

RESEARCH REPORT

Advancing Vaccine Equity through Community-Based Organizations

Partnering for Vaccine Equity Program Annual Evaluation Report—Year One

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Contents

Acknowledgments	
Executive Summary	v
Advancing Vaccine Equity through Community-Based Organizations	1
P4VE Program Description	2
Overview of P4VE-Urban CBO Partners	3
Methods	9
Evaluation Design	9
Data Collection and Analysis	9
Limitations	10
Findings	11
Assessing Barriers to Vaccine Uptake	11
Promoting Vaccine Confidence	14
Increasing Vaccination Opportunities	17
Reviewing Successes and Challenges	19
Implications for Policy and Practice	22
Conclusions	23
Appendix A. P4VE-Urban CBO Partner Descriptions	24
Notes	37
References	38
About the Authors	40
Statement of Independence	41

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iv ACKNOWLEDGMENTS

Executive Summary

To address the racial and ethnic disparities in adult vaccination rates, particularly in the light of concerning inequities in COVID-19 and influenza immunizations, the Centers for Disease Control and Prevention launched the Partnering for Vaccine Equity (P4VE) program in 2020 (Black et al. 2022; Hernandez et al. 2022; Kriss et al. 2022; Siegel et al. 2022). In 2021, the P4VE program allocated \$156 million to more than 500 national, state, local, and community-based organizations to improve equity in adult COVID-19 and influenza vaccination coverage. Organizations participating in P4VE receive funding and technical assistance to implement activities that promote equitable access to vaccination in their communities, from training trusted community messengers, to developing culturally effective education and outreach campaigns, to hosting vaccine clinics in partnership with local public health departments and health care providers.

In the first year of the P4VE initiative (April 30, 2021, to April 29, 2022), the Urban Institute provided grant subawards and tailored program support and technical assistance to 29 community-based organizations (CBOs) in 14 states and the District of Columbia. Urban CBO grantees served racially and ethnically diverse populations representing more than 30 spoken languages, with most CBOs serving both Black/African American and Hispanic/Latinx communities. This report presents findings from an evaluation of CBOs' performance on P4VE program objectives, including challenges and successes CBOs experienced in their efforts to improve vaccine equity.

CBO Progress on Promoting Vaccine Confidence and Increasing Vaccination Opportunities

CBOs participating in the first year of the initiative focused on outreach and engagement regarding COVID-19 vaccines because of the ongoing public health emergency. Table ES.1 summarizes performance of Urban CBO partners on program activities. Collectively, P4VE vaccine communication campaigns reached over 5 million people, and more than 105,000 people received COVID-19 and influenza vaccinations.

EXECUTIVE SUMMARY v

TABLE ES.1
Performance of P4VE-Urban CBO Partners on Vaccine Confidence and Access Indicators
Year One, May 2021-April 2022

Indicator	Cumulative sum
Number of community-level trusted messengers educated, empowered, and trained	7,708
Number of communication products developed and disseminated to promote vaccines	13,916
Number of events hosted or supported	1,243
Number of event attendees	98,634
Number of communication campaigns promoting vaccinations	1,131
Estimated number of people reached through communication campaigns	5,386,776
Number of partnerships established to promote vaccines	481
Number of partnerships with vaccine administrators to increase vaccination opportunities	167
Number of new vaccination sites established	2,251
Number of people who received COVID-19 and influenza vaccines	105,669

Source: Urban Institute analysis of P4VE program management data.

Notes: CBO = community-based organization; P4VE = Partnering for Vaccine Equity. These data account for 10 months of performance. No CBOs had project activities and outcomes in the first month of the initiative (May 2021), and data from the final month of Year One (April 2022) were aggregated with Year Two data because CBO reporting frequency changed from monthly to quarterly between Years One and Two. Furthermore, the individual CBO performance period may be shorter than one year, based on when they joined the program.

CBO Challenges and Promising Practices to Promoting Vaccine Equity

The most frequently reported barriers to COVID-19 vaccine uptake CBOs encountered were mistrust in public health and medical systems, pervasive spread of misinformation about COVID-19 vaccines, structural barriers to accessing vaccination clinics, and unmet basic needs that took precedence over preventative care (table ES.2). P4VE program strategies helped CBOs address these challenges. Notably, CBOs highlighted three effective elements of the P4VE program: (1) recruiting, training, and deploying trusted community messengers; (2) building and fostering strong partnerships with diverse community stakeholders; and (3) hosting community-focused events.

CBOs reported that their major challenges to implementing P4VE program activities included growing COVID-19 fatigue and staff burnout as the pandemic went on, which made engagement of priority populations increasingly more difficult. In addition, CBOs noted that the digital divide meant communication efforts via technology and social media were insufficient in reaching their desired audience, highlighting the importance of in-person and culturally effective outreach by trained community members.

vi EXECUTIVE SUMMARY

TABLE ES.2

Common Barriers and Successful Strategies for P4VE-Urban CBO Partners in Promoting Vaccine Equity

Year One, May 2021-April 2022

Barriers	Successful strategies
	 Conducting extensive and repeated one-on-one conversations to listen empathetically to their concerns and build trust
Mistrust of government institutions and medical establishments, including distrust of Western	 Creating hyperlocal campaigns and enlisting community health workers to conduct outreach, address specific concerns, and connect community members with vaccine opportunities
medicine	 Connecting peers to share views and experiences
Misinformation , including spread of myths and lack of access to reliable, evidence-based, plain-language, and culturally and linguistically effective COVID-19 information	 Developing educational campaigns and disseminating information and resources that were culturally and linguistically effective Establishing connections with physicians, faith leaders, and other influential and trusted messengers from within specific communities
Access barriers, such as challenges accessing vaccination clinics and events because of inconvenient clinic hours, lack of paid time off, lack of transportation, and lack of child care	 Establishing partnerships with other trusted organizations, schools, and faith communities to expand outreach and vaccination opportunities Holding vaccine events in locations and at times convenient for community members and addressing transportation needs
Unmet social needs (social determinants of health) such as housing and food insecurity that often take precedence over preventative health care	 Taking a holistic approach by addressing community members' immediate health-related social needs before discussing vaccinations Connecting community members to resources such as food supplies during vaccine events

Source: Urban Institute analysis of P4VE program management data.

Notes: CBO = community-based organization; P4VE = Partnering for Vaccine Equity.

Implications of the P4VE Program for Policy and Practice

Findings on P4VE align with existing research suggesting that systemic structural barriers are at the root of racial and ethnic inequities in vaccine access (Gonzales et al. 2021; Kuehn et al. 2022; Njoku, Joseph, and Felix 2021). The evaluation results suggest that the core elements of the P4VE program are well-designed to address common barriers that affect access to information and vaccination sites among priority populations. In particular, outreach and engagement through local CBOs proved effective in fostering trust, combating misinformation, and improving access to vaccination clinics in marginalized communities. These findings also suggest that sustained progress on achieving vaccine equity may require extended, adequate, and sustainable investments in public health and community engagement infrastructure developed under the P4VE program.

EXECUTIVE SUMMARY vii

Advancing Vaccine Equity through Community-Based Organizations

A critical component of public health efforts is protecting individuals and communities from vaccine-preventable diseases, such as COVID-19 and influenza (Andre et al. 2008). The benefits of vaccination, however, are not equitably distributed across the US, with large racial and ethnic disparities in vaccination rates against COVID-19 and influenza (Black et al. 2022; Hernandez et al. 2022; Kriss et al. 2022; Siegel et al. 2022). Unfortunately, groups experiencing disparities in vaccination coverage are also often disproportionately impacted by the health and economic impacts of COVID-19 (Tai et al. 2022; Zhang and Kolady 2022). Vaccine inequities have significant and far-reaching implications for public health, economic growth, community resilience, and social outcomes and could jeopardize inclusive recovery from crises such as the COVID-19 pandemic (Rodrigues and Plotkin 2020).

Vaccine hesitancy is one of several factors contributing to disparities in COVID-19 vaccination rates. Findings from a national survey conducted by the Urban Institute (Urban) in December 2020 found that more than one-third of nonelderly adults⁴ indicated they would probably not or definitely not get a COVID-19 vaccine (Karpman et al. 2021). Hesitancy rates were particularly high among Black/African American adults (49 percent), though most vaccine-hesitant Black/African American respondents seemed at the time of the survey to have still been considering their decision about being vaccinated. Survey participants 'common reasons for vaccine hesitancy were concerns about side effects and vaccine effectiveness, feeling that they did not need the vaccine, and distrust in the vaccine development process. While public trust in the efficacy and safety of the COVID-19 vaccines has grown over the course of the pandemic (Daly, Jones, and Robinson 2021), structural barriers continue to hamper equitable access to immunizations for COVID-19 and other common infectious diseases (Gonzales et al. 2021; Kuehn et al. 2022; Njoku, Joseph, and Felix 2021).

Strengthening vaccine confidence while removing structural barriers to access are imperative to ensuring all US residents benefit from vaccination. The Centers for Disease Control and Prevention's (CDC) Vaccinate with Confidence strategy provides a framework for addressing vaccine hesitancy by building trust, empowering health care personnel, and engaging communities and individuals. Each element is critical and interrelated in achieving vaccine equity. Developing culturally and linguistically effective education and communication strategies rooted in the latest evidence and addressing structural barriers to vaccine access in local communities could help reduce racial and ethnic disparities in immunization rates.

To improve equity in adult vaccination rates, particularly in COVID-19 and influenza vaccination coverage, CDC launched the Partnering for Vaccine Equity (P4VE) program in 2020. In 2021, the program awarded \$156 million in funding and technical assistance to over 500 national, state, local, and community-based organizations (CBOs) working to increase vaccine awareness, access, availability, and confidence. The program's vision is "to improve equity in adult immunization across disproportionately affected populations, including racial and ethnic minority groups, through partnerships that drive community-level action." This multiyear, multimillion dollar investment in vaccine equity presents an opportunity to build knowledge and evidence on increasing vaccine coverage during the COVID-19 pandemic and future vaccination efforts.

