to date, so that jurisdictions still struggling with vaccination equity and/or unequal health outcomes can adapt, implement, and scale up approaches as appropriate. It is also meant to encourage greater public and private sector investment to enable such strategies. While the report spotlights vaccination among adult BIPOC communities, the cross-sector partnerships and hyperlocal community-by-community strategies that have driven improvements in vaccination rates among racial/ethnic minorities are methods that could also improve vaccination rates in other demographic groups (eg, rural White populations). Likewise, community engagement can also be used to address emergent challenges like expanding vaccinations to children aged 5 to 11 years.

$ | 1. Capital Investments

Cross-Sector Partnerships

Organizations and groups from diverse sectors have pooled old and new partnerships to match an immense community need during the COVID-19 response and vaccination campaign.

The logistical and societal challenges related to COVID-19 vaccination cannot be solved by a single individual or organization. Innovative partnerships have been crucial to advancing equity in COVID-19 vaccination. Pulling together have been community-based organizations (CBOs), faith-based organizations (FBOs), community health workers (CHWs), health systems, health departments, universities, businesses, and local government. Partnerships in place prior to the pandemic have been strengthened by the addition of new and unique partners. Working together these groups have been able to expand community outreach, facilitate research and the timely implementation of research results, strengthen local responses via resource sharing, and, most critically, elevate community voices to identify and address gaps in the COVID-19 vaccine rollout campaign.

In Prince George's County, Maryland, for example, the local CommuniVax team administered out of the University of Maryland's Center for Health Equity utilized their preexisting Health Advocates In-Reach and Research (HAIR) program as a key platform for their community engagement and ethnographic research in connection with the coalition. The HAIR program leverages area barbershops and hair salons as "culturally relevant portals for health education and delivery of public health and medical services in the community,"[10] and relies upon collaboration between the university, local business, and local health systems. As the pandemic progressed, the team developed additional partnerships to facilitate this work with organizations including the Black Coalition Against COVID and companies like SheaMoisture. They have also worked directly with the Biden administration as part of the White House-supported "Shots in the Shop" initiative.[11] Their efforts with HAIR are now no longer local—the program is expanding to barbershops, hair salons, and health systems nationwide to improve COVID-19 vaccine coverage in African American/Black communities.

Cash Pipelines

With substantial federal emergency funding available, public health departments have been able to hire CHWs and other high-impact assets to advance equity in vaccination.

Vaccination equity wins made in the United States to date would not have been possible without the financial support of the federal government. Both the Coronavirus Aid, Relief, and Economic Security (CARES) Act and American Rescue Plan Act (ARPA) unlocked billions of dollars of funding for public health response, recovery, and rebuilding. This significant infusion of funding has enabled health departments to staff up, hire CHWs, set up and run vaccination clinics, and expand their community outreach. While accessibility of this funding remains a persistent challenge, especially for CBOs, this historic reinvestment in public health has shown that achieving health equity is no longer an unfunded mandate (Table 1).

Resource pipelines at the state level have also been transformative for health equity. In Maryland, the home of 2 CommuniVax local sites, a series of legislative victories in the 2021 General Assembly unlocked a $14 million allotment to address health disparities.[12] Grant funds will be prioritized for high need areas, financing community organizations, nonprofit hospitals, federally qualified health centers, higher education, and local government agencies for up to 2 years. New funding streams have acknowledged the need to not only provide vaccinations, but also bolster capacity for health literacy, science communication, and community-based workers to address vaccine hesitancy.

Community-Based Workforce

The community health workforce has brought equity-enhancing assets to the COVID-19 vaccination campaign including practical insights, community trust, and the experience of being there themselves.

CHWs have been key partners in many COVID-19 vaccine promotion efforts, being uniquely positioned to broker trust between marginalized communities and the health sector and to promote vaccine acceptance while addressing other health priorities of these communities.[13-15] According to the American Public Health Association's definition, endorsed by the National Association of Community Health Workers, a CHW is "a frontline public health worker who is a trusted member of, and/or has an unusually close understanding of the community served. This trusting relationship enables the worker to serve as a liaison/link/intermediary between health/ social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery."[16]

In South San Diego, California, for example, CHWs (*promotores[as]* in Spanish) are trusted community advocates, educators, and liaisons, who have served as powerful champions of COVID-19 vaccination among Hispanic/Latino populations. Recognizing these unique capabilities, the city's Department of Health and Human Services has established a new Department of Homeless Solutions and Equitable Communities, which will work toward further integrating *promotores(as)* into the local health workforce.[17] Throughout the global COVID-19 vaccination rollout, CHWs play important roles in planning, coordinating, and overseeing vaccine distribution; identifying vulnerable populations of interest; promoting vaccine acceptance; mobilizing communities; and tracking vaccine uptake.[18]

Table 2. Crosswalk of Opportunities from the American Rescue Plan Act of 2021 and CommuniVax Policy Recommendations (Issued November 2021)

American Rescue Plan Act of 2021 Funded Initiatives	CommuniVax Recommendations				
	Carry Over COVID-19 Response Connections – Do Not Demobilize	Provide Sustained, Flexible Funds that Reach the Community	Energize Public Health with a Community-Centric Infrastructure	Develop Data Systems that Facilitate Accountability for Equity	Apply a Diagonal Policy Approach to Advance Health Equity
Behavioral Health Workforce Education and Training[19] $100 million in funding for grants to institutions for workforce training.	x		x		x
Community-Based Funding for Local Behavioral Health Needs[19] $50 million in funding to state, local, tribal, and territorial governments to address community behavioral health needs.	x	x	x		x
Certified Community Behavioral Health Clinic Expansion Grant Program[20] $420 million to fund program, increasing access to community behavioral health clinics.	x		x		x
Community Health Centers[21] $7.6 billion to federally qualified health centers and to Native Hawaiian healthcare systems.	x		x	x	x
Community Mental Health Services Block Grant[19] $1.5 billion allocated to states to support community-based mental health services. Counties can use block grant funds.[22]	x		x		x
Coronavirus Capital Projects Fund[23] $100 million to each state. Tribal governments and territories will split $100 million allotments. These funds are allocated for critical capital projects directly enabling work, education, and health monitoring in response to COVID-19.	x	x		x	x
Emergency Food and Shelter Program[24] $510 million to support community organizations provide food, shelter, and supportive services to people with economic emergencies. Eligible to local nonprofit, faith-based, and governmental organizations.	x	x			x
Emergency Management Performance Grants[19] $100 million to state, local, tribal, and territorial emergency management agencies.	x		x		x
Emergency Rural Development Grants for Rural Health Care[19] $500 million for emergency pilot program for rural development needs related to COVID-19.	x		x		x

Program					
Grants to States, Localities, Tribes for Vaccines[19] $7.5 billion including technical assistance, and grants distributed through existing cooperative agreements.	X		X	X	X
Local Assistance and Tribal Consistency Fund[25] Public land counties: $1.5 billion, over FY2022 and FY2023 Tribal governments: $500 million, over FY2022 and FY2023	X				
Local Fiscal Recovery Fund[26] Counties: $65.1 billion Cities: $45.57 billion Tribal governments: $20 billion	X	X			X
Modernizing the Public Health Workforce[27] $3 billion for the CDC to create a new grant program for public health departments to permanently employ CHWs and others that were hired during the COVID-19 response. The CDC will convene federal, state, local, and territorial public health experts to inform the design and focus of this new grant program. Details still to be determined as of October 2021.	X	X	X	X	X
National Health Service Corps[19] $800 million in funding to National Health Service Corps Scholarship Program, the National Health Service Corps Loan Repayment Program, and state loan repayment programs.	X		X		
Nurse Corps[19] $200 million in funding for federal loan repayment and scholarship program for nurses.	X				
Public Health Workforce[19] $7.66 billion to sustain public health workforce, including grants to state, local, and territorial public health departments.	X	X	X		X
PROJECT AWARE[19] $30 million in grants, contracts, cooperative agreements to states, tribes, and other entities to advance wellness and resiliency in education.	X		X		X
Vaccine Confidence Education[19] $1 billion in funding to the CDC to support education and vaccine confidence efforts but included in this is funding to the Rural Health Clinic Vaccine Confidence Grant Program.[28]	X		X	X	

This crosswalk matches CommuniVax policy recommendations with federal funding streams from the American Rescue Plan Act of 2021.[25] As a result of programs under this legislation and others, state, tribal, local, and territorial public health authorities have various buckets of funding to put towards achieving health equity goals for COVID-19 and beyond. The currently pending Build Back Better Act of 2021 has public health appropriations as well. Due to the evolving content in the draft bill, this Crosswalk focuses only on the American Rescue Plan. As of October 28, 2021, draft text of the Build Back Better Act cites $6 billion to CDC for "core public health infrastructure" for state, territorial, and local health departments, including health equity activities, workforce capacity and competency, policy, financing, and communications.[29] Abbreviations: CDC, US Centers for Disease Control and Prevention; CHW, community health worker; FY, fiscal year.

2. Inclusive Governance

Bold Leadership

No luxury of time and mounting pressure required leaders to experiment, bring new people onto the team, and actively integrate health equity into decision making.

