Advancing vaccination equity in the United States: Key insights from health equity policy and advocacy implementors

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Executive Summary

There have been dramatic declines in routine vaccination rates during the COVID-19 pandemic, with a disproportionate drop among the most vulnerable and traditionally underserved populations. These declines and growing disparities have spurred greater focus on vaccination equity for all vaccinations recommended by the Centers for Disease Control and Prevention (CDC), including the COVID-19 vaccine. In this brief, we describe findings from an environmental scan of the ecosystem of stakeholders supporting vaccination equity in the United States, conducted from April to September 2021. We describe how vaccination equity considerations fit and differ within the priorities of health equity policy and advocacy organizations at the national, state, and community levels (referred to as key informants), and we recommend strategies to advance vaccination equity.

Based on the interviews we found:

- There is a need for increased multisectoral collaboration in the vaccination equity ecosystem;
- Disaggregated data (for example, by age, race, ethnicity, and geography) are essential to understand vaccination uptake within subpopulations and the contributing factors for that uptake, including vaccine hesitancy;
- Historically marginalized communities often experience multiple intersecting barriers to vaccination services;
- Community-based organizations require additional human resources and sustainable long-term funding to offer comprehensive vaccination and supportive services.

We developed promising policy solutions, informed by our findings, that represent opportunities for leaders and organizations to advance vaccination equity. **These recommendations include the following:**

- **Use iterative and adaptive techniques to co-create and scale locally informed promising practices** that elevate community voices, promote long-term cross-sector partnership and investment, and build vaccine confidence and awareness.
- **Collect and leverage disaggregated data,** in part through immunization information systems (IIS), to inform relevant messaging.

What is vaccination equity?

Most key informants conceive of vaccination equity as every person being able to access vaccines regardless of race, citizenship, and socioeconomic status. Bringing about vaccination equity requires focusing on the communities that need the most support to achieve the same health outcomes that more affluent communities experience.

What is the vaccination equity landscape?

The vaccination equity landscape refers to how advocacy and policies address disparities and inequities in vaccination across the life-course and the actors that influence them. For example, it includes equitable access to vaccines for all people. Access includes physical availability to vaccines (for example, the location and hours of operation of vaccine sites) and other factors that influence access, such as quality of care, costs, comfort in health care settings, and providers who look like the community they serve.

What are historically marginalized communities?

Historically marginalized communities are groups and communities that experience discrimination and exclusion (social, political and economic) because of unequal power relationships across economic, political, social and cultural dimensions.

Source: National Collaborating Centre for Determinants of Health

- **Consider using CDC's Health in All Policies,** a collaborative approach that integrates and articulates health considerations into policymaking across sectors to improve vaccination access and uptake; this includes when making decisions about other policy spaces such as transportation, education, and other areas that impact communities.
- **Expand and sustain investments and equity-focused strategies that have been used to support COVID-19 vaccination** to improve routine vaccination.
- **Maximize the utility of state IIS** to identify patients' vaccination needs at the point of clinical care and identify gaps in vaccination rates at the population health level.

Background

Historically underserved populations experience a disproportionate burden of underlying comorbidities and are more likely to be part of the essential workforce, putting them at greater risk of exposure to COVID-19 and subsequent serious illness.[1] The disproportionate impact of COVID-19 has exposed long-standing equity issues in the broader vaccine ecosystem and highlighted the importance of promoting vaccination equity. For example, over the course of the national COVID-19 vaccination campaign, Black and Hispanic[2] people have been less likely than White people to receive a COVID-19 vaccine. Disparities in COVID-19 vaccinations have declined over time (even reversing for Hispanic people), in large part because of concerted efforts to increase vaccination coverage rates in underserved communities through outreach, education and awareness campaigns, and reduced barriers to vaccination.[3] These initiatives offer promising practices and solutions to address disparities across other routine recommended vaccinations because Black and Hispanic people face lower vaccination coverage rates than White people for a range of vaccine-preventable diseases.[4] For example, from 2018 to 2019, 49 percent of White people received the influenza vaccine, but only 39 percent of Black people and 37 percent of Hispanic people received the influenza vaccine.[5] Several challenges hinder vaccine confidence and uptake, including misinformation, concerns about out-of-pocket costs, inability to access vaccination sites, concerns about missing work to go to a vaccination site, and rooted mistrust of the health care system.

Findings and recommendations

Key informants from health equity policy and advocacy organizations at the national, state, and community levels shared their insights on what vaccination equity means, how actors can promote vaccination equity, what resources and supports are needed to continue work in this area, and what opportunities exist for policies and initiatives to advance vaccination equity. Overall, our findings suggest several promising policy solutions using a framework we adapted from Thompson et al.'s The 5As: A Practical Taxonomy for the Determinants of Vaccine Uptake.[6] Our five determinants of vaccine uptake are (1) awareness and knowledge of vaccines and vaccination services, (2) acceptance of vaccines, (3) access to vaccination services, (4) resource support for vaccination equity, and (5) motivation to seek vaccination services. These promising policy solutions represent opportunities for advancing vaccination equity that leaders and organizations might consider.