Urban is partnering with CDC in the P4VE initiative to provide grant subawards and technical assistance to CBOs that are developing and implementing effective strategies to increase vaccine access and confidence among populations from racial and ethnic minority populations. This report presents results from an evaluation of the first year of CBO activities under the P4VE program. The following sections provide a more detailed description of the P4VE program and key characteristics of the CBOs that received support from Urban in Year One. After describing the evaluation methods and limitations, the report discusses participating CBOs' performance in achieving the program goals and the challenges and successes CBOs experienced. The report concludes by discussing policy and practice implications for the P4VE program and broader vaccine equity efforts.

The P4VE Program

The P4VE program provides funding and resources to participating organizations nationwide to build vaccine confidence and support vaccine uptake in communities experiencing vaccine inequities. The P4VE program has two overarching, long-term goals:

- to increase influenza and COVID-19 vaccine confidence among populations and communities disproportionately affected by influenza and COVID-19, at greater risk for lower vaccination coverage, or both (i.e., people who are American Indian/Alaska Native, Asian American/Native Hawaiian/Pacific Islander, Black/African American, and Hispanic or Latinx American)
- to increase access to immunization among populations and communities experiencing disparities.

Urban is one of three national intermediary organizations⁹ that support the implementation of the P4VE program by providing grants management and tailored technical assistance to a subset of

participating CBOs. Urban supports CBO partners' organizational capacity to improve equitable access to vaccination in their communities, from equipping influential messengers, to developing effective communication campaigns, to fostering partnerships with local organizations and health care providers. The P4VE program has several short-term objectives:

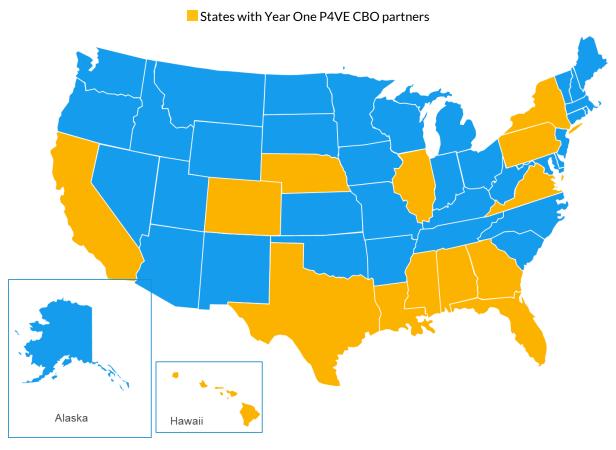
- to increase the number of trusted community messengers supporting vaccine education and delivery,
- to increase the availability of culturally and linguistically effective community- or populationspecific vaccine messages,
- to increase the number and diversity of vaccination opportunities in communities currently experiencing disparities,
- to increase the number and range of partnerships or collaborative activities between health care providers and community organizations to improve access to vaccines,
- to increase the number and range of health care providers recommending COVID-19 and influenza vaccines to patients, and
- to increase the number and range of health care organizations implementing accountability processes and practical guidance to improve equity in vaccine administration.

Urban also manages the P4VE Learning Community, which provides all organizations participating in the P4VE program access to timely information, resources, tools, and subject matter expertise to support their vaccine equity efforts.¹⁰

Overview of P4VE-Urban CBO Partners

In the first year of the P4VE program, which ran from April 30, 2021, to April 29, 2022, ¹¹ Urban selected 29 CBO partners through two rounds of competitive proposal requests. The first cohort of 20 CBOs began implementing their vaccine equity projects in June 2021, and 9 additional CBOs were added in October 2021 to specifically include more organizations from the South where COVID-19 vaccination rates were then among the lowest in the country. ¹² Year One CBOs were located in the District of Columbia and 14 states: Alabama, California, Colorado, Florida, Georgia, Hawaii, Illinois, Louisiana, Mississippi, New York, Nebraska, Virginia, Pennsylvania, and Texas (figure 1).

FIGURE 1
Geographic Distribution of P4VE-Urban CBO Partners
Year One, May 2021-April 2022



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Source: Urban Institute analysis of P4VE program management data.

Notes: CBO = community-based organization; P4VE = Partnering for Vaccine Equity.

About two-thirds (19) of CBO partners can be broadly described as social service organizations. These include civic and cultural organizations advocating for and serving immigrants, refugees, and ethnic populations; social and economic justice advocates; social service providers; and faith-based organizations. The remaining one-third of CBOs are health advocates or health care providers, including community health centers. Collectively, the 29 CBOs served racially and ethnically diverse populations representing more than 30 languages spoken, including Arabic, Bangla, Hindi, Russian, Spanish, Urdu, Haitian Creole, Burmese, Karen (Burmese dialect), Swahili, Farsi/Dari, Nepali, Pashto, Amharic, Tigrinya, Somali, and Hindi. The majority (90 percent) of CBOs reported serving Black/African American and Hispanic/Latinx communities or both, 45 percent served Asian American/Native Hawaiian/Pacific Islander (AANHPI) communities, and 14 percent served American Indian/Alaska Native (AIAN)

communities. In addition to race and ethnicity, populations served by CBO partners intersected with other marginalized identities, including migrants and immigrants, people experiencing homelessness, youth, and families with low incomes. Key features of Urban CBO partners and the populations they served are shown in table 1 and more details about each organization can be found in appendix A.

TABLE 1
Key Characteristics of P4VE-Urban CBO Partners and Populations
Year One, May 2021–April 2022

		Population	s Served	
Name (location)	Organization type or mission	Race and ethnicity	Other characteristics	Community characteristics
Arab-American Family Support				_
Center	Civic or cultural	AANHPI, Black/African	Women and immigrant and	
(Brooklyn, New York)	Social services	American, and Hispanic/Latinx	refugee populations	Urban
Asian Community and Cultural				
Center		AANHPI, AIAN, Black/African	Immigrant and refugee	
(Lincoln, Nebraska)	Civic or cultural	American, and Hispanic/Latinx	populations	Urban
Bay Area Women Coalition, Inc.			Women and families with low	
(Mobile, Alabama)	Advocacy	Black/African American	incomes	Rural
			Individuals who identify as	
			LGBTQIA+a, individuals with	
			low incomes and/or	
Birmingham AIDS Outreach, Inc.	Advocacy	AANHPI, AIAN, Black/African	experiencing homelessness,	
(Birmingham, Alabama)	Health and health care	American, and Hispanic/Latinx	migrant workers	Urban
			Individuals and families with	
Bright Beginnings (Washington,	Social and economic justice	Black/African American and	young children experiencing	Urban
DC)	Social services	Hispanic Latinx	homelessness	(Wards 7 and 8)
Centro Campesino Farmworker	Advocacy		Workers in low-wage jobs	
Center, Inc.	Social and economic justice	Black/African American and	without benefits	
(Florida City, Florida)	Social services	Hispanic/Latinx		Suburban
	Advocacy			
Comite Civico del Valle, Inc.	Civic or cultural	Black/African American and	Essential workers and workers	
(Brawley, California)	Social and economic justice	Hispanic/Latinx	in the agricultural industry	Urban
			Individuals and families with	
Community of Hope	Federally qualified health	Black/African American and	young children experiencing	
(Washington, DC)	center	Hispanic/Latinx	homelessness	Urban
Connection Health		Black/African American and	Women who are pregnant and	
(Birmingham, Alabama)	Health and health care	Hispanic/Latinx	individuals with low incomes	Urban
			Young adults who identify as	
Covenant House New York	Federally qualified health	Black/African American and	LGBTQIA+a and/or are	
(New York City, New York)	center	Hispanic/Latinx	experiencing homelessness	Urban

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Name	Organization	Dear and atherists	Oth an about the site.	Community
(location)	type or mission	Race and ethnicity	Other characteristics	characteristics
Delta Health Center (Mound Bayou, Mississippi)	Federally qualified health center	Black/African American and Hispanic/Latinx	Adults with chronic conditions, individuals with low incomes, and the uninsured	Rural
East Harris County Empowerment Council (Houston, Texas)	Social and economic justice Social services	AANHPI, Black/African American, and Hispanic/Latinx	Individuals with low incomes, essential and migrant workers	Urban
Eden Youth and Family Center (Hayward, California)	Social services	AANHPI, Black/African American, and Hispanic/Latinx	Individuals with low incomes and immigrant populations	Urban/suburban
El Buen Samaritano Episcopal Mission (Austin, Texas)	Faith-based Social services	Hispanic/Latinx	Spanish-speaking and immigrant communities	Urban/suburban Eastern Crescent area of Austin
Fresno Interdenominational Refugee Ministries (Fresno, California)	Advocacy Faith-based	AANHPI, AIAN, Black/African American, and Hispanic/Latinx	Hmong, Laotian, Southeast Asian, Slavic, Syrian, and African immigrant communities, and Native Hawaiian communities	Urban
G. A. Carmichael Family Health Center (Canton, Mississippi)	Federally qualified health center	Black/African American and Hispanic/Latinx	Medically underserved	Urban
Immunize Colorado (Aurora, Colorado)	Health and health care	AANHPI, AIAN, Black/African American, and Hispanic/Latinx	Culturally diverse families and communities	Suburban
The Inclusion Group (New Orleans, Louisiana)	Faith-based Social services	Black/African American and Hispanic/Latinx	Migrant workers	Urban
Little Manila Foundation (Little Manila Rising) (Stockton, California)	Advocacy Social and economic justice	AANHPI, Black/African American, and Hispanic/Latinx	Spanish-speaking, Hmong, and Filipino communities	Urban
Luke's House: A Clinic for Healing and Hope (New Orleans, Louisiana)	Health and health care	Black/African American and Hispanic/Latinx	Low-income, uninsured, and medically underserved populations	Urban
Mary's Center (Washington, DC)	Federally qualified health center	Black/African American and Hispanic/Latinx	Individuals and families with low incomes, essential workers	Urban
Mississippi Immigrants' Rights Alliance (Jackson, Mississippi)	Advocacy Civic or cultural Social services	AANHPI, Black/African American, and Hispanic/Latinx	Migrant and immigrant populations	Rural

		Populatio		
Name (location)	Organization type or mission	Race and ethnicity	Other characteristics	Community characteristics
New Immigrant Community Empowerment (Queens, New York)	Advocacy Civic or cultural Social services	Black/African American and Hispanic/Latinx	Immigrant populations	Urban
Papa Ola Lokahi (Honolulu, Hawaii)	Civic or cultural Health and health care	AANHPI	Native Hawaiian communities	Urban
RefugeeOne (Chicago, Illinois)	Advocacy Social services	AANHPI, Black/African American, and Hispanic/Latinx	Refugee populations	Urban
Refugee Women's Network (Atlanta, Georgia)	Advocacy Civic or cultural Social services	AANHPI, Black/African American, and Hispanic/Latinx	Immigrant populations, Middle Eastern communities, and women	Suburban
Springboard to Opportunities (Jackson, Mississippi)	Advocacy Social services	Black/African American	Families living in affordable housing	Rural
Thai Community Development Center (Los Angeles, California)	Advocacy Civic or cultural Social services	AANHPI and Hispanic/Latinx	Thai and Armenian communities	Urban
Urban League of Philadelphia (Philadelphia, Pennsylvania)	Advocacy Social and economic justice	Black/African American	Underserved communities	Urban

Source: Urban Institute analysis of P4VE program management data and organizations' websites.