Due to the urgency of responding to the pandemic, forward-looking public officials have brought health equity in at the strategic level and institutionalized it as a priority by creating new positions of power and authority. A number of jurisdictions hired health equity strategists early on to help with planning an equitable COVID-19 vaccine rollout. Others stood up equity workgroups and taskforces which led to movement of equitable policies, such as offering paid leave to get vaccinated, through state legislatures. Some states appointed cabinet level diversity, equity, and inclusion officers, not as tokens but as resourced and empowered decision makers during the crisis.

Elected and appointed leaders have also demonstrated flexibility and new mechanisms for accountability by holding online townhalls and meetings that provided more community members with greater access to decisionmakers. In some instances, these virtual connections may have built trust and opened the doors for more community partnerships with local government, including with members of racial and ethnic minority groups. Outside-the-box leadership has also encouraged a shift away from mass vaccination clinics to approaches that bring vaccines to the people, in spaces where they feel safe. Community events that have offered vaccination alongside hot meals, primary care screenings, and voter registration have been instrumental in reaching vulnerable people in Immokalee, Florida.[30]

Data and Feedback Loops

When decisionmakers have had grassroots input and hard data (eg, COVID-19 cases and vaccination rates by ZIP code), service delivery has better matched BIPOC community needs in the pandemic.

Over the course of the pandemic progress has been made in effectively using race and ethnicity data to direct support and public health responses.[31] Many states and counties have started implementing data sources like the CDC Social Vulnerability Index (SVI) in their decision-making processes during the pandemic.[32,33] The Massachusetts Health Department, for example, used the SVI to identify COVID-19 testing disparities and shift resources accordingly to address gaps and later to shape the state's COVID-19 vaccine allocation plans.[34] The Massachusetts Office of Minority Health also used SVI data to identify communities of color that were being disproportionately affected by the pandemic, which informed development of communication strategies specific to these communities. More recently, CDC has developed a Minority Health SVI to specifically track and quantify social vulnerability in communities of color. This will be a valuable tool for future efforts aimed at reducing health inequities.[35,36]

Recognizing that community insights lead to more effective public health interventions, many new initiatives worked to create feedback loops for key decision makers. Across the country,

CBOs, FBOs, and other groups talked with community members, hosted regular public forums, and worked to bring concerns to the policy makers that could provide meaningful insight in how COVID-19 vaccine delivery could be improved. In North Carolina, the Latinx Advocacy Team & Interdisciplinary Network for COVID-19 (LATIN-19) hosted weekly meetings throughout the summer of 2020 that allowed hundreds of community members to express their thoughts on the COVID-19 vaccine rollout directly to health system leaders at major healthcare networks in the area.[37] These conversations allowed leaders to identify key barriers to vaccine access in under-vaccinated Latino populations and then address them.

3. Real World "Fit"

Tailored Communication

Delivering accurate, culturally competent, and language-appropriate information—in a nonjudgmental, ongoing conversation—has contributed to a more equitable COVID-9 vaccination campaign.

Although it is not a solution in and of itself, communication is an integral part of vaccine and health equity promotion. While other sources provide guidance on messaging, the work of local CommuniVax teams and other COVID-19 vaccine equity initiatives have demonstrated the need for community involvement—specifically, working with communities as partners, not as audiences to persuade. Iterative interactions with community members have greatly facilitated the ability of local and state entities to deliver accurate, culturally competent, and language-appropriate messages to address the specific concerns/needs of local populations. This approach also provides insight into how these messages can best be deployed, for example, through most appropriate and meaningful channels (like radio ads or TikTok posts) or trusted community voices. Repeated interactions with community members also facilitate progress on issues that are difficult to address using only 1-sided messaging campaigns.

In Prince George's County, Maryland, for example, interactions with African American/Black community members often involved community members referencing the Tuskegee Syphilis Study as a justification for vaccine hesitancy or refusal. The local CommuniVax team, along with their partners, worked to address this. Through repeated town hall meetings, interpersonal communications, and partnerships with Omar Neal, the former mayor of Tuskegee, Alabama; the Voices of Our Fathers Legacy Foundation; and the Ad Council they were able to reframe this narrative. While acknowledging that the Tuskegee study remains a powerful symbol of unethical and inhumane treatment and that discrimination in the healthcare system is ongoing, the continual communication efforts by these champions have sought to highlight how the situation with COVID-19 is very different from what happened in Tuskegee, where treatment was withheld. With COVID-19, their community-appropriate message was that African American/ Black individuals can reap the benefits of health research by accepting offered vaccinations. Through these ongoing conversations local perceptions of COVID-19 vaccines are evolving.

Broken Access Barriers

Vaccine delivery strategies for the convenience, comfort, and confidence of the end user have facilitated higher rates of COVID-19 vaccination coverage among BIPOC community members.

Resolving access barriers has been crucial to ensuring equitable uptake of the COVID-19 vaccine and resources. Early on, many BIPOC communities faced barriers that prevented them from obtaining vaccines even when they wanted to be vaccinated. Barriers included a lack of transportation, lack of culturally or linguistically appropriate information, lack of internet access and/or online literacy to make online vaccination appointments, and the inability to take time off work to receive vaccines when vaccine locations were open. Recognizing these issues, jurisdictions throughout the United States have adapted how vaccines are delivered to improve community members' access to vaccines.

In Idaho, the local CommuniVax team determined that undocumented Hispanic/Latino workers were anxious about going to a government-sponsored office—specifically, Southeastern Idaho Public Health (SIPH)—to get vaccinated. The workers feared having to show proof that they were in the United States legally. The research team worked with SIPH to develop and distribute a flyer expressly stating that a person did not have to show documentation as a requirement to receive a vaccination through the public health department. At the same time, SIPH removed language from its intake form that stated information would be shared with insurance providers. Insurance providers only insure those who are documented, so this language could deter individuals without social security numbers or state-issued identification from seeking vaccines.

Whole Person Care

Making COVID-19 vaccinations available alongside services for other needs such as food insecurity, unemployment, and immigration concerns has advanced equity in the pandemic response.

Bundling vaccination services in with other important resources and services has been an equity win in 2 important ways. By applying a wraparound service model, public health authorities have concretely shown commitment to the whole person and their diverse needs that extend beyond simply getting vaccinated. Moreover, by integrating vaccination with more frequented community services, health authorities have reduced the logistical burdens on residents when accessing vaccines.

In Virginia's Hampton Roads region, for example, the Hampton Redevelopment and Housing Authority has worked with Eastern Virginia Medical School and the city to facilitate vaccination efforts. This organization more routinely helps low-income residents have access to affordable housing and other basic services. During the pandemic, the Housing Authority also provided information about COVID-19 vaccines and existing vaccination efforts to community members, building off advocacy materials developed by the local public health officials.

Similarly, in New Orleans, an EMS Homebound program offered vaccination alongside relevant social supports such as food, Medicaid assistance, mental health counseling, and domestic violence support. As of July 2021, this program had reached more than 360 of the city's most vulnerable residents.[38] This more holistic and creative approach to vaccination has brought nonhealth-oriented community players to the scene including census and civic engagement

organizations. In their health equity work, these entities have drawn attention to systemic racism within US health systems and anchored issues concerning the health of low-income communities of color within a larger framework of structural reforms such as voter redistricting and wealth redistribution.

Box 1. CommuniVax Local Teams' Wins at Advancing Equity in Vaccination: Intervening Just-In-Time

Alabama: In early 2021, the Alabama state government had decided to utilize the Federal Retail Pharmacy Program to provide vaccines to state residents. The Alabama CommuniVax team recognized that there was a lack of pharmacies in many of the predominantly African American/Black counties in their study area, which comprised part of the state's Black Belt. They utilized their university network to generate a series of GIS maps depicting the state's sparse retail infrastructure and the potential gaps in a vaccine delivery strategy that relied solely on the Federal Retail Pharmacy Program to reach state residents. Through a chain of social connections, they met and then enlisted the help of a highly respected former military officer and community leader who shared these maps with state public health and policy leadership. As a result of these efforts, the state government deployed the National Guard to shore up the vaccination efforts in these counties through mobile vaccination clinics.
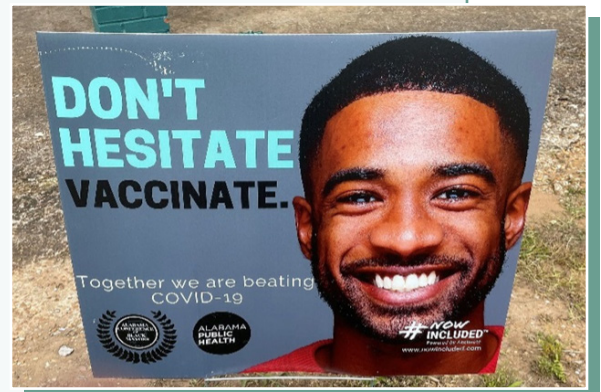
Photograph by Bronwen Lichtenstein

Maryland (Prince George's County): In January 2021, the governor of Maryland described African American/Black and Hispanic/Latino residents of Prince George's County as "refusing to take the vaccine" because vaccine uptake was lower than expected by population size. In fact, the issue was one of access, not of choice (ie, hesitancy): Limited vaccine supply, complex online registration systems, the geographic placement of clinics, and conflicts between work and clinic hours contributed to disparities in who was getting vaccinated. The local CommuniVax team worked diligently to correct this distortion that obscured the need to improve vaccine delivery strategies and enraged community members who, despite all their efforts, had been unsuccessful in seeking the vaccine. The local team has actively influenced the broader discourse about the experiences of African American/Black and Hispanic/Latino persons in relation to COVID-19 vaccines through interviews, publications, presentations, and webinars/townhalls, and fostered greater trust in the rollout. As a community member shared after one of the team's town hall meetings, "This was great. [...] I'm gonna do my part to educate/inform the importance of getting the vaccine."