Table 1 contains a summary of our findings and recommendations developed using our adapted framework of the 5As taxonomy. We provide more details later in the section. Findings and recommendations refer to both COVID-19 and routine vaccination unless otherwise specified.

Awareness and knowledge of vaccines and vaccination services

Finding: The vaccination equity landscape comprises numerous actors that key informants suggested could collaborate more effectively together. Closer collaboration could enhance awareness, enable long-term partnerships and investments, and build confidence among communities with low vaccine uptake. Key informants cited a variety of actors that make up the vaccination equity landscape (Figure 1). These actors, first and foremost, include the communities of focus. Other actors belong broadly to the public, private, and nonprofit sectors. Each actor brings complementary strengths: the communities of focus intimately understand their needs; the public sector has experience setting vaccination goals and managing public health responses; the private sector has funding and resources to quickly support vaccine distribution efforts; and the nonprofit sector has a deep understanding of the communities they serve and how best to meet community needs. Working together to acknowledge and use their respective strengths, each actor could more effectively build vaccine confidence and advance vaccination equity by amplifying each other's voices, particularly community voices.

Figure 1

KEY ACTORS IN THE VACCINATION EQUITY LANDSCAPE

Communities of focus

Health care providers that are racially, ethnically, and culturally matched to the communities they serve

Government institutions, such as public health departments

Community-based or grassroots organizations

+ LESS FREQUENTLY CITED ACTORS

- Direct service providers
- Faith-based organizations
- Academic institutions
- Advocacy and civil rights organizations
- Employers
- Pharmaceutical companies
- Individuals/groups involved in media

Table 1. Summary of study findings and recommendations we developed using the adapted 5As taxonomy for the determinants of vaccine uptake

Adapted 5As taxonomy	Finding	Recommendation
Awareness and knowledge of vaccines and vaccination services	The vaccination equity landscape comprises numerous actors that key informants suggested could collaborate more effectively together. Closer collaboration could improve awareness and build confidence among communities with low vaccine uptake.	Use iterative and adaptive techniques to co-create and scale locally informed promising practices that elevate community voices, promote long-term cross-sector partnership and investment, and build vaccine confidence and awareness.
Acceptance of vaccines	Disaggregated data are essential to understand vaccination uptake within subpopulations and the contributing factors for that uptake, including vaccine hesitancy. This information is necessary for identifying community trends and offers insight for developing culturally relevant messaging for communities based on their particular needs.	Collect and leverage disaggregated data, in part through immunization information systems, to understand vaccination uptake in subpopulations within communities and inform relevant messaging.
Access to vaccination services	Historically marginalized communities often experience multiple intersecting barriers to vaccination services, with Black and Latinx communities facing additional long-standing barriers that acutely affect access and confidence in their communities.	Consider a Health in All Policies approach to develop and implement policies that improve vaccine access and situate access barriers within broader environmental and structural conditions, such as a lack of paid time off from work to receive vaccinations or lack of public transit to vaccination sites.
Resource support for vaccination equity	Community-based organizations require additional human resources and sustainable long-term funding to offer comprehensive vaccination and supportive services that promote uptake in communities.	Expand and sustain investments and equity-focused strategies that have been used to support COVID-19 vaccination to improve routine vaccination.
Motivation to seek vaccination services	Further efforts are needed to meet people where they are by increasing education and awareness on the value of vaccination to make routine vaccination the easy choice.	Maximize the utility of state immunization information systems to identify patients' vaccination needs at the point of clinical care and identify gaps in vaccination rates at the population health level.

Sources: Thomson, A., K. Robinson, and G. Vallée-Tourangeau. "The 5As: A Practical Taxonomy for the Determinants of Vaccine Uptake." *Vaccine*, vol. 34, no. 8, February 17, 2016, pp. 1018–1024. doi: 10.1016/j.vaccine.2015.11.065. Epub 2015 Dec 7. PMID: 26672676.

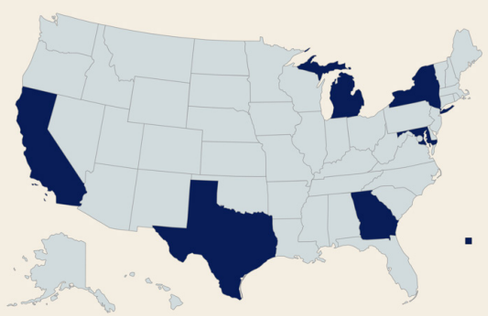
Note: Findings and recommendations were identified from interview data.

STUDY ACTIVITIES

- We held 29 interviews with national, state, and community health equity policy and advocacy organizations who conduct work with Black and Latinx communities.
- Interviews were about 60 minutes long and conducted by telephone using a semi-structured discussion guide that covered key informants' work on vaccination equity, their related goals, what must happen to achieve them, thoughts on the vaccination equity landscape, and recommendations.
- Key informant recruitment, interviews, findings, and recommendations