Notes: AANHPI = Asian American/Native Hawaiian/Pacific Islander; AIAN = American Indian/Alaska Native; CBO = community-based organization; P4VE = Partnering for Vaccine Equity.

^a LGBTQIA+ is an abbreviation for lesbian, gay, bisexual, transgender, questioning, intersex, asexual, and others. These terms are used to describe an individual's sexual orientation or gender identity.

Methods

As part of the P4VE program management, Urban conducted a Year One evaluation of CBO partners' performance on P4VE program objectives, including challenges and successes CBOs experienced in their efforts to improve vaccine equity. Findings document and inform promising strategies for the ongoing P4VE program, as well as for future efforts to alleviate racial and ethnic disparities in vaccination rates. The following sections describe the evaluation methodology, data sources, and limitations in more detail.

Evaluation Design

The evaluation was structured to monitor and assess Urban CBO partners' performance in achieving the program objectives, including documenting challenges and successes CBOs experienced in implementing program activities. The following research questions guided the evaluation approach:

- 1. What barriers to vaccine uptake are CBOs reporting?
- 2. How are CBOs equipping influential messengers and promoting vaccine confidence?
- 3. How are CBOs increasing vaccination opportunities and enhancing vaccine provider partnerships?
- 4. What successes and challenges with program implementation are CBOs experiencing?

Furthermore, the Urban team tracked specific performance indicators to capture the scope and breadth of CBO activities aimed at increasing confidence in and access to COVID-19 and influenza vaccines (box 1).

Data Collection and Analysis

The primary data sources were monthly and annual performance reports CBOs submitted to CDC, initially in Excel and later using the online reporting system REDCap. In addition, the Urban P4VE grants management team documented CBO experiences, problems, and promising solutions shared during monthly check-in meetings in detailed notes.

The Urban evaluation team used an iterative process to thematically analyze narrative sections of the monthly and final reports and notes from check-in meetings with CBO partners, including notes from exit interviews that 14 CBOs completed in lieu of submitting a written final performance report. A

thematic codebook was created and expanded upon as additional themes emerged. Three researchers then coded all narrative data using Dedoose, a qualitative data analysis software, and organized a chronological summary of findings for each CBO. The evaluation team reviewed the output to identify common themes and insights. Performance metrics data were analyzed using summary statistics.

BOX 1

Performance Indicators for Urban-P4VE CBO Partners

Vaccine Confidence Indicators

- Number of community-level trusted messengers educated, empowered, and trained
- Number of communication products developed and disseminated to promote vaccines
- Number of vaccine events hosted or supported
- Number of event attendees
- Number of communication campaigns promoting vaccinations
- Estimated number of people reached through communication campaigns
- Number of partnerships established to promote vaccines

CBO = community-based organization; P4VE = Partnering for Vaccine Equity.

Vaccine Access Indicators

- Number of partnerships with vaccine administrators to increase vaccination opportunities
- Number of new vaccination sites established
- Number of people who received COVID-19 and influenza vaccines

Limitations

This evaluation has several limitations to consider when interpreting the results. First, the performance data were self-reported by the CBO partners. The Urban team thoroughly reviewed the monthly and annual reports and contacted CBOs to verify and clarify reported information whenever possible while supplementing data through regular grant management check-in meetings.

Although adjustments were made to ensure inter-coder reliability, it is not possible to eliminate subjectivity in how the narrative data were interpreted.

Furthermore, while each CBO developed its own outcome goals for key performance indicators (box 1), CDC did not establish overall performance goals for the program or require that CBOs report

performance against respective individually set goals. As such, performance on program indicators is reported in aggregate and not by individual CBO or against the goals.

Although the P4VE program was designed to address racial and ethnic disparities in COVID-19 and influenza vaccination rates, CBOs participating in the first year of the initiative largely focused on outreach and engagement for COVID-19 vaccines because of the ongoing public health emergency. As such, most of the findings described in this report pertain to COVID-19 vaccines and may not be relevant to influenza vaccines.

Finally, populations served by Urban's 29 CBO partners may not represent the overall US populations experiencing inequities in access to COVID-19 and influenza vaccines. Therefore, some experiences and perspectives captured in this report may be overrepresented, while others may be missing.

Findings

This section of the report presents detailed findings from the evaluation of Urban CBO partners' performance and experiences during Year One of the P4VE program. After presenting common barriers to vaccine uptake among populations reached by the program, the report describes activities and outcomes related to building vaccine confidence and expanding vaccination opportunities. The findings conclude with a description of the successes and challenges CBOs experienced in implementing the program and their implications for policy and practice.

Assessing Barriers to Vaccine Uptake

In Year One, most CBO partner activities focused on COVID-19-related vaccination efforts in marginalized communities that experienced inequities in COVID-19 infections, adverse outcomes, and disparities in vaccination rates. CBO partners reported encountering four major barriers to vaccine uptake among the populations they aimed to reach: (1) mistrust of government and health care institutions, (2) misinformation and lack of reliable information about vaccines, (3) barriers to accessing vaccination opportunities, and (4) unmet social needs. These barriers are described in more detail below.

MISTRUST

In the first year of the P4VE program, CBOs consistently reported that many community members lacked trust in government and other traditional institutions, including the health care system, that have historically failed to provide care or have actively harmed them because of systemic racism. CBO partners reported that certain refugee, immigrant, and migrant populations often distrusted mainstream Western medicine, including preventative health care such as immunizations. In addition, some CBOs reported encountering individuals who chose to place their trust in higher powers over modern medicine, citing a belief in predestination and faith in God as sources of vaccine hesitancy (e.g., "God will take care of me, I don't need a vaccine."). Furthermore, the use of fetal cells in the vaccines' development made many deeply religious people uncomfortable and was often cited as a reason for refusing to vaccinate.

MISINFORMATION

Broad misinformation about COVID-19 disease, treatment, and vaccines was one of the most pressing issues CBOs encountered throughout Year One. Widespread dissemination of myths and factually incorrect information on social media and through word-of-mouth fueled mistrust in public health officials and other formal authority figures and contributed to vaccine hesitancy among populations served by Urban CBO partners. According to partners, the most believed myths included that the vaccines cause infertility or do not work (e.g., breakthrough cases) and that the side effects of the vaccines are worse than COVID-19 infection. Many people also wrongly believed that the vaccines cost money, were only available with health insurance, or required proof of immigration status. Other less frequently circulated myths included that the vaccines have a chip for tracking and the vaccine will worsen preexisting health conditions.

The communities CBOs serve also experienced limited access to scientifically accurate information about the COVID-19 virus and vaccines. This resulted in a lack of awareness about the risks of COVID-19 and a limited understanding of the scientific evidence on vaccine efficacy in communities most at risk of severe illness and death. CBOs frequently mentioned that most readily available information from official sources about COVID-19 and vaccines was not presented in a culturally competent form and was not available in many languages spoken by the populations the CBOs served. Furthermore, some CBO partners reported that although COVID-19 information was available in different languages, limited literacy in some populations rendered the materials useless. Finally, CBOs also reported inconsistent and frequently changing messaging about COVID-19 contributed to general confusion and hesitancy to get vaccinated. For example, as COVID-19 case counts started dropping and state and local

12

governments lifted pandemic restrictions throughout Spring 2022, many people believed the pandemic was ending and vaccination was unnecessary.

Lack of information in one's home language... [was an] additional barrier. And reliable information was not coming from a source they trusted or in a format that could be readily understood by the diverse communities we work with.

-CBO program staff

ACCESS BARRIERS

CBOs reported several systemic structural barriers that posed additional challenges to equitable vaccine access among people from marginalized and disenfranchised communities. The major barriers included a lack of paid time off or sick leave through their employment, lack of public transportation, and lack of reliable and affordable child care. These challenges made accessing vaccination sites too inconvenient, time-consuming, and burdensome for many. For example, in many communities, vaccine clinics took place during hours that did not accommodate workers with nontraditional or extended work schedules or those in jobs without paid time off or sick leave. For many community members, missing work to get vaccinated and recover from potential adverse side effects meant lost wages and could even put them at risk of losing their jobs. Furthermore, CBOs reported that vaccine clinics were often not easily accessible by public transportation. This was especially true in rural communities and many areas outside dense urban centers that lack reliable public transit or ridesharing options. Another frequently cited barrier to vaccination was a lack of affordable and reliable child care. Parents did not want to bring young children to vaccine clinics and feared that no one would be available to care for their children if they experienced major side effects.

One barrier expressed [by community members] was fear of economic hardship due to becoming vaccinated; more specifically, some individuals shared they feared losing their job or other financial hardships if they got vaccinated and experienced more adverse side effects due to the vaccine.