Box 2. CommuniVax Local Teams' Wins at Advancing Equity in Vaccination: Brokering New Relationships

California: While engaging with community members experiencing homelessness in San Diego, the California CommuniVax team learned that some of these people were concerned about seeking out vaccinations because of the issue of being a public burden (public charge) and having this negatively affect their immigration/residency status. The team members were able to connect these individuals with San Diego County's Home Outreach Team who was able to work with these individuals. The Home Outreach Team later followed up with an outreach summary detailing the ways in which they were able to help these and other people in similar situations.

Maryland (Baltimore): Latino immigrants were largely absent from the concerns of the local public health department, until they became overrepresented among adults hospitalized for COVID-19. To assist members of this community to become advocates for themselves, the local CommuniVax team used PhotoVoice and social mapping to allow local Hispanic/Latino community members to share their own stories about the pandemic. This culminated in 2 public displays of captioned photos and maps, hosted

in a public space as part of the Latino Heritage Month celebrations. Local and state political leaders attended the display and community participants were able to share their experiences with these leaders directly. An extension of these conversations took place when participants took part in 2 online townhall meetings. They discussed the topics included in the research and were also able to describe their experience as research participants. One participant emphasized the importance of their experience: "Thank you for giving us the opportunity to be heard. This is the first time someone asked for my opinion. This has changed my life."

Box 3. CommuniVax Local Teams' Wins at Advancing Equity in Vaccination: Creating Future Change

Idaho: The local CommuniVax team took an all-hands-on deck approach to reach out to local Hispanic/Latino residents. Leveraging existing connections with local public health and others, the team also hired 20 Idaho State University students, many of whom were Hispanic/Latino, bilingual, and members of the community the team was trying to reach. These students were able to serve as ambassadors of health and evidence-based practice to their local communities, while receiving training and experience that has influenced future career choices. Five students involved in the research are now interning at Health West (a federally funded, community health center) and Southeastern Idaho Public Health, where they continue to promote COVID-19 vaccination and improve health equity. Others are planning careers in medicine, pharmacy, physical therapy, respiratory therapy, and public health; this next generation of health professionals can strengthen the region's now frail healthcare and public health systems.

Virginia: As part of their efforts to work with community members in the state's Hampton Roads area, the local CommuniVax team was instrumental in providing digital communication equipment and training to community members—capabilities that became even more important during the pandemic, because they facilitated ongoing engagement with the group's Community Advisory Board despite physical distancing requirements. The material resources and training strengthened the COVID-19 vaccination rollout (eg, promoting dialogue about vaccinations and enabling greater access to vaccine information) and they provided opportunities for greater inclusion of poor, African American/Black adults. The team and its community partners are now at the forefront of the national conversation on how to create a more equitable pandemic recovery by bridging the digital divide in low-income communities.

In sum, 11 months into the vaccine rollout, an assessment conducted by CommuniVax stakeholders of the US COVID-19 vaccination campaign suggests that certain operations have had a positive impact on health equity, by broadening vaccination coverage within communities of color; emergency federal financial support has accelerated the application of effective practices; and states and localities now have examples of successful approaches that they can replicate, adapt, and/or scale up as they continue with the pandemic response. Based on these findings, we offer a set of practical prompting questions with which top government and public health officials can begin to assess if and how they are applying, facilitating, and/or resourcing COVID-19 vaccine delivery strategies that match BIPOC community member needs, now and moving forward (Table 3).

Table 3. A Quick Assessment for Local/State Government and Public Health Leaders: How Are You Promoting COVID-19 Vaccine Equity Wins that Can Endure?

State, Tribal, Territorial, and Local Health Officers	Mayors and County Supervisors/Executives	Governors and State Legislators
1. CAPITAL INVESTMENTS		
Cross-Sector Partnerships		
How will you keep new, response-driven community partnerships alive, to address broader community health issues postpandemic? What plans do you have for documenting and acknowledging partners?	Who in your office serve(s) as bridge builder among vaccination implementers, the interagency realm, and partner organizations in the community? Are they resourced to maintain ties going forward?	What state-level mechanisms are in place to document and assess the organizational adaptations arising in the COVID-19 response, including an expanded CBO and FBO role? How will future pandemic and resilience planning incorporate more community voices?

Cash Pipeline		
Do you have financing mechanisms in place (eg, direct service contracts, MOUs) to disperse funding to CBOs and FBOs?	Have you resourced and empowered community members as co-developers of the frameworks for spending ARPA and CARES funding?	Are you being transparent with your constituents about where remaining response funding lies, and how CBOs, FBOs, and health departments can access it?

Community-Based Workforce		
Have you worked with CHWs in your jurisdiction to perform targeted outreach to BIPOC communities? Have you built relationships with CBOs, FBOs, healthcare and social service organizations, unions, advocacy groups, and other relevant grassroots institutions?	Have you directed local health department leaders to conduct community health needs assessments to inform a cohesive CHW strategy?	Have you formed a CHW advisory committee or task force to advise on matters pertaining to accreditation and compensation of the community-based workforce?

2. INCLUSIVE GOVERNANCE

Bold Leadership		
Have you hired a health equity strategist to help inform COVID-19 vaccination efforts and follow-on public health activities?	Have you elevated health equity issues in your administration and propelled interagency planning on social determinants of health?	What is the role of the state-level health equity workgroup/taskforce, beyond the acute need of COVID-19 vaccination? How will its accrued knowhow and experience be put to ongoing use, including to inform future legislation?

Data and Feedback Loops		
Have you developed a regular and reliable method (eg, community forums, listening sessions, surveys) to gather actionable insight from community members during the COVID-19 vaccination campaign?	What resources have you made available to the local health department, CBOs, FBOs, and others to generate and maintain community feedback loops to vaccination implementers?	During the pandemic response and COVID-19 vaccine rollout, how have race/ethnicity data and other health equity measures been used in planning and in allocation decision making?

3. REAL WORLD "FIT"

Tailored Communication		
Have you staffed up your department, partnered with community groups, and/or drawn resources from other health departments that allow you to deliver linguistically and culturally competent vaccine information?	What interagency resources have you directed to support communications about COVID-19 vaccination and other critical community services? Have you rolled up your sleeves and served as a role model?	Have you adequately resourced health departments for effective ongoing, tailored communications (eg, ability to hire staff with linguistic and cultural competence and to use all communication channels)?

Broken Access Barriers		
What steps have you taken to institutionalize creative vaccine delivery (eg, mobile health clinics, workplace vaccination, home vaccine programs for older adults and disabled persons)?	In connection with CARES and ARPA funding decisions, how do you plan to act on lessons about barriers to vaccine access (eg, the digital divide) made even more obvious during the pandemic?	What policies can you put into place so that health systems, health departments, and their partners can flexibly meet community access needs?

Whole Person Care		
To what extent have you facilitated the bundling of vaccines with other community services? In planning routine immunization campaigns (including flu) will you incorporate a wraparound services model?	How have you motivated and resourced local public agencies to work together and with community partners to deliver holistic approaches to vaccination?	Have you established policies that can enable reimbursement and tracking mechanisms to facilitate implementation of vaccination and health service bundling?

Abbreviations: ARPA, American Rescue Plan Act; BIPOC, Black, Indigenous, and people of color; CARES, Coronavirus Aid, Relief, and Economic Security; CBO, community-based organization; CHW, community health worker; FBO, faith-based organization; MOU, memorandum of understanding.

Actions Recommended to Sustain Equity Wins

At this point in the COVID-19 vaccination campaign, CommuniVax stakeholders also considered what it would take to sustain the equity wins they identified—first, and urgently, to ensure a continuous upward tick in vaccination rates across social groups, and second, to roll the larger enterprise forward, past the acute stage of the pandemic. Their answers exhibited 5 major themes (Table 3), which framed and informed the development of the recommended actions presented here. To aid implementation are 2-page briefing documents that outline specific tasks or action items that state, tribal, local, and territorial public health officers; mayors and county executives/supervisors; governors and state legislators; and members of Congress can undertake, given respective authorities and scopes of work (Appendixes A, B, C, and D).

Table 4. Sample Stakeholder Quotations Taken from National Survey and Listening Sessions, October 2021 – Conditions to Sustain Health Equity "Wins" After the Pandemic

How to Sustain Momentum	National Stakeholder Survey "How can health equity 'wins' within your region/state/local jurisdiction's COVID-19 response—including the vaccination campaign—be sustained beyond the pandemic?"	Listening Sessions "What will it take to sustain the equity gains made during COVID-19 long term? After federal funding and this 'moment' pass, what improvements in policy and practice are still needed?"
Do Not Demobilize - Value and Continue Building Robust Partnerships	"By continuing to foster the relationships built during the pandemic and offering more services/information for the advancement of individual and community wellbeing during the pandemic so that public health officials and their work can be seen as more than helping to end a pandemic and be seen in a more overall helpful, more trustworthy way. So don't just hold vaccination events but community wellness events that include other things besides simply getting people vaccinated."	"Hotels for quarantining folks [...] we can't just let that go. We built up infrastructures during COVID[-19] despite not knowing if FEMA would reimburse us (they did), and now that we have those infrastructures, we need to keep them to make sure that people get housing."
Provide Sustained, Flexible Financing that Reaches the Community	"We are proposing ARPA fund to use to build infrastructure to support CHL(s) in every region of the county. Some sustainability is anticipated with reimbursable deliveries (eg, through federal, state, county, and local systems) and supplemental grants/funding."	"We have to provide organizations with flexible funding—federal grants are not flexible and have onerous reporting requirements. [...] We also need funders to take chances with organizations that may not have leaders with an MPH but have strong community relationships."
Modernize Public Health with a Community-Centric Infrastructure	"This will require an ongoing effort at training black and brown people in the health sciences, including medicine; intentional effort to hire health sciences people to match the community they serve; and ongoing cultural sensitivity training and discussion."	"Engagement opportunities will be critical. [...] All of a sudden the population is receiving attention and services—it further traumatizes the community when things and programs are cut off and they aren't included in the planning, whether for health equity or for education."
Develop Data Systems that Facilitate Accountability for Equity	"State general assembly dollars committed to health equity, data infrastructure to include S[D]OH indicators and other metrics to show inequities within specific populations."	"Required documentation of race and ethnicity has been a win, but we need to continue that, [and there are] big challenges with data exchange—not speaking the same terminology when talking about race and ethnicity—diminishing data quality."

| Implement a Diagonal Policy Approach for Health Equity | "CHWs and CBOs were doing this work before the pandemic and they [will continue] afterward. They just need adequate funding and support to sustain the larger workforce. CHWs/CBOs address health equity from a holistic perspective, address many SDOH. Other vaccination campaigns that have sprung up during the pandemic are doing great work but are unable to address other needs such as food, housing, mental health, etc., making them unsustainable for the future." | "[We need] sustainable public health funding and connecting public health more clearly to the health system where all the dollars are (!), and we need to work to open up those dollars to addressing the social determinants of heath like we've been discussing. Let's use COVID[-19] to connect these systems more thoughtfully."" |

Abbreviations: ARPA, American Rescue Plan Act; CBO, community-based organization; CHL, community health leader; CHW, community health worker; FEMA, Federal Emergency Management Agency; SDOH, social determinants of health.

☑ 1. Do Not Demobilize – Value and Continue Building Robust Partnerships

Creative, cross-cutting COVID-19 partnerships—borne of tragedy and powered by resolve—cannot be allowed to dissipate once the acute stage of the pandemic subsides and people begin to move on.

Responses to the COVID-19 pandemic have forged new and strengthened partnerships across diverse stakeholders—CBOs, FBOs, CHWs, health systems, public health, businesses, universities, and government/policymakers. These partnerships—many unprecedented—have in turn facilitated improved COVID-19 vaccine coverage and advanced health equity. Moving forward it is essential that these partnerships remain intact and continue to grow. CBOs, FBOs, and CHWs can lead in developing culturally competent health interventions and operate as co-creators with health systems and public health departments in health activities beyond COVID-19 (eg, addressing community needs around diabetes, heart disease, cancer). By working together on issues that resonate with local communities, greater equity in health is possible as is greater community trust in public health and medicine.

One of the most difficult issues in promoting COVID-19 vaccination during the pandemic has been a lack of trust in the health system, particularly within Black communities. The long history of unequal treatment in public health and healthcare, ongoing health inequity, and consistently inadequate responses to issues community members deemed important led some to ask, "Why now?" and "Why us?"[7] Partnerships with community institutions—particularly partnerships that include community members—assist in addressing specific issues and they function to improve trust. In this way maintaining and growing the partnerships that have existed during the COVID-19 pandemic provide both a way forward and a way to prevent a lack of trust from dampening public health efforts in the future.

2. Provide Sustained, Flexible Financing that Reaches the Community

Public financing structures should evolve to accommodate the organizational capacities of CBOs and FBOs, whose strengths are direct access to, trusted ties with, and deep knowledge of underserved groups.

While ARPA has been transformative in accelerating COVID-19 response efforts, the trickle down of funding through state and local governments to the hands of community members has been slow at best. As of November 2021, many CBOs and FBOs still have not seen any ARPA funding, and transparency about where the money sits and what frameworks will guide disbursement is poor. To avoid these challenges in the future, federal financing structures must be retooled to be more flexible, with less burdensome "requests for proposals" and community-defined metrics for success. A recent poll of several hundred organizations that attended a webinar providing support for federal grant applications, co-hosted by the Community-Based Workforce Alliance, revealed that federal funding remains inaccessible for many community groups.[39] Lengthy request for proposal processes on relatively short notice place an undue burden on CBOs and FBOs. Eligibility and reporting requirements often are barriers to applying for many Health Resources and Services Administration and CDC grants, despite best intentions at these agencies.

Given the long history of boom-and-bust funding cycles in public health, the onslaught of funding during the COVID-19 response with no long-term planning is especially harmful to communities who have lacked resources in the past and where trust is only beginning to be rebuilt.[40] Intentional efforts must be made for smart and equitable long-term investment of the massive federal dollars coming to states and local jurisdictions, which requires that the community to be at the table, from the outset and for the long haul, as active partners in planning and decision-making processes.

3. Modernize and Energize Public Health with a Community-Centric Infrastructure

An equity-driven US public health system requires stable and sufficient funding, a workforce that mirrors the communities that it serves, and a governance model that elevates community needs and voices.

Steadfast core funding for the public health infrastructure is necessary to sustain dual capacity to respond to emergencies successfully in the future and to address routine health problems like diabetes, heart disease, and asthma that affect communities of color in greater numbers.[41] Dependable, foundational support should follow seamlessly upon the short-term investments made via the COVID-19 emergency supplemental funding. Without adequate financing flowing regularly to maintain an agile public health infrastructure, the well-known and dreaded "neglect-panic-repeat" cycle of public health support will remain unbroken, diminishing public trust, especially within communities of color.[40,42-44]

Workforce development is critical for public health infrastructure revitalization. During the COVID-19 pandemic, public health practitioners have worked exhaustively, been targets of public frustrations, and seen their expertise and authorities challenged in a politically volatile environment.[45] In the next few years, nearly half of the local and state health department workforce is likely to depart—due to retirement, private sector opportunities, and/or stressful pandemic demands.[46] The current workforce and its institutional memory require protection, and the new generations of the workforce should also reflect greater parity in an increasingly diverse nation with persistent health inequalities.[47]

Public health system governance—ie, persons and processes for priority-setting, resource allocation, and community engagement—requires equity-driven enhancements.[48] Organizational shifts to move issues critical to communities, especially marginalized communities of color, to the center of health department planning and operations include: recruitment, training, and retention strategies to reverse underrepresentation of racial and ethnic groups in top executive and science positions; sustained funding and strong remit for a health equity strategist in/ above the department; and, institutional mechanisms and a social and community proficient workforce to engage BIPOC community members meaningfully in public health programming and planning.[49-51]

4. Develop Data Systems that Facilitate Accountability for Equity

The United States requires the development of robust and sustainable data systems to monitor, evaluate, and motivate action on health inequity by all sectors.

Looking ahead, it is crucial that funding and attention are given to build and maintain transparent, accurate, and longstanding data capture systems.[31] These systems will play an important role in tracking over time the impact of interventions aimed at supporting health equity and how government and community leaders can maintain accountability to addressing these issues.

To support development of data systems, definitions of race and ethnicity classifications and terminology need to be standardized, as inconsistent terminology can impact data quality. To achieve this, a national-level working group should be convened and build on any previous efforts[52] to provide updated definitions and guidance on terminology to use in tracking health disparities across different racial and ethnic groups. Communities of color need to be engaged directly in shaping these discussions to ensure that the updated terminology is culturally competent and accepted.

Data collection, however, is only part of the equation. Effective use of these data sources, and dissemination of findings, are crucial for shaping future strategies to reduce health inequity and fostering progress. Funding should support concerted efforts to train community organizations, public health leaders, state and local health organizations, and other relevant stakeholders in robust approaches for collecting and analyzing data that would be necessary for highlighting their community's needs.

These stakeholders should also receive training and support in how to use a changing information and social media landscape to best illustrate their findings in meaningful and compelling ways that can leverage the power of storytelling. For example, organizations such as the National Association of Counties have developed resources to capture stories of community members and public health stakeholders to better capture the importance of their work and relevant issues.[53] Storytelling approaches not only provide more tangible and illustrative examples of key issues, but they can also empower individual voices in the community that would otherwise not be heard and trigger direct action.[54]

5. Implement a Diagonal Policy Approach to Advance Health Equity

Health equity requires a cross-cutting, multilevel strategy: meaning, policy improvements that solidify the community health system, strengthen the safety net, and remediate root causes.