-CBO program staff

UNMET SOCIAL NEEDS

In many, if not all, of the communities the CBO partners work with, access to economic opportunities, healthy food (or simply sufficient food), physical activity, clean air, reliable transportation, and neighborhood safety are scarce because of systemic racism and policies that resulted in decades of underinvestment. It is well documented that social determinants such as these play a large role in the health and well-being of individuals and families, contributing to poor health outcomes and posing barriers for people to obtain adequate and high-quality health care (Braveman and Gottlieb 2014). CBO partners often shared that those unmet social needs affect access to and interest in vaccines; when community members are worried about feeding their children and paying rent or are afraid to leave their homes because of violence, COVID-19 and getting vaccinated are not priorities.

Promoting Vaccine Confidence

The P4VE program was designed to address the mistrust and misinformation challenges described in the previous section. CBOs participating in the initiative received funding and technical assistance to engage community members and help them build confidence and trust in public health institutions and vaccines through strategies such as training community-based influential messengers, developing effective and community-specific communication materials, and establishing partnerships with trusted community leaders and organizations to disseminate accurate information and resources. Table 2 presents aggregate data for CBOs' performance on the vaccine confidence indicators in Year One. Across the 29 CBO partners, over 5 million people received vaccine information through various communication strategies and events. Examples of these activities in practice are described below.

TABLE 2
Performance of Urban-P4VE CBO Partners on Vaccine Confidence Indicators
Year One of the P4VE Program, May 2021–April 2022

Indicator	Cumulative sum
Number of community-level trusted messengers educated, empowered, and trained	7,708
Number of communication products developed and disseminated to promote vaccines	13,916
Number of events hosted or supported	1,243
Number of event attendees	98,634
Number of communication campaigns promoting vaccinations	1,131
Estimated number of people reached through communication campaigns	5,386,776
Number of partnerships established to promote vaccines	481

Source: Urban Institute analysis of P4VE program management data.

Notes: CBO = community-based organization; P4VE = Partnering for Vaccine Equity. These data account for 10 months of performance. No CBOs had project activities and outcomes in the first month of the initiative (May 2021), and data from the final month of Year One (April 2022) were aggregated with Year Two data because CBO reporting frequency changed from monthly to quarterly between Years One and Two. Furthermore, the individual CBO performance period may be shorter than one year, based on when they joined the program.

BUILDING TRUST THROUGH INFLUENTIAL MESSENGERS

CBO partners worked creatively and effectively to put community members at ease and increase their trust and confidence in vaccines. Many CBOs reported that this required patient, tailored, and individualized approaches, often engaging vaccine-hesitant individuals in multiple one-on-one conversations to respond to that individual's specific concerns by presenting evidence in a culturally sensitive manner. Some CBOs recruited and trained trusted community members, including community health workers and peers, to help establish trust in vaccines in their communities. For example, Bright Beginnings, an early childhood and family support organization in Washington, DC, conducted family forums for their largely Black/African American clients using restorative justice techniques to create a safe environment for parents to voice their concerns. During these forums, Dr. Yola, a local Black/African American pediatrician and community primary care provider, took questions and engaged families in easily accessible conversations about the vaccines.

Many CBOs found outreach through trusted peer-to-peer community members to be effective. Some noticed that friends and family were quickly becoming more effective influencers on the topic of vaccines than any other messengers. For example, Springboard to Opportunities in Jackson, Mississippi, recruited and trained residents in local affordable housing communities to provide vaccine education and outreach to fellow tenants. Training included education on the myths and facts about the vaccine and role-playing scenarios on how to navigate difficult conversations. Springboard to Opportunities believed these trusted messengers were responsible for high turnout at the housing communities' onsite vaccine clinics.

Using a similar approach, Refugee Women's Network, an organization serving refugees and immigrant families in Atlanta, Georgia, developed and launched the Mothers x Mothers forum where mothers from the same community engaged in health education (with refreshments, transportation, and child care provided). Mothers x Mothers empowered vaccinated and unvaccinated women to discuss the myths and fears about vaccination. Refugee Women's Network reported that three women decided to get vaccinated because of the first meeting.¹³

COMBATING MISINFORMATION THROUGH EFFECTIVE COMMUNICATION

Urban CBO partners focused heavily on identifying or developing culturally appropriate educational materials, including in languages spoken by their communities, and finding creative ways to disseminate the information to populations in need (box 2). Many communication campaigns relied on collaboration with trusted community leaders and organizations, such as faith-based entities, immigrant-serving organizations, or even barber shops. For example, G. A. Carmichael Family Health Center in Canton, Mississippi, partnered with Black-owned businesses to distribute vaccine information. In another example, Asian Community and Cultural Center (ACCC) in Lincoln, Nebraska, worked with a branding and marketing firm specializing in health communications to develop culturally specific vaccine education campaigns. Their products featured physicians from different Asian ethnic communities alongside ACCC staff (as a trusted source) discussing the reasons for getting vaccinated and providing information about vaccine clinics.

BOX 2

Safe Parents Equal Safe Students Campaign

Fresno Interdenominational Refugee Ministries (FIRM) in California is a faith-based organization serving several refugee communities, including those from Southeast Asia and Africa. In developing its Safe Parents Equal Safe Students video campaign, FIRM partnered with prominent community leaders to create culturally and linguistically effective messaging encouraging families to vaccinate. For example, FIRM partnered with Misty Her, the Deputy Superintendent for Fresno Unified School District and a highly respected and recognizable individual in both the Hmong community and Fresno at large. Misty Her was featured in two public safety announcements on social media platforms and Hmong TV Network. FIRM staff reported that securing Misty Her as a vaccine ambassador gave the campaign visibility, credibility, and relevance and helped engage many Hmong families.

CBOs organized events to provide information, answer questions and concerns, and help people register for vaccine appointments. For example, the Arab-American Family Support Center (AAFSC) in New York City used community center space attached to a local mosque to host vaccine events following religious services. AAFSC worked with the imam to encourage people to visit the event and staffed the event with Arabic speakers to provide participants with culturally and linguistically effective vaccine information and support.

Many CBOs also used social media and digital outreach to engage their communities, including Facebook, Twitter, and TikTok. One organization found that disseminating information and educational videos on a dedicated COVID-19 web page was effective. Several other CBOs reported success using virtual meeting spaces, such as Zoom, to provide community members with up-to-date information about COVID-19 and ways to access vaccines. But CBOs also conducted traditional "boots-on-the-ground" outreach. For instance, one CBO partner shared that visiting communities in person was helpful, including canvasing neighborhoods with pamphlets and posting outreach workers at grocery stores, food pantries, school-based food distribution sites, and other places frequented by locals.

Increasing Vaccination Opportunities

A major goal of the P4VE program is increasing vaccination opportunities in communities hardest hit by the COVID-19 pandemic and broader vaccine inequities. As such, participating CBOs were tasked with establishing and fostering effective partnerships with vaccine administrators such as local health departments, community health centers, hospitals, and other health care providers. Table 3 shows CBOs' overall performance on vaccine access indicators over Year One. In total, more than 105,000 people received COVID-19 and influenza vaccines through P4VE-supported partnerships and events. More information about effective strategies to address barriers to vaccine access is provided below.

TABLE 3 Performance of P4VE-Urban CBO Partners on Vaccine Access Indicators

Year One, May 2021-April 2022

Indicator	Cumulative sum
Number of partnerships with vaccine administrators to increase vaccination opportunities	167
Number of new vaccination sites established	2,251
Number of people who received COVID-19 and influenza vaccines	105,669

Source: Urban Institute analysis of P4VE program management data.

Notes: CBO = community-based organization; P4VE = Partnering for Vaccine Equity. These data account for 10 months of performance. No CBOs had project activities and outcomes in the first month of the initiative (May 2021), and data from the final month of Year One (April 2022) were aggregated with Year 2 data because CBO reporting frequency changed from monthly to quarterly between Years One and Two. Furthermore, individual CBO performance periods may be shorter than one year, based on when they joined the program.

ADDRESSING ACCESS BARRIERS

CBO partners worked creatively to make vaccination as convenient as possible for their communities. Many CBOs established or expanded partnerships with trusted community-based and faith-based organizations and local schools to expand outreach and organize vaccine clinics in locations and during times convenient for community members. For example, El Buen Samaritano in Austin, Texas, partnered with smaller hyperlocal CBOs that provided a trusted voice, broader reach, and the ability to break down silos within Latinx immigrant communities in need. These partners did not have the infrastructure to coordinate large events or manage program requirements but played an important role in facilitating a high turnout to El Buen's monthly vaccine events: around 250 people attended each event, even in the final months of Year One when turnout was waning for other CBO partners. In another example, Mississippi Immigrants Rights Alliance in Jackson, Mississippi, created strategic partnerships with Latinx faith leaders throughout the state to increase vaccination confidence and establish easily accessible vaccination sites.

Several CBOs also collaborated with local public health departments to organize mobile vaccination opportunities to bring vaccines to community members who were bedridden or otherwise unable to get to vaccination sites. Though the P4VE program funds could not be used to pay for transportation directly, some CBOs partnered with local transportation agencies or ridesharing services, such as Uber, to provide free rides to vaccine clinics. None of the CBOs in Year One reported providing support to address child care barriers.

We have hosted three webinars about the COVID-19 Vaccine in English, Arabic, and Bangla. We have been able to secure Uber rides to vaccine appointments, enabling community members to overcome transportation barriers. We have also become an Authorized Enroller site through the New York City Command Center and are able to book direct vaccine appointments for clients at city agencies and hospitals.

-CBO program staff

ADDRESSING SOCIAL NEEDS

Many CBO partners are, by design, social and economic justice organizations and have extensive experience advocating for and delivering services to address pressing health and social needs in their communities. Participation in the P4VE program has allowed these CBOs to build on their existing capacities and fold vaccination outreach and education into their ongoing programming.

Eden Youth and Family Center (EYFC) in Hayward, California, has a long history of hosting community events to distribute food and provide other supports, making EYFC a trusted fixture in their community. Events such as Easter egg hunts, back-to-school supplies giveaways, and Thanksgiving turkey giveaways are among Hayward's most beloved community traditions. EYFC used these popular events to promote COVID-19 vaccines by having community health workers (*promotoras*) "work the line" to provide information and register individuals for vaccines. EYFC also organized these events in a way that required attendees to pass tables with vaccine information.