Political and financial commitments to robust, integrated systems of community health—wherein individuals, families, CBOs, FBOs, CHWs, social service providers, and other stakeholders are in sync with each other and with community health priorities—are essential to supporting BIPOC communities during COVID-19 and beyond. Such integration could also reduce the need for costly, just-in-time, top-down or so-called vertical approaches to mitigating health emergencies, wherein ad hoc, disease-specific systems of care and service provision like COVID-19 vaccination run parallel to legacy institutions that form the US social safety net.

A Health in All Policies approach or interventions grounded in the social determinants of health framework could help tackle complex public health challenges like integration, given that nonhealth sectors and stakeholders (eg, business, finance, transportation, public works, cultural institutions) play valuable roles in shaping community health.[55,56] Such approaches have proven effective across the world.[57,58] Policies that strengthen the social safety net can mitigate the health consequences of socioeconomic inequities and shield high-risk communities from disproportionate rates of illness and death during crises like COVID-19. Such policies might include paid sick leave, unemployment assistance, paid maternity leave, government-subsidized childcare, affordable public housing and eviction moratoriums, and food assistance. Enlisting CHWs to help connect members of marginalized communities to these services—plus advocating for health behaviors like COVID-19 vaccination—could help improve integration of Health in All Policies and social determinants of health approaches in policymaking efforts targeting health inequities in the United States.

Because Health in All Policies and social determinants of health-focused approaches are useful for meeting immediate social needs and identifying proximal social risks, policymakers and practitioners should also consider upstream structural reforms for addressing the distal root causes of health inequities.[59,60] This approach could help prevent or undo harm in BIPOC communities. Though structural reforms like wealth redistribution, voter redistricting, progressive taxation schemes, and pro-union legislation are less politically attractive than the so-called "medicalization of inequality," such measures are ultimately needed both to address health inequities at their source, and to consolidate and build political power within BIPOC communities, thereby enabling these communities to exercise more agency over matters of health.[61-63]

Lessons Learned as a Rapid Ethnographic Research Coalition

Using rapid ethnography and community engagement techniques, the CommuniVax Coalition has worked to broaden COVID-19 vaccination coverage within hard-hit BIPOC communities *and* to spur on the development of public health systems in which community members co-create strategies to resolve pandemic-produced hardships and advance their health and wellbeing going forward. Here, we offer 5 observations for government officials, public health authorities, university researchers, and others to consider as they work to improve the COVID-19 response/ recovery, and to plan future pandemic risk reduction and preparedness activities, with equity in mind. They incorporate reflections on our collective experiences over the past 12 months and outcomes of a self-assessment of the coalition' work, having developed a logic model to guide the process (Appendix E).

> ### A broad alliance—stretching vertically and horizontally— accelerates the translation of knowledge-to-action on community concerns.

CommuniVax involves interactive efforts and peer-to-peer mentoring between a central working group and 6 local study teams from universities in Alabama, California, Idaho, Maryland, and Virginia. Connected to grassroots leaders and public health officials, these local teams have engaged local communities of color to identify and hasten needed improvements to COVID-19 vaccine delivery and communication, in both rural and urban environments. With expertise in anthropology, community advocacy, public health, public policy, and vaccinology, the central working group has coordinated the local research processes and collaborated with national stakeholder groups, such as the Association of Immunization Managers, to ensure implementation of the Coalition's findings.

Totaling about 100 individuals, the local teams and working group meld advocacy, policy, practice, and scholarship to produce a community of practice with a far reach. At one edge, for instance, are bilingual Hispanic/Latino Idaho State University students who—rooted in the local Hispanic/Latino farmworker communities and trained in qualitative methods by the team's faculty researchers—conducted interviews in a safe, linguistically, and culturally appropriate manner and through these helped inform the local public health district's vaccine delivery strategy. At another, is the science advisor for the White House who—charged with developing the national pandemic preparedness plan—elicited advice from CommuniVax researchers on what the federal government should do to build capacity for effective community engagement.

> ### Effective community partnerships require trust—a foundation cemented with meaningful interactions from the past, and genuine follow-through into future.

To protect against helicopter or parachute research[64,65]—outside researchers gathering data, publishing results without local involvement, and providing no benefit for communities— CommuniVax organizers began by recruiting investigators with established histories of work with local BIPOC communities. Local investigators subsequently organized their project

activities around these authentic, preexisting relationships and they worked through their extended networks to create new trusting relationships with other community collaborators. In Baltimore, for instance, The Center for Salud/Health and Opportunities for Latinos (Centro SOL), the local team lead, has been building trust in the local community since 2014. These preexisting collaborations served as a bridge for an inclusive recruitment and engagement process in research, and they facilitated translational research with CBOs, FBOs, and leaders to address public health issues like food insecurity.

Local CommuniVax teams are continuing to mobilize their partners for community benefit beyond the initial 1-year grant project. The California-based Coalition members are developing actionable guidance for *promotores(as)*, such as the Chula Vista Community Collaborative, on how to partner with state/local government in a joint effort to secure sustainable funding for local community health. With a grant from the Maryland Office of Minority Health and Health Disparities, Centro SOL has recruited a CHW to administer needs assessments and facilitate case management. The CHW—an immigrant and native Spanish speaker who needed support to make ends meet—has become a community leader assisting hundreds of families in need in her community.

In their self-assessments, local teams judged existing social capital as the most essential factor in their success, and the time/personnel to develop additional partnerships as their most limiting factor.

Social science supports an effective emergency response, and it is an essential capability within a modern public health infrastructure.

In July 2020, the Working Group on Readying US Populations for COVID-19 Vaccine (the precursor report to the CommuniVax Coalition) suggested that human factors—including individual/community understandings of disease and perceptions of risk, as well as social factors that affect access—influence whether a vaccine becomes a vaccination, that is, a protective measure is adopted by a real person. The group urged rapid social science that could provide timely data and empirically based advice to improve vaccine delivery.[66]

At their local sites, CommuniVax researchers actualized this vision, functioning in certain cases as a social scientific and risk communication response "annex" to the local public health department. In Prince George's County, Maryland, the local team has supported the county vaccine distribution process by providing data about the residents and their needs to the county's Ad Hoc Vaccine Working Group—a body that engages local health systems, community organizations, and other parties to coordinate the jurisdiction's vaccine efforts and resources.

Since February 2021, the local team in Idaho has held weekly and biweekly conversations with SIPH that enhanced understanding of perceptions about COVID-19 and vaccination coverage in the Hispanic community. A critical observation was the Hispanic/Latino community's emphasis on work—eg, being healthy enough to work, working to put food on the table—as a reason to get tested and vaccinated. With this input, SIPH conducted onsite vaccine clinics at local farms and food processing facilities that predominantly hired Hispanic/Latino workers.

Ethnography and community engagement, methods initially used in the urgent case of BIPOC vaccination, are applicable to any group not yet benefitting from COVID-19 vaccines.

CommuniVax teams have listened as African American/Black and Hispanic/Latino community members explained in their own words what affected their willingness and abilities to be vaccinated. Rather than an education campaign to "correct" misperceptions and unsafe behavior, exchanges have been conversational and nonjudgmental, putting people at ease when sharing why COVID-19 vaccination figures (or not) into their living situations. The Prince George's County team organized vaccine clinics in local barbershops and hair salons; in these trusted community settings, the team readily learned people's viewpoints on COVID-19, helped clients work through misinformation they may have heard, and gave time and space to people not quite ready to get the vaccine.

Similar ethnographic research and community engagement can be used to understand how other groups relate to COVID-19 vaccines. Recent polling indicates that Christian nationalism—an ideology to which 20% of Americans adhere—is one of the strongest predictors of COVID-19 vaccine hesitancy and is negatively associated with having received or planning to receive a COVID-19 vaccine.[67] Understanding where communities are at and why is foundational for public health interventions that work, as is community input in developing interventions. Both approaches can lead to greater public support for COVID-19 vaccination and other public health initiatives.

The ability of university-based researchers to play an "all-of-society" role in crises hinges on community connections, access to decision makers, supportive infrastructure, and media skills.

As part of an "all-of-society"[68] response to a major emergency, research universities fulfill an important public service: applying specialized knowledge to improve the government's capacity for crisis management and the public's capacity for assessing legitimate interventions.[69] In Virginia, CommuniVax researchers have been instrumental in aligning government, higher education, and community sectors around emergency management via the development of a new lay person community advisory panel at the Eastern Virginia Medical School that will integrate lay feedback into all of the medical school's processes, including the role of the institution during the pandemic recovery and future crisis responses.

The US research infrastructure, however, requires some fine-tuning to facilitate university-based experts joining an all-of society response. Some CommuniVax investigators felt a dissonance in the shift from steady state to rapid response: the dramatic step up in pace, the competing pulls of teaching and research, the emphasis on practical application versus theoretical abstraction, the public visibility of the work, and life-and-death repercussions of project outcomes. Some teams felt thwarted by their university's academic processes for human resources and institutional review for human subject research whose cadence did not match the urgency of studies on COVID-19 vaccination access and acceptability in underserved populations.