Other CBOs focused on creating new and expanding existing partnerships with local social service providers to help address community members' social needs. For example, vaccination events often included opportunities for community members to get information about or directly access food, housing, and transportation assistance. Many CBO partners believed that taking a holistic approach and helping individuals address their most pressing needs helped build trust and created an opportunity to start conversations on COVID-19 and improve access to vaccines.

Reviewing Successes and Challenges

Overall, the experience of CBO partners in Year One shows that P4VE program activities and supports have helped address people's concerns leading to vaccine hesitance and eliminating barriers to vaccine

opportunities. Commonly, CBOs cited the use of data to inform outreach and community engagement strategies as instrumental in their efforts. Challenges CBOs encountered included growing COVID-19 fatigue as the pandemic went on and difficulty engaging priority populations via technology and social media, pointing to the need to develop more creative approaches. These issues are further described below.

SUCCESSES

Table 4 presents examples of successful strategies CBOs used to advance progress toward vaccine equity among priority populations. These successful strategies are broadly rooted in three key elements of the P4VE program:

- 1. Recruiting, training, and deploying trusted community messengers
- Building and fostering strong partnerships with diverse community stakeholders
- 3. Hosting community-focused events

Furthermore, CBOs reported that using data, such as regularly gathering feedback from priority populations, helped them develop more effective and community-specific approaches to vaccine education and promotion. For example, many CBOs designed and conducted surveys to better understand community members' concerns and barriers and used this information to tailor communications, develop new partnerships, or secure additional resources needed to engage priority populations more effectively.

TABLE 4

Common Barriers and Successful Strategies for P4VE-Urban CBO Partners in Promoting Vaccine Equity

Year One of the P4VE Program, May 2021–April 2022

Barriers	Successful strategies
Mistrust of government institutions and medical establishments, including distrust of Western medicine	 Conducting extensive and repeated one-on-one conversations to listen empathetically to their concerns and build trust
	 Creating hyper-local campaigns and enlisting community health workers to conduct outreach, address specific concerns, and connect community members with vaccine opportunities
	 Connecting peers to share views and experiences
Misinformation , including pervasive spread of myths and lack of access to reliable, evidence-based, plainlanguage, and culturally and linguistically effective COVID-19 information	 Developing educational campaigns and disseminating information and resources that were culturally and linguistically effective Establishing connections with physicians, faith leaders, and other influential and trusted
	messengers from within specific communities
Access barriers, such as challenges accessing vaccination clinics and events because of inconvenient clinic hours, lack of paid time off, lack of transportation, and lack of child care	 Establishing partnerships with other trusted organizations, schools, and faith communities to expand outreach and vaccination opportunities Holding vaccine events in locations and at times convenient for community members and addressing transportation needs
Unmet social needs (social determinants of health) such as housing and food insecurity that often take precedence over preventative health care	 Taking a holistic approach by addressing community members' immediate health-related social needs before discussing vaccinations Connecting community members to resources such as food supplies during vaccine events

Source: Urban Institute analysis of P4VE program management data.

Notes: CBO = community-based organization; P4VE = Partnering for Vaccine Equity.

CHALLENGES

COVID-19 fatigue became an overarching challenge as the pandemic went on. Toward the end of Year One in April 2022, CBOs experienced considerable burnout among their staff and growing fatigue within priority communities, with fewer and fewer people willing to talk about COVID-19 and vaccines. As the pandemic progressed, CBOs increasingly encountered opposition toward vaccination among the remaining unvaccinated population. Breaking through to this group was exceptionally difficult and created stress and fatigue for CBO staff and volunteers. Occasionally, unvaccinated individuals were hostile, and CBOs saw poor returns on investment in time and effort to engage them. CBOs also reported that resistance to vaccines was highest among young adults, perhaps because of a common perception of being invincible or not seeing a significant benefit to getting vaccinated (Adams et al.

2021).¹⁴ These challenges made it all the more important for the CBOs to develop creative ways of engaging individuals and having productive conversations.

Moreover, many CBOs experienced challenges in engaging communities through technology and social media. Because of social distancing policies and the risk of spreading the infection through gathering, CBOs had to limit in-person engagement, particularly for larger education events. CBOs used social media and virtual platforms like Zoom to disseminate useful information and host live information sessions. But CBOs reported that these tactics often proved ineffective in reaching desired audiences because of unreliable internet access, limited or inadequate devices, or discomfort using technology among priority populations. For example, using QR codes to facilitate access to relevant information fell short in communities where smartphone penetration or internet access was spotty. Without larger infrastructure investments in broadband and computer literacy, access to accurate and culturally effective vaccine information may remain inequitable.

Implications for Policy and Practice

Year One findings align with existing research suggesting that systemic structural barriers are at the root of racial and ethnic inequities in vaccine access (Gonzales et al. 2021; Kuehn et al. 2022; Njoku, Joseph, and Felix 2021). CBOs participating in the P4VE program found that a long history of medical mistreatment of Black Americans and other racial and ethnic minorities heightened their mistrust of public health efforts and COVID-19 vaccines (Hoffman et al. 2016; Institute of Medicine 2003). Limited access to reliable and scientifically accurate information provided in culturally and linguistically effective ways further fueled mistrust and vaccine hesitancy among priority populations. Furthermore, systemic issues such as lack of transportation, child care, and job flexibility disproportionately affect communities with low incomes and racial and ethnic minorities and pose barriers to vaccine uptake among populations that already had less access to COVID-19 vaccines because of unequal vaccine distribution across the US (Hernandez et al. 2022).

The P4VE program was designed to address these systemic barriers by enabling and supporting CBOs that have a history of service and hold the trust of populations experiencing inequities in vaccine coverage. Though the program provides an overarching structure for community engagement, participating CBOs have flexibility to tailor their approaches to best meet the needs and preferences of the communities they serve. These findings suggest that community-based, culturally, and linguistically effective education and outreach are promising strategies to increase vaccine confidence and uptake. CBOs found that training trusted messengers and fostering partnerships with local health and social

service providers, community leaders, or community-focused organizations were particularly effective in engaging priority populations and lowering access barriers.

Nevertheless, some populations were difficult to reach and engage with through P4VE program activities, including people who oppose vaccination in general or COVID-19 vaccines in particular and people with limited access to or interest in receiving information and engaging through social media and virtual platforms. Bearing this in mind, the P4VE program and other public health and vaccination efforts would benefit from expanded and sustainable funding to train and deploy trusted community health workers and health education specialists who can provide individualized, in-person outreach and education in communities most at risk of vaccine inequities. It also remains a priority to develop and test effective ways of educating and encouraging people who refuse vaccines, particularly those at high risk of experiencing serious health complications or death.

Conclusions

This report examines the experiences of 29 community-based organizations across the US that participated in the CDC Partnering for Vaccine Equity program to improve vaccine confidence and increase access to vaccination opportunities among populations experiencing a disproportionate burden of COVID-19 disease. The findings suggest that the core elements of the P4VE program are well designed to address common barriers that affect access to information and vaccination sites among populations from racial and ethnic minority groups. In particular, outreach and engagement through trusted community-based organizations effectively fostered trust and combated misinformation in marginalized communities. These findings also suggest that sustained progress on vaccine equity may require extended, adequate, and sustainable investments in public health, including the community engagement infrastructure developed under the P4VE program.

Appendix A. P4VE-Urban CBO Partner Descriptions

Arab-American Family Support Center

Brooklyn, New York

The Arab-American Family Support Center (AAFSC) is a nonprofit, nonsectarian organization created in 1994 to provide culturally and linguistically effective, trauma-informed social services to immigrants and refugees with modest incomes in New York City. AAFSC has developed expertise serving underresourced Arab, Middle Eastern, Muslim, and South Asian immigrant and refugee communities and provides services in 27 languages with reach across every neighborhood in New York City. With Year One P4VE program funding, AAFSC took a multipronged, culturally and linguistically effective approach to conducting community education and providing vaccine enrollment assistance. AAFSC's team of experienced outreach professionals embedded education into existing service delivery, contacted their most vulnerable constituents individually, hosted workshops, collaborated with local businesses and key stakeholders to develop an awareness campaign, and publicized their efforts through texts, calls, and social media.

Asian Community and Cultural Center

Lincoln, Nebraska

The Asian Community and Cultural Center (ACCC) serves a growing population of refugees and immigrants in Lincoln, Nebraska, including the Vietnamese, Karen, Chinese, and Middle Eastern/North African communities. They provide individuals with support, education and development, and connection to resources, particularly to attain citizenship and achieve self-sufficient living. ACCC's initiative, *Cracking COVID-19 Lincoln*, was designed to educate the local immigrant and refugee population about the COVID-19 vaccine, connect them with related health resources, and encourage vaccination. Under the P4VE program, ACCC undertook a full-scale marketing effort to combat misinformation within their community. They collaborated with community leaders from different immigrant and refugee populations, training them as spokespeople for accurate, scientific-based information, and provided translation services. As part of the marketing efforts, ACCC shared COVID-19 vaccine information with the community via billboards, posters, postcards, and trainings with community members. They also spread positive and trusted information through social media channels

such as Facebook, WeChat, and WhatsApp. In addition, ACCC collaborated with the Lincoln–Lancaster County Health Department to ensure that city and county communications regarding the vaccine are linguistically inclusive of populations underrepresented in the city's COVID-19 vaccination efforts.

Bay Area Women Coalition, Inc.

Mobile, Alabama

Bay Area Women Coalition, Inc. (BAWC) was established by six community members in 1997 to provide for a safe and healthy community. The organization's efforts have led to affordable housing development for low- to moderate-income households, senior citizen apartments, community gardens, and after-school youth programs. BAWC collaborated with local organizations and government agencies to assist residents during the COVID-19 pandemic. As part of the P4VE program, the organization educated, trained, and mobilized intergenerational vaccine ambassadors, organized vaccination sites through community partnerships, and established a vaccine advisory board comprised of five community leaders and stakeholders.