Moreover, a few investigators did not feel prepared to judge the net value of speaking with reporters given other university demands and/or to deal deftly with media inquiries on pressing yet complex issues. For example, an Alabama-based researcher felt frustrated by a journalist's insistence on elevating hesitancy as the vaccine "problem" for the African American/Black community, rather than acknowledging the structural roots of health inequity in the region.

In closing, we share these observations to encourage greater inclusion of social and behavioral scientists and the practice of community-based research in the public health emergency management enterprise.

Conclusion

Great strides have been made to date in COVID-19 vaccine distribution and uptake. At the end of October 2021, 220.7 million Americans (approximately 67% of the total population) have been vaccinated.[1] Inequities in vaccine coverage between White and BIPOC populations that existed early in the vaccine rollout have—through creativity, collective struggle, and community-led interventions—been steadily ameliorated in certain local areas. However, work remains. Equity in COVID-19 vaccination coverage is still needed in many places throughout the country, and new challenges are emerging, including expanding vaccine coverage to children aged 5 to 11 years. Taking stock of early vaccine equity wins during the pandemic has shown that further integration of community mobilization strategies into the country's public health infrastructure, as well as ongoing political and financial support for this powerful alliance, will produce both immediate and enduring returns in terms of better health outcomes, more community trust, and resilience to future health emergencies.

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Appendix A. Report Summary and Actionable Recommendations for Governmental Public Health Executives

At month 11, an assessment of the US COVID-19 vaccination campaign suggests that certain operations have had a positive impact on health equity (ie, they have broadened vaccination coverage within communities of color), federal financial support has accelerated the application of effective practices, and states and localities now have examples of successful approaches that they can replicate, adapt, and/or scale up as they continue with the pandemic response. Below are recommendations on how state, local, tribal, and territorial health departments can continue to advance health equity, based on the gains made so far. The novel organizational arrangements and refined capabilities now forming under the pressure of the pandemic hold major significance for tackling ongoing community health issues even after the acute stage of the pandemic resolves.

Table A-1. Actionable Recommendations for Governmental Public Health Executives

Report Recommendations	Action Items for State, Local, Tribal, and Territorial Health Departments
Do Not Demobilize – Value and Continue Building Robust Partnerships. Due to the high stakes of the COVID-19 response/recovery (particularly for hard-hit BIPOC communities), an admixture of well-established and newly emergent partnerships carried out complex tasks successfully, including overcoming logistical and attitudinal barriers to COVID-19 vaccination. These alliances are opening care to underserved populations and benefitting everyone through greater community immunity. Meant to be temporary, these productive organizational linkages represent a more evolved system that can help address other complex community health issues into the future.	✓ Institutionalize partnerships made with universities, businesses, CBOs, CFOs, and others to maintain a positive community presence and address ongoing health needs ✓ Create or bolster, positions specific to community outreach and engagement to sustain ongoing health intervention efforts ✓ Establish rolling, long-term MOUs with partners, including other health departments ✓ Incorporate members of the community in future emergency preparedness plans
Provide Sustained, Flexible Financing that Reaches the Community. The CARES Act and American Rescue Plan Act (ARPA) unlocked billions of federal dollars to support states and local government as they shepherd efforts to respond, recover, and rebuild. CBOs, FBOs, and CHWs, working with public health departments, have been essential in efforts to protect BIPOC community health and wellbeing in the pandemic context. Financing structures that CBOs and FBOs can more easily navigate and local/state ARPA planning that includes community voices can ensure that society will derive the full benefits of a community-based workforce now and in postpandemic setting.	✓ In concert with schools of public health and public health institutes, and fueled by funding from health-focused philanthropy, consider hosting robust technical assistance hubs, where CBOs and FBOs applying to federal grants can reference sample proposals and network with peers ✓ Serve as connective tissue among CBOs and FBOs that are new to public health work during COVID-19, facilitating a community of practice ✓ Plan now for sustainable financing for community-based workforces hired during the pandemic, especially CHWs, with livable wages, benefits, and career pipelines

Modernize and Energize Public Health with a Community-Centric Infrastructure. With stable and sufficient funding, the public health infrastructure can respond to emergencies like COVID-19 and address challenges (eg, diabetes, heart disease) prevalent in communities of color. Mirroring the communities it serves, the public health workforce can more readily develop innovative practices, deliver culturally competent services, and devise strategies for social determinants. Community members can actively participate in public health programming and planning (eg, COVID-19 vaccine delivery strategies) when health departments have robust feedback loops and dedicated staff proficient at engaging communities.	✓ Foster workforce resilience revising leave policies with staff input, enhancing mental/behavioral health supports, and working at an interagency level to plan for backfilling staff ✓ Provide steady funding and strong remit for a health equity strategist to lead in assessing health department structures/activities and planning improvements ✓ Make strategic commitment to promote equity in the ranks at every level including boards of health ✓ Regularize feedback loops that allow ongoing community input into planning and programming ✓ Recruit more community proficient professionals (eg, health educators/promoters, translators, risk communicators, social media strategists) ✓ Partner with CBOs and FBOs and other stakeholders who can advocate on behalf of adequate and stable funding for local and state health departments
Implement a Diagonal Policy Approach to Advance Health Equity. Genuine advances in health equity for low-income and BIPOC communities hinge on having a diagonal approach where policies cut across, and simultaneously address multiple levels of health determinants: a strong community health system that delivers care appropriate to individuals' immediate health needs and life circumstances (eg, neighborhood-based COVID-19 vaccine clinics); a Health in All Policies strategy that strengthens the social safety net and involves all sectors (eg, housing, transportation, business) in optimizing community wellness (eg, wraparound services, supportive workplace policies); and upstream structural reforms (eg, wealth redistribution, voter redistricting) that address root causes of health inequities.	✓ Develop technical guidelines and principles for your jurisdiction's CHW workforce ✓ Collaborate with other branches of local government (eg, parks and recreation, transportation, housing services) to provide wraparound services to constituents when conducting health outreach ✓ Collaborate with local CBOs and FBOs, academic institutions, and other civil society groups to form a coalition to advocate for priority policies (eg, paid sick leave, unemployment assistance, Medicaid expansion)
Develop Data Systems that Facilitate Accountability for Equity. Robust and sustainable public health data systems that incorporate race and ethnicity factors across all levels of government can facilitate the ongoing monitoring, evaluation, and communication of the impact of interventions aimed at supporting health equity. Having transparent, accurate, and longstanding data capture systems can ensure accountability, motivate course corrections, and provide objective public-facing proof that government and public health institutions are genuinely committed to remedying health inequities, helping to build community trust.	✓ Evaluate data gaps that currently hinder efforts at informing equitable vaccination (eg, which categories of data are still needed, what modifications would improve data gathering) ✓ Collaborate and partner with organizations working with communities of color to survey local stakeholders about their thoughts on definitions ✓ Consistently seek input from community members about they want to prioritize and what gaps or issues community members are observing

Abbreviations: ARPA, American Rescue Plan Act; BIPOC, Black, Indigenous, and Persons of Color; CARES, Coronavirus Aid, Relief, and Economic Security; CBO, community-based organization; CHW, community health worker; FBO, faith-based organization; MOU, memorandum of understanding.

Appendix B. Report Summary and Actionable Recommendations for Local Government Executives

At month 11, an assessment of the US COVID-19 vaccination campaign suggests that certain operations have had a positive impact on health equity (ie, they have broadened vaccination coverage within communities of color), federal financial support has accelerated the application of effective practices, and states and localities have examples of successful approaches that they can replicate, adapt, and/or scale up as they continue with the pandemic response. Below are recommendations on how mayors, county supervisors, and county executives can take steps to advance health equity further, based on the gains made so far. The novel organizational arrangements and refined capabilities that have been forming under the pressure of the pandemic hold major significance for tackling ongoing community health issues even after the acute stage of the pandemic resolves.