Birmingham AIDS Outreach, Inc.

Birmingham, Alabama

Birmingham AIDS Outreach, Inc. (BAO), is the first nonprofit in Alabama dedicated to providing HIV education, prevention resources, and services for residents living with HIV/AIDS and in the LGBTQ+ community. Since its founding in 1985, BAO has expanded its presence in Alabama and is now affiliated with five organizations, including Magic City Wellness Center (a primary care center for LGBTQ+ adults), Magic City Acceptance Center (a community center for LGBTQ+ youth), Magic City Research Institute (BAO's research department), Magic City Legal Center (pro bono legal services), and Magic City Acceptance Academy (a charter school for LGBTQ+ youth). In response to the pandemic, the organization adapted to provide COVID-19 testing and vaccination services. With P4VE program funding and support, BAO expanded its COVID-19 efforts by partnering with its affiliate wellness center to provide education and increase vaccine distribution in areas with low access to vaccines.

Bright Beginnings

Washington, DC

Bright Beginnings is a nonprofit organization that operates early childhood and family learning centers for children and families experiencing homelessness in Washington, DC. Their centers offer full-day, year-round, developmentally appropriate early childhood education services for children from birth to

age five at no cost to their families. Through the COVID-19 Vaccination Education and Access for Families Experiencing Homelessness Initiative, Bright Beginnings used P4VE program resources to conduct both virtual and in-person engagements. The central goals of the campaign were to (1) educate families and the larger community on COVID-19 vaccines to create an informative and engaging dialogue with the medical community, (2) provide accessible opportunities for families and community members to receive the COVID-19 vaccine, and (3) encourage and equip families and community members with the knowledge to consider how the vaccine and other health choices can fit into their lifestyles.

Centro Campesino Farmworker Center, Inc.

Florida City, Florida

Centro Campesino empowers families and strengthens communities in South and Central Florida, with almost 50 years of experience providing housing assistance and advocating for access to health care, education, and economic opportunities for migrant and seasonal workers and their families. In these efforts, Centro Campesino has developed excellent working relationships with public and private partnerships and alliances to serve and advocate for low-income families. Centro Campesino had prior experience conducting effective outreach in "highly distressed" neighborhoods, including 2020 Census outreach in hard-to-count communities throughout Florida. Under the P4VE program, Centro Campesino established the *Centro Campesino COVID-19 Testing Outreach Collaborative* in South Florida, leveraging existing partnerships and collaborative strategies to expand the reach and variety of its services. They engaged with their community by implementing a multilingual communication, messaging, and social media strategy and visiting door-to-door. Finally, Centro Campesino provided capacity-building training for partners' staff and volunteers and expanded access to and availability of the vaccine through advocacy and by hosting pop-up vaccine clinics at their facilities and other trusted community spaces.

Comite Civico del Valle, Inc.

Brawley, California

Comite Civico del Valle (CCV) is a 501 (c)(3) organization founded on the principle that "informed people build healthy communities." CCV seeks to improve the lives of people in disadvantaged communities by informing, educating, and engaging the community's civic participation. Through their Salud Sin Fronteras (Health without Borders) initiative, CCV conducted vaccine education activities and community engagement pop-ups. CCV's objective was to vaccinate the most vulnerable workers and hard-to-reach individuals at a high risk of contracting COVID-19, including seniors, people without

insurance, and essential workers. Even before joining the P4VE program, Salud Sin Fronteras facilitated vaccinating more than 5,500 individuals. With P4VE funding, CCV expanded its outreach to neighborhoods with high levels of hesitancy and lack of access to COVID-19 vaccines. These efforts included neighborhood pop-ups to provide education, registration assistance, and vaccines.

Community of Hope

Washington, DC

Community of Hope (COH) delivers critical services for underresourced DC residents as one of the area's most comprehensive health care and housing services providers. COH is a federally qualified health center providing medical, dental, and behavioral health services at three health centers in Wards 1, 5, and 8 and at a community resource hub in Ward 8. COH's primary objective through the P4VE initiative was to increase knowledge, acceptance, and uptake of the COVID-19 vaccine in communities most at risk of infection. Under the P4VE program, COH implemented a robust outreach and education program to increase acceptance of the COVID-19 vaccine in communities they serve, where vaccination rates were the lowest in DC, yet the disease rates were the highest. COH hosted pop-up events in the community to increase vaccine acceptance and developed and disseminated tailored educational and promotional materials about the COVID-19 vaccine.

Connection Health

Birmingham, Alabama

Connection Health provides health care access to underserved and uninsured residents of Jefferson County through outreach and education about topics such as obesity and diabetes. The organization uses community health workers trained to serve as liaisons between the community and health care services. Since 2018, Connection Health has partnered with the Jefferson County Department of Health to address high infant mortality rates. The organization expanded this work by using P4VE program funding to train community health workers to educate Black/African American and Hispanic/Latinx pregnant women about the benefits of COVID-19 vaccination, with the goal of increasing vaccine uptake.

Covenant House New York

New York City, New York

Covenant House New York (CHNY) provides youth ages 16 to 24 experiencing homelessness with emergency shelter, holistic wraparound services, and a pathway to permanent housing. CHNY's

services include primary and behavioral health care, legal services, educational and workforce development, mother/child programming, anti-human trafficking services, and a continuum of housing options. Programs are fully inclusive of all genders, races, ages, ethnic origins, sexual orientations, creeds, and legal statuses. Under the P4VE program, CHNY increased awareness of and access to vaccine administration in their clinic through community outreach and influential messengers. These efforts included outreach to local organizations serving youth and young adults experiencing homelessness in NYC to encourage clients from other CBOs to visit CHNY for influenza and COVID-19 vaccinations. In addition, CHNY trained youth health ambassadors to promote vaccination and health information related to COVID-19 within the community.

Delta Health Center

Mound Bayou, Mississippi

Delta Health Center has provided comprehensive preventive and primary health care for underserved communities across the Mississippi Delta for over 50 years. The historic organization established the first federally funded health care center in Mississippi, the first rural community health care center, and the first federally qualified community health center in the United States. The Delta Health Center provides health care services to approximately 16,000 patients annually through its 18 clinics across five counties—Bolivar, Sunflower, Washington, Issaquena, and Sharkey. In April 2020, it began offering free COVID-19 testing and began administering COVID-19 vaccines in January 2021. With P4VE program funding, Delta Health Center's *Taking It to the Streets* initiative aimed to address vaccine hesitancy and increase vaccination rates through community events, partnerships with local organizations and businesses, and one-on-one discussions with vaccine-hesitant people.

East Harris County Empowerment Council

Houston, Texas

East Harris County Empowerment Council (EHCEC) is committed to improving the quality of life for small, unincorporated communities in eastern Harris County, Texas, through innovative, sustainable programs and services focused on health and wellness, educational enrichment, and economic development. Under the P4VE program, EHCEC launched the *Vaccine Awareness*, *Access, and Acceptance Training Initiative* to train residents to build local capacity to address disparities in vaccine accessibility, awareness, and confidence in Asian American/Native Hawaiian/Pacific Islander, Black/African American, and Hispanic/Latinx communities. Vaccine awareness training included evidence-based resources to enable influencers to communicate the burdens of COVID-19 disease and the benefits of

vaccination. The training prepared participants to recognize high-risk populations in underserved neighborhoods and gave them skills to tailor education and outreach resources to increase community members' awareness at major community events, places of worship, salons and barbershops, culturally appropriate venues, and social media. EHCEC also connected with local health departments to establish temporary and mobile COVID-19 vaccination clinics.

Eden Youth and Family Center

Hayward, California

Eden Youth and Family Center (EYFC) provides a comprehensive array of services that enhance the economic, social, educational, and health needs of children, youth, and families throughout Alameda County. Under the P4VE program, EYFC's *Vaccinate with Confidence* initiative trained trusted community messengers, disseminated video messaging, and responded to individual questions and fears to increase confidence in COVID-19 vaccines among at-risk Hispanic/Latinx adults. Program activities included training trusted Hispanic/Latinx Hayward community messengers, implementing a social media campaign to empower youth to encourage adults to vaccinate, and producing five short video PSAs based on training and inspiration received through CDC and other resources. Lastly, EFYC worked to increase access to COVID-19 immunization among their Hispanic/Latinx communities by hosting vaccine clinics sponsored by the Alameda County Health Care Services Agency.

El Buen Samaritano Episcopal Mission

Austin, Texas

El Buen Samaritano, a community-based nonprofit organization serving Hispanic/Latinx and immigrant communities in central Texas, increased vaccination opportunities and reduced vaccination disparities by relying on existing partnerships with smaller hyperlocal CBOs to reach the communities most affected by COVID-19. As a part of the P4VE program, El Buen Samaritano conducted outreach to hesitant populations through safe in-person methods, phone or virtual calls, and other person-to-person communication. They also created public messaging focused on peer messengers, such as influential individuals in the community. In addition, El Buen Samaritano narrowed digital access and literacy gaps by directly helping individuals register for vaccine appointments and using translation and interpretation services to address inequitable access to vaccination information and appointment scheduling.

Fresno Interdenominational Refugee Ministries

Fresno, California

Fresno Interdenominational Refugee Ministries (FIRM) serves the Hmong, Laotian, Slavic, African, and Syrian refugee communities, representing over 60,000 people in Fresno County. FIRM provides wraparound services to refugees of all ages, from young children to elders, including after-school programs, advocacy, mental health programs, community gardens, and programs focusing on literacy, wellness, and community building. With the grant from the P4VE program, FIRM aimed to increase vaccination of immigrant and refugee communities living throughout the Central Valley of California and increase awareness of public health updates and vaccination opportunities through outreach via faith communities, immigrant-owned small businesses, social and new media, and door-to-door visits.