Table B-1. Actionable Recommendations for Local Government Executives

Report Recommendations	Action Items for Local Government Executives
Do Not Demobilize – Value and Continue Building Robust Partnerships. Due to the high stakes of the COVID-19 response/recovery (particularly for hard-hit BIPOC communities), an admixture of well-established and newly emergent partnerships carried out complex tasks successfully, including overcoming logistical and attitudinal barriers to COVID-19 vaccination. These alliances are opening care to underserved populations and benefitting everyone through greater community immunity. Meant to be temporary, these productive organizational linkages represent a more evolved system that can help address other complex community health issues into the future.	✓ Act as a bridge, matching appropriate partnerships with identified health gaps ✓ Document the partnerships made around COVID-19 response and codify/institutionalize these partnerships for use in pursuing ongoing community health goals
Provide Sustained, Flexible Financing that Reaches the Community. The CARES Act and American Rescue Plan Act (ARPA) unlocked billions of federal dollars to support states and local government as they shepherd efforts to respond, recover, and rebuild. CBOs, FBOs, and CHWs, working with public health departments, have been essential in efforts to protect BIPOC community health and wellbeing in the pandemic context. Financing structures that CBOs and FBOs can more easily navigate and local/state ARPA planning that includes community voices can ensure that society will derive the full benefits of a community-based workforce now and in postpandemic setting.	✓ Get to know your community's CBOs and FBOs, and encourage the development of direct service contracts so more can be paid through CARES and ARPA funding, and in times of nonemergency ✓ Allocate remaining response monies to CBOs and FBOs through simple RFP processes, prioritizing those who have not yet received funding directly from federal grants ✓ Plan now for sustainable financing for community-based workforces hired during the pandemic, especially CHWs, with livable wages, benefits, and career pipelines

Modernize and Energize Public Health with a Community-Centric Infrastructure. With stable and sufficient funding, the public health infrastructure can respond to emergencies like COVID-19 and address challenges (eg, diabetes, heart disease) prevalent in communities of color. Mirroring the communities it serves, the public health workforce can more readily develop innovative practices, deliver culturally competent services, and devise strategies for social determinants. Community members can actively participate in public health programming and planning (eg, COVID-19 vaccine delivery strategies) when health departments have robust feedback loops and dedicated staff proficient at engaging communities.	✓ Provide steadfast and sufficient support to the LHD during both crisis and steady state times, while also petitioning state and federal governments to make sustained investments that ensure a predictable public health capacity ✓ Support LHD in its strategic goals of (1) promoting equity in its ranks including on the board of health and (2) strengthening human-centric competencies by the recruitment of more social and community proficient professionals, such as health educators/ promoters, risk communicators, language translators, and social media strategists
Implement a Diagonal Policy Approach to Advance Health Equity. Genuine advances in health equity for low-income and BIPOC communities hinge on having a diagonal approach where policies cut across, and simultaneously address multiple levels of health determinants: a strong community health system that delivers care appropriate to individuals' immediate health needs and life circumstances (eg, neighborhood-based COVID-19 vaccine clinics); a Health in All Policies strategy that strengthens the social safety net and involves all sectors (eg, housing, transportation, business) in optimizing community wellness (eg, wraparound services, supportive workplace policies); and upstream structural reforms (eg, wealth redistribution, voter redistricting) that address root causes of health inequities.	✓ Organize regular "town halls" and/or community listening sessions to promote transparent governance and increase awareness of constituent concerns and priorities ✓ Increase government spending (and/or allocate CARES and ARPA funding) to bolster social service provision in your jurisdiction; develop a plan to sustain this funding for at least the next 10 years ✓ Form an executive-level health equity task force or office comprised of local municipal officials, CBO and FBO representatives, and community champions to oversee local equity-building efforts; confer the task force/office with decision-making power and an implementation budget
Develop Data Systems that Facilitate Accountability for Equity. Robust and sustainable public health data systems that incorporate race and ethnicity factors across all levels of government can facilitate the ongoing monitoring, evaluation, and communication of the impact of interventions aimed at supporting health equity. Having transparent, accurate, and longstanding data capture systems can ensure accountability, motivate course corrections, and provide objective public-facing proof that government and public health institutions are genuinely committed to remedying health inequities, helping to build community trust.	✓ Approach all reporting requirements through the lens of how this will support equitable access to public health interventions ✓ Interface with local public health officials and stakeholders to gauge what supports they need from these executives in order to gather data ✓ Regularly review evidence gathered by the LHD and by local community organizations to assess emerging issues or ongoing gaps ✓ Ensure that data gathering efforts, particularly those that would require interfacing directly with community members of color, employ trusted data collectors from that community

Abbreviations: ARPA, American Rescue Plan Act; BIPOC, Black, Indigenous, and Persons of Color; CARES, Coronavirus Aid, Relief, and Economic Security; CBO, community-based organization; CHW, community health worker; FBO, faith-based organization; LHD, local health department; RFP, request for proposal.

Appendix C. Report Summary and Actionable Recommendations for Governors and State Legislators

At month 11, an assessment of the US COVID-19 vaccination campaign suggests that certain operations have had a positive impact on health equity (ie, they have broadened vaccination coverage within communities of color), federal financial support has accelerated the application of effective practices, and states and localities have examples of successful approaches that they can replicate, adapt, and/or scale up as they continue with the pandemic response. Below are recommendations on how governors and state legislators can take steps to advance health equity further, based on the gains made so far. The novel organizational arrangements and refined capabilities that have been forming under the pressure of the pandemic hold major significance for tackling ongoing community health issues even after the acute stage of the pandemic resolves.

Table C-1. Actionable Recommendations for Governors and State Legislators

Report Recommendations	Action Items for Governors and State Legislators
Do Not Demobilize – Value and Continue Building Robust Partnerships. Due to the high stakes of the COVID-19 response/recovery (particularly for hard-hit BIPOC communities), an admixture of well-established and newly emergent partnerships carried out complex tasks successfully, including overcoming logistical and attitudinal barriers to COVID-19 vaccination. These alliances are opening care to underserved populations and benefitting everyone through greater community immunity. Meant to be temporary, these productive organizational linkages represent a more evolved system that can help address other complex community health issues into the future.	✓ Assign the ongoing task of cataloguing organizations and partnerships involved in the COVID-19 response and vaccination campaign, to provide public recognition and to facilitate future coordination around community health goals ✓ Prevent the disbanding of health equity taskforces – efforts should be made to maintain continuity of practice, institutionalize scope of work, and preserve/expand decision-making authority ✓ Make preparations for an after-action assessment of the COVID-19 response and vaccination campaign that includes the voice and perspective of communities; act on lessons learned
Provide Sustained, Flexible Financing that Reaches the Community. The CARES Act and American Rescue Plan Act (ARPA) unlocked billions of federal dollars to support states and local government as they shepherd efforts to respond, recover, and rebuild. CBOs, FBOs, and CHWs, working with public health departments, have been essential in efforts to protect BIPOC community health and wellbeing in the pandemic context. Financing structures that CBOs and FBOs can more easily navigate and local/state ARPA planning that includes community voices can ensure that society will derive the full benefits of a community-based workforce now and in postpandemic setting.	✓ To better use the response monies still available, coordinate and communicate among all levels of government to ensure that communities are receiving what they need to respond to this stage of the pandemic ✓ Shift from funding mechanisms that support crisis response to those that carry over and sustain services that benefit communities over the long run ✓ Adequately finance the community engagement and community outreach arms of public health, which are typically the first programs to be cut ✓ Plan now for sustainable financing for community-based workforces hired during the pandemic, especially CHWs, with livable wages, benefits, and career pipelines

Modernize and Energize Public Health with a Community-Centric Infrastructure. With stable and sufficient funding, the public health infrastructure can respond to emergencies like COVID-19 and address challenges (eg, diabetes, heart disease) prevalent in communities of color. Mirroring the communities it serves, the public health workforce can more readily develop innovative practices, deliver culturally competent services, and devise strategies for social determinants. Community members can actively participate in public health programming and planning (eg, COVID-19 vaccine delivery strategies) when health departments have robust feedback loops and dedicated staff proficient at engaging communities.	✓ Petition Congress to make sustained national investments that ensure a predictable public health capacity at state and local levels ✓ Provide steadfast and sufficient support to their public health agencies during both crisis and steady state times ✓ Direct health officials to commit to promoting equity in their ranks at every level, including their boards of health, and to recruiting more social scientists and community-proficient professionals
Implement a Diagonal Policy Approach to Advance Health Equity. Genuine advances in health equity for low-income and BIPOC communities hinge on having a diagonal approach where policies cut across, and simultaneously address multiple levels of health determinants: a strong community health system that delivers care appropriate to individuals' immediate health needs and life circumstances (eg, neighborhood-based COVID-19 vaccine clinics); a Health in All Policies strategy that strengthens the social safety net and involves all sectors (eg, housing, transportation, business) in optimizing community wellness (eg, wraparound services, supportive workplace policies); and upstream structural reforms (eg, wealth redistribution, voter redistricting) that address root causes of health inequities.	✓ Enact legislation supporting Medicaid expansion in your state ✓ Increase the budgets of health departments in your state and include specific earmarks for community engagement, risk communication, and CHW workforce development ✓ Create a spending plan for remaining COVID-19 federal stimulus funds, prioritizing long-term social service and welfare provision (eg, food, housing, and unemployment assistance)
Develop Data Systems that Facilitate Accountability for Equity. Robust and sustainable public health data systems that incorporate race and ethnicity factors across all levels of government can facilitate the ongoing monitoring, evaluation, and communication of the impact of interventions aimed at supporting health equity. Having transparent, accurate, and longstanding data capture systems can ensure accountability, motivate course corrections, and provide objective public-facing proof that government and public health institutions are genuinely committed to remedying health inequities, helping to build community trust.	✓ Evaluate current data gaps that are hindering efforts to inform equitable vaccination, and identify what data are needed or what data gathering approaches need to be modified ✓ Collaborate and partner with organizations working with communities of color to survey local stakeholders about their thoughts on definitions regarding race and ethnicity ✓ Consistently seek input from community members about they want to prioritize and what gaps or issues community members are observing

Abbreviations: ARPA, American Rescue Plan Act; BIPOC, Black, Indigenous, and Persons of Color; CARES, Coronavirus Aid, Relief, and Economic Security; CBO, community-based organization; CHW, community health worker; FBO, faith-based organization.

Appendix D. Report Summary and Actionable Recommendations for Members of Congress

At month 11, an assessment of the US COVID-19 vaccination campaign suggests that certain operations have had a positive impact on health equity (ie, they have broadened vaccination coverage within communities of color), federal financial support has accelerated the application of effective practices, and states and localities have examples of successful approaches that they can replicate, adapt, and/or scale up as they continue with the pandemic response. Below are recommendations on how members of Congress can take additional steps to advance health equity further, based on the gains made so far. The novel organizational arrangements and refined capabilities that have been forming under the pressure of the pandemic hold major significance for tackling ongoing community health issues even after the acute stage of the pandemic resolves.

Table D-1. Actionable Recommendations for Members of Congress

Report Recommendations	Action Items for Congress
Do Not Demobilize – Value and Continue Building Robust Partnerships. Due to the high stakes of the COVID-19 response/recovery (particularly for hard-hit BIPOC communities), an admixture of well-established and newly emergent partnerships carried out complex tasks successfully, including overcoming logistical and attitudinal barriers to COVID-19 vaccination. These alliances are opening care to underserved populations and benefitting everyone through greater community immunity. Meant to be temporary, these productive organizational linkages represent a more evolved system that can help address other complex community health issues into the future.	✓ Authorize programs that incentivize the use of COVID-19 response alliances for addressing broader health equity issues ✓ In your districts, convene debriefing session(s) among the multisector collaboratives that have formed around COVID-19 vaccination and response challenges, especially those faced by underserved populations; encourage their continued collective work and learn what supports they require to address other complex community health issues together going forward
Provide Sustained, Flexible Financing that Reaches the Community. The CARES Act and American Rescue Plan Act (ARPA) unlocked billions of federal dollars to support states and local government as they shepherd efforts to respond, recover, and rebuild. CBOs, FBOs, and CHWs, working with public health departments, have been essential in efforts to protect BIPOC community health and wellbeing in the pandemic context. Financing structures that CBOs and FBOs can more easily navigate and local/state ARPA planning that includes community voices can ensure that society will derive the full benefits of a community-based workforce now and in postpandemic setting.	✓ Shift from funding mechanisms that support crisis response to those that carry over and sustain services that benefit communities over the long run ✓ Retool federal financing structures to be more flexible, with less burdensome RFPs and community-defined metrics for success; streamline eligibility and reporting requirements to be more inclusive and less overwhelming ✓ Plan now for sustainable financing for community-based workforces hired during the pandemic, especially CHWs, with livable wages, benefits, and career pipelines

Modernize and Energize Public Health with a Community-Centric Infrastructure. With stable and sufficient funding, the public health infrastructure can respond to emergencies like COVID-19 and address challenges (eg, diabetes, heart disease) prevalent in communities of color. Mirroring the communities it serves, the public health workforce can more readily develop innovative practices, deliver culturally competent services, and devise strategies for social determinants. Community members can actively participate in public health programming and planning (eg, COVID-19 vaccine delivery strategies) when health departments have robust feedback loops and dedicated staff proficient at engaging communities.	✓ Authorize dedicated, annual funding for the public health infrastructure to fix deficiencies apparent during the COVID-19 response, create robust structures able to deal with enduring and novel health threats, and develop an inclusive workforce
Implement a Diagonal Policy Approach to Advance Health Equity. Genuine advances in health equity for low-income and BIPOC communities hinge on having a diagonal approach where policies cut across, and simultaneously address multiple levels of health determinants: a strong community health system that delivers care appropriate to individuals' immediate health needs and life circumstances (eg, neighborhood-based COVID-19 vaccine clinics); a Health in All Policies strategy that strengthens the social safety net and involves all sectors (eg, housing, transportation, business) in optimizing community wellness (eg, wraparound services, supportive workplace policies); and upstream structural reforms (eg, wealth redistribution, voter redistricting) that address root causes of health inequities.	✓ Enact legislation supporting increased federal funding for social service provision and relief programs, such as reinstating the eviction moratorium and subsidizing a long-term CHW training and workforce development program ✓ In the long-term, enact structural reforms (eg, equitable voter redistricting, progressive taxation schemes, pro-union legislation) to increase constituents' political agency
Develop Data Systems that Facilitate Accountability for Equity. Robust and sustainable public health data systems that incorporate race and ethnicity factors across all levels of government can facilitate the ongoing monitoring, evaluation, and communication of the impact of interventions aimed at supporting health equity. Having transparent, accurate, and longstanding data capture systems can ensure accountability, motivate course corrections, and provide objective public-facing proof that government and public health institutions are genuinely committed to remedying health inequities, helping to build community trust.	✓ Fund at a national scale sustained infrastructure to gather more detailed data on equitable access to health ✓ Work with federal agencies to establish requirements around reporting on different data points needed to quantify efforts around health equity, using standardized definitions and frameworks to ensure comparability across states and local jurisdictions

Abbreviations: ARPA, American Rescue Plan Act; BIPOC, Black, Indigenous, and Persons of Color; CARES, Coronavirus Aid, Relief, and Economic Security; CBO, community-based organization; CHW, community health worker; FBO, faith-based organization; RFP, request for proposal.

Appendix E. Project Logic Model to Guide Questions for Internal/External Assessment of CommuniVax National Activities

MODERATORS
Social, political, economic, and technological conditions that enable and/or hinder the work

INPUTS Resources - what we invest in project	ACTIVITIES Services and products - what we do, who we reach	OUTPUTS Catalytic effects of the activities	OUTCOMES Targeted results - what we aim to achieve and for whom	IMPACTS Results at societal level (broader/enduring effects)
Professional expertise in public health, social sciences, vaccines, government, community organizing, and advocacy	Convene multidisciplinary working group of national experts and thought leaders	Model productive multidisciplinary collaborations (public health, social science, vaccination, government, community organizing), to produce evidence-based, workable soutions for problems where social and technical elements intertwine	**NEAR TERM** Researchers sharpen/acquire new skills, obtain new colleagues, and strenghten civic/community engagement capabilities	Greater commitment and capacity of health systems to collaborate with BIPOC communities
National and local connections with BIPOC communities and advocates	Coordinate a national research coalition working with local BIPOC communities in 7 sites		Public health practitioners and policymakers have evidence base to develop/validate community-centric approaches to pandemic response/vaccination campaign	Greater investment in public health infrastructure, especially that necessary for genuine community engagement
Cross sector connections, including with public health, healthcare, government, industry, and academic	Convene listening sessions with 48 national stakeholders to develop 5 "I" framework to direct efforts	Translate often undervalued forms of understanding (eg, lived experience, local knowledge, sociocultural analysis) into actionable recommendations for public health/government authorities at local/national levels	Social scientists gain proof they can spur/inform the development of effective solutions to urgent, high-human stakes decisions and practices	Stronger and sustainably financed US community health system, with communities at the center
Finances/operating budget and dedicated staff	Deliver 2 action-oriented national reports informed by BIPOC communities and their advocates		An equity-focused community of practice coheres more strongly around issue that has no owner/accountable entity	Greater control of BIPOC communities over the trajectories of their own health and wellness
	Build bridging ties to other individuals and organizations (eg, health leads) who share mission	Create/host multiple forums that bring diverse stakeholders together for exchange of information, concepts, and best practices bearing on equity	**INTERMEDIATE TERM** Government/public health leaders engage in COVID-19 vaccination communication (ie, messengers, messages, media) that is meaningful for BIPOC communities	
	Convene 5 national webinars focused on vaccines, BIPOC communities, equity, and social transformation		Government/public health leaders improve COVID-19 vaccine delivery strategies to meet people where they are	
	Circulate a weekly newsletter to over 1,700 stakeholders	Shape public awareness/discourse concerning COVID-19 vaccination, to embed discrete public health intervention in larger processes of equity, social change, and transformative recovery	Community collaborations with public health/healthcare for pandemic response/recovery are more frequent and effective (eg, new advisory panel, co-convened town halls/clinics)	
	Distill recommendations into checklists/briefers to facilitate application by policymakers, practitioners, and community		Policymakers, practitioners, and/or the public see equity as a critical measure of success in public health are acting on that deeper awareness	
	Launch website to archive project resources	Fashion tools to enable community level actors to exert influence over the vaccine campaign, response/ recovery, and community health	COVID-19 vaccination campaign, and the pandemic response/ recovery as a whole, are more equitable and effective	
	Develop CommuniVax chat to elevate community voices in COVID-19 vaccination planning		**LONG TERM** Public health/healthcare/government systems invest more resources in BIPOC community partnerships, CBOs, FBOs, and CHWs for COVID-19 and for other health issues	
	Write op-eds; participate in news media interviews, podcasts, etc.		CBOs and FBOs with roots in BIPOC communities have greater capacity to collaborate with public health/healthcare/goverment system actors	
	Brief policymakers		Research infrastructure – eg, universities, funders – values community-based participatory research and disaster research (rapid study to inform high human stakes decisions in crisis) and is evolving greater supports for these approaches	

Abbreviations: BIPOC, Black, Indigenous, and people of color; CBO, community-based organization; CHW, community health worker; FBO, faith-based organization.