G. A. Carmichael Family Health Center

Canton, Mississippi

G. A. Carmichael Family Health Center (GACFHC) provides access to affordable health care in Mississippi's 11 public health districts. The organization helped its communities respond to the pandemic by providing COVID-19 testing, vaccinations, and monoclonal antibody treatment. Under the P4VE program, GACFHC built on its experience partnering with community stakeholders, such as local government, churches, and Black-owned businesses, to increase awareness about COVID-19 and access to workplace vaccination sites and educational community vaccination events.

Immunize Colorado

Aurora, Colorado

Immunize Colorado is a statewide 501(c)3 nonprofit that works to protect Colorado families, schools, and communities from vaccine-preventable diseases. Immunize Colorado works with health care providers, public health departments, businesses, policymakers, and community organizations to fulfill their mission without accepting funding from vaccine manufacturers and distributors. In 2020, Immunize Colorado created the *Colorado Vaccine Equity Taskforce* and recruited and trained 50 grassroots and grasstops stakeholders, including members and organizations representing people of color, to create and implement a strategic plan to ensure racial and ethnic COVID-19 vaccine equity in Colorado. The P4VE program funding supported the *Taskforce* activities, including developing culturally responsive messaging and traditional and online shareable communications materials. These included developing English and Spanish websites to host videos, testimonials, social media assets, factsheets, flyers, door hangers, postcard mailers, and a community-based vaccination clinic finder and calendar.

Taskforce members partnered with community-based organizations and the Colorado Department of Public Health and Environment to host and market pop-up equity vaccination clinics.

The Inclusion Group

New Orleans, Louisiana

The Inclusion Group was formed in 2018 to provide health education, access, and resources to racial and ethnic minority communities across Greater New Orleans, namely Orleans, Jefferson, St. Bernard, and Plaquemines parishes. The Inclusion Group has held partnerships with the National Association of Community Health Workers and Taking Aim at Cancer in Louisiana. With P4VE program funding, the organization launched its *Leading by Faith Community COVID Initiative* to combat misinformation and increase vaccination uptake. The project trained faith leaders to educate and promote the vaccine among congregants. Churches had the opportunity to partner with local federally qualified health centers to host vaccine events. The project also engaged young adults through partnerships with the Louisiana Department of Health and Xavier University's College of Pharmacy and the Department of Public Health Sciences to host initiatives and a neighborhood canvassing campaign.

Little Manila Foundation (Little Manila Rising)

Stockton, California

Little Manila Rising (LMR) is dedicated to bringing multifaceted equity to Stockton, California. LMR initially received a grant from the Sierra Health Foundation for education and outreach on COVID-19 vaccination information. With additional funding from the P4VE program, LMR continued and expanded its vaccination efforts, hiring an additional project coordinator and volunteer coordinator to manage vaccine appointments and volunteer engagement. LMR hosted biweekly COVID-19 vaccination clinics in partnership with St. George Parish School and Community Medical Center, a trusted entity within the community. In addition, LMR facilitated online presentations and workshops on COVID-19 vaccinations for young adults, with the goal of making them trusted messengers who could empower and educate their loved ones to follow their direction. Additional activities included social media engagement and outreach to share educational materials and notifications on upcoming vaccination events.

Luke's House: A Clinic for Healing and Hope

New Orleans, Louisiana

Luke's House: A Clinic for Healing and Hope was established in 2007 to provide medical aid during the aftermath of Hurricane Katrina. The organization addresses health care disparities primarily in the marginalized Hispanic/Latinx communities of Greater New Orleans. Since its formation, Luke's House has implemented community health programs providing culturally relevant health education resources and services such as diabetes management and health literacy training. During the COVID-19 pandemic, the organization used its resources to help communities access food, rental assistance, and health care services. With the P4VE program funding, Luke's House trained Hispanic/Latinx volunteers about COVID-19 and the importance of vaccinations. Volunteers were then asked to educate 10 family members and friends about COVID-19 symptoms and vaccines to spread awareness and combat misinformation.

Mary's Center

Washington, DC

Mary's Center is a community health center that has served more than 60,000 people of all ages, incomes, and backgrounds in the Washington, DC, metro area. Since its founding more than 30 years ago. With an integrated model of health care, education, and social services, Mary's Center offers each patient individualized care on the path toward good health, stability, and economic independence. Under the P4VE program, Mary's Center held frequent vaccination events (with the capacity to vaccinate up to 400 people per event) in underresourced communities. Many participants were essential workers in the restaurant, child care, and cleaning industries, putting them at higher risk for infection. As a trusted community resource, Mary's Center leveraged its existing relationships to engage, encourage, and vaccinate residents of the communities where their clinics are located.

Mississippi Immigrants Rights Alliance

Jackson, Mississippi

Mississippi Immigrants Rights Alliance (MIRA) is a coalition that addresses the needs of predominately Hispanic/Latinx immigrant populations living in Mississippi. Since its formation in 2000, MIRA has advocated on behalf of immigrants, providing legal services, financial and emergency aid, and more. As many immigrants are essential workers and felt the brunt of the pandemic, MIRA collaborated with community stakeholders to provide immigrants with food, protective wear, and supplies and administered COVID-19 vaccines and testing. With P4VE program funding, MIRA focused its COVID-

19 efforts primarily in rural and small towns of central Mississippi, partnering with local health care providers to engage community members in familiar places (e.g., churches), facilitate discussions, communicate through culturally sensitive messaging, and conduct vaccination drives.

New Immigrant Community Empowerment

Queens, New York

New Immigrant Community Empowerment (NICE) is a nonprofit organization with more than 20 years of experience improving the lives of vulnerable immigrant workers in New York, focusing on day laborers, domestic workers, and newly arrived immigrants. NICE offers extensive workforce development services, worker rights protection, and community organizing. Since its inception, NICE has served about 12,000 workers and families from Latin America who lack documentation. With P4VE program funding, NICE expanded their successful vaccine outreach, education, and connection efforts to more immigrant families, leveraging existing partnerships with health organizations to create access to educational information and dedicated vaccine appointments. In addition, NICE engaged members by conducting weekly door-to-door outreach, holding weekly informational sessions on vaccine safety and available appointments, and hosting quarterly *Days of Action* events, pairing popular offerings such as food distribution and family entertainment with vaccination education and one-to-one support for vaccine appointment scheduling.

Papa Ola Lokahi

Honolulu, Hawaii

Papa Ola Lokahi (POL) is based in Honolulu, Hawaii, with a mission to improve the health status and well-being of Native Hawaiians and others by advocating for, initiating, and maintaining culturally appropriate strategic actions to improve the physical, mental, and spiritual health of Native Hawaiians and their 'ohana (families). Under the P4VE program, POL developed and implemented strategic dissemination of health and vaccination information using POL's network of trusted community resources, committed partners, stakeholders, and media partners. Funding was allocated toward training and mentoring community-level influencers, developing tools featuring Native Hawaiian and Pacific Islander scientists and physicians, and advertising in television, radio, print, and social media.

RefugeeOne

Chicago, Illinois

RefugeeOne is Chicago's largest full-service resettlement agency and has welcomed more than 18,000 refugees since 1982. Services have expanded in recent years to include support to asylum seekers, families of mixed or undocumented status, and unaccompanied children. RefugeeOne provides holistic services to help refugees and immigrants advance self-reliance, strengthen families, and promote healing. This includes support for housing, English as a Second Language education, workforce development, job placement, youth services, and immigration services. The staff includes former refugees and immigrants with 37 languages represented, allowing the agency to provide culturally and linguistically effective services. With P4VE program funding, RefugeeOne developed trauma-informed, culturally tailored materials for vaccine education; created a health service coordination system to support vaccine enrollment; and trained community organizations, refugee- and immigrant-serving organizations, and national resettlement networks on vaccine health initiatives.

Refugee Women's Network

Atlanta, Georgia

Refugee Women's Network (RWN) is an organization founded for and by refugee and immigrant women in Georgia. RWN offers a range of individualized services to assist refugee and immigrant women with social adjustment and economic empowerment, such as emotional counseling or financial literacy training. RWN leveraged its *Community Health Promotion* program to increase COVID-19 vaccine uptake under the P4VE program. *Community Health Promotion* includes a cohort of trained multilingual health promoters who provide timely health information, guidance, and support. As a part of the P4VE program, RWN delivered multilingual science-based education workshops to boost vaccine confidence. RWN also increased vaccine access by partnering with local providers and organizations through campaigns, registration drives, and monthly vaccine clinic days. In addition, RWN created the *Coalition for Community Health Promotion Organizations* to promote vaccine confidence and access within the refugee and immigrant communities of Atlanta.

Springboard to Opportunities

Jackson, Mississippi

Springboard to Opportunities empowers families living in affordable housing through education, economic security, and access to basic needs. The organization has established relationships in four cities—Jackson, Mississippi; Hattiesburg, Mississippi; Batesville, Mississippi; and Mobile, Alabama.

Springboard has promoted health and well-being in these communities through community events, partnerships with clinics, and as a member of UnitedHealthcare's Community Partnership Advisory Committee. With P4VE program funding and support, Springboard combatted vaccine hesitancy by engaging affordable housing communities through outreach by peer health ambassadors, partnership events, focus groups, and messaging materials.

Thai Community Development Center

Los Angeles, California

Thai Community Development Center (Thai CDC) has almost three decades of experience in community outreach and engagement in Thai Town, East Hollywood, and Northeast San Fernando. Thai CDC is the primary social service provider in their predominantly immigrant and Limited English Proficient community. While Thai CDC brings linguistic and cultural competency expertise to serve Thai immigrants, their services extend to other low-income ethnic communities. Thai CDC covers a broad range of services, spanning social and legal services, affordable housing, health care, small business assistance, public benefit enrollments, farmers' markets, and trafficked victim services. With the P4VE program funding, Thai CDC expanded its COVID Aid, Rapid Response, Relief and Emergency Services (Thai CDC CARES) program to host additional mobile pop-up vaccine clinics, translate California Department of Public Health materials, produce webinars and public service announcements, and share materials on social media and in Thai-language newspapers.

Urban League of Philadelphia

Philadelphia, Pennsylvania

The Urban League of Philadelphia (ULP) is an affiliate of the National Urban League, one of the nation's oldest and largest community-based movements dedicated to empowering underserved urban communities. Since 1917, ULP has worked to empower Black/African Americans and other underserved people to secure economic self-reliance, parity, power, and civil rights. Their initiative, *Empowered2VAX*, is a dynamic multimedia "on-the-ground" campaign to educate, vaccinate, and empower Philadelphia's Black/African American and underserved residents, dispelling misinformation and reducing gaps in health access and equity. *Empowered2VAX* is a Black-led, trust-centered campaign grounded in empathy and understanding, delivering science-based resources and positive messaging to Black and underserved Philadelphia communities to help residents make informed health decisions for optimal well-being. With P4VE program funding, ULP engaged its community through two main activity areas: external communications and on-the-ground support. External communications included press

releases, media interviews with trusted Black/African American leaders, and extensive social media engagement. On-the-ground support partnered with a 15-member network of Black churches and community-based organizations to host pop-up and canvassing events featuring trained health representatives to engage with the community.

Notes

- ¹ CDC (Centers for Disease Control and Prevention), "Equity in Adult Vaccination," September 2022, accessed June 12, 2023, https://www.cdc.gov/vaccines/health-equity/index.html.
- ² WHO (World Health Organization), "Vaccines and Immunization," accessed June 12, 2023, https://www.who.int/health-topics/vaccines-and-immunization#tab=tab_1.
- ³ Christian E. Weller, "The Economic Benefits of Vaccinations," July 15, 2021, https://www.americanprogress.org/article/economic-benefits-vaccinations/.
- ⁴ Nonelderly adults are defined as those between ages 18 and 64.
- ⁵ CDC (Centers for Disease Control and Prevention), "Vaccinate with Confidence," October 30, 2019, accessed June 12, 2023, https://www.cdc.gov/vaccines/partners/vaccinate-with-confidence.html.
- ⁶ CDC (Centers for Disease Control and Prevention), "Partnering for Vaccine Equity," December 27, 2022, accessed June 12, 2023, https://www.cdc.gov/vaccines/health-equity/index.html.
- ⁷ CDC, "Partnering for Vaccine Equity."
- ⁸ CDC, "Partnering for Vaccine Equity."
- ⁹ The other two intermediary organizations supporting the P4VE program are Community Catalyst and the CDC Foundation.
- ¹⁰ The Urban Institute, "Partnering for Vaccine Equity Community Connector," accessed June 12, 2023, https://vaccineequity.urban.org/home.
- ¹¹ For programmatic and evaluation purposes, Year One is defined as the period between April 30, 2021, to April 29, 2022. The CBO partner performance period would fall within these dates, but the actual length of performance in Year One may vary depending on when each CBO joined the program. For example, the second CBO cohort from southern states participated in the program from October 2022 to April 2023.
- Deidre McPhillips and Elizabeth Cohen, "Uneven Vaccination Rates Across the US Linked to Covid-19 Case Trends, Worry Experts," CNN Health, May 19, 2021, https://www.cnn.com/2021/05/19/health/uneven-vaccination-rates-covid-19-trends/index.html; Aallyah Wright, "Lowest Rates, Highest Hurdles: Southern States Tackle Vaccine Gap," Stateline, June 17, 2021, https://stateline.org/2021/06/17/lowest-rates-highest-hurdles-southern-states-tackle-vaccine-gap/.
- ¹³ The Mothers x Mothers model was developed in collaboration with Ideo.org and is now being promoted in partnership with the National Resource Center for Refugees, Immigrants, and Migrants as a tool that can help many other communities; NRC-Rim (National Resource Center for Refugees, Immigrants, and Migrants, "For Mothers, by Mothers: A Community Health Meetup That Supports Vaccine Confidence," University of Minnesota, NRC-RIM, https://nrcrim.org/mothers-mothers-community-health-meetup-supports-vaccine-confidence.
- ¹⁴ Sam Gringlas, "'They're Feeling Invincible': White House Steps Up Warnings To Young Adults," NPR, March 19, 2020, https://www.npr.org/2020/03/19/817969931/they-re-feeling-invincible-white-house-steps-up-warnings-to-young-adults.
- ¹⁵ Martha Hostetter and Sarah Klein, "Understanding and Ameliorating Medical Mistrust among Black Americans," Commonwealth Fund, January 14, 2021, https://www.commonwealthfund.org/publications/newsletter-article/2021/jan/medical-mistrust-among-black-americans.

NOTES 37

References

- Adams, Sally H., Jason P. Schaub, Jason M. Nagata, M. Jane Park, Claire D. Brindis, and Charles E. Irwin, Jr. 2021. "Young Adult Perspectives on COVID-19 Vaccinations." *The Journal of Adolescent Health* 69(3): 511–514.
- Andre, F. E., R. Booy, H. L. Bock, J. Clemens, S. K. Datta, T. J. John, B. W. Lee, et al. 2008. "Vaccination Greatly Reduces Disease, Disability, Death and Inequity Worldwide." *Bulletin of the World Health Organization* 86 (2): 140–146. https://doi.org/10.2471/BLT.07.040089.
- Black, Carla L., Alisa O'Halloran, Mei-Chuan Hung, Anup Srivastav, Peng-jun Lu, Shikha Garg, Michael Jhung, et al. 2022. "Vital Signs: Influenza Hospitalizations and Vaccination Coverage by Race and Ethnicity—United States, 2009–10 through 2021–22 Influenza Seasons." Morbidity and Mortality Weekly Report 71 (43): 1366–1373.
- Braveman, Paula, and Laura Gottlieb. 2014. "The Social Determinants of Health: It's Time to Consider the Causes of the Causes." *Public Health Reports* 129 Suppl 2: 19–31. https://doi.org/10.1177/00333549141291S206.
- Daly, Michael, Andrew Jones, and Eric Robinson. 2021. "Public Trust and Willingness to Vaccinate against COVID-19 in the US From October 14, 2020, to March 29, 2021." JAMA 325 (23): 2397–2399. https://doi.org/10.1001/jama.2021.8246.
- Gonzales, Aldren, Euny C. Lee, Violanda Grigorescu, Scott R. Smith, Nancy De Lew, and Benjamin D. Sommers. 2021. "Overview of Barriers and Facilitators in COVID-19 Vaccine Outreach." HP-2021-19. Washington, DC: US Department of Health and Human Services, Assistant Secretary for Planning and Evaluation.
- Hernandez, Inmaculada, Sean Dickson, Shangbin Tang, Nico Gabriel, Lucas A. Berenbrok, and Jingchuan Guo. 2022. "Disparities in Distribution of COVID-19 Vaccines across Us Counties: A Geographic Information System–Based Cross-Sectional Study." *PLoS Medicine* 19 (7): e1004069. https://doi.org/10.1371/journal.pmed.1004069.
- Hoffman, Kelly M., Sophie Trawalter, Jordan R. Axt, and M. Norman Oliver. 2016. "Racial Bias in Pain Assessment and Treatment Recommendations, and False Beliefs about Biological Differences between Blacks and Whites." *Proceedings of the National Academy of Sciences of the United States of America* 113 (16): 4296–301. https://doi.org/10.1073/pnas.1516047113.
- Institute of Medicine. 2003. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. Washington, DC: National Academies Press.
- Karpman, Michael, Genevieve M. Kenney, Stephen Zuckerman, Dulce Gonzalez, and Brigette Courtot. 2021. "Confronting COVID-19 Vaccine Hesitancy among Nonelderly Adults: Findings from the December 2020 Well-Being and Basic Needs Survey." Washington, DC: Urban Institute.
- Kriss, Jennifer L., Mei-Chuan Hung, Anup Srivastav, Carla L. Black, Megan C. Lindley, James T. Lee, Ram Koppaka, et al. 2022. "COVID-19 Vaccination Coverage, by Race and Ethnicity: National Immunization Survey Adult COVID Module, United States, December 2020–November 2021." Morbidity and Mortality Weekly Report 71 (23): 757–763
- Kuehn, Michael, Joyce LaMori, Jessica K. DeMartino, Marco Mesa-Frias, Jason Doran, Lohit Korrapati, Rhea Bhojwani, et al. 2022. "Assessing Barriers to Access and Equity for COVID-19 Vaccination in the US." *BMC Public Health* 22: 2263. https://doi.org/10.1186/s12889-022-14636-1.
- Njoku, Anuli, Marcelin Joseph, and Rochelle Felix. 2021. "Changing the Narrative: Structural Barriers and Racial and Ethnic Inequities in COVID-19 Vaccination." *International Journal of Environmental Research and Public Health* 18: 9904. https://doi.org/10.3390/ijerph18189904.
- Rodrigues, Charlene M. C. and Stanley A. Plotkin. 2020. "Impact of Vaccines; Health, Economic and Social Perspectives." *Frontiers in Microbiology* 11: 1526. https://doi.org/10.3389/fmicb.2020.01526.

REFERENCES REFERENCES

- Siegel, Michael, Isabella Critchfield-Jain, Matthew Boykin, Alicia Owens, Rebeckah Muratore, Taiylor Nunn, and Joanne Oh. 2022. "Racial/Ethnic Disparities in State-Level COVID-19 Vaccination Rates and Their Association with Structural Racism." *Journal of Racial and Ethnic Health Disparities* 9: 2361–2374. https://doi.org/10.1007/s40615-021-01173-7.
- Tai, Don Bambino Geno, Irene G. Sia, Chyke A. Doubeni, and Mark L. Wieland. 2022. "Disproportionate Impact of COVID-19 on Racial and Ethnic Minority Groups in the United States: a 2021 Update." *Journal of Racial and Ethnic Health Disparities* 9(6): 2334–2339. https://doi.org/10.1007/s40615-021-01170-w.
- Zhang, Weiwei, and Deepthi Kolady. 2022. "The COVID-19 Pandemic's Unequal Socioeconomic Impacts on Minority Groups in the United States." *Demographic Research* 47 (33): 1019-1032. https://doi.org/10.4054/DemRes.2022.47.33.

REFERENCES 39

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40 ABOUT THE AUTHORS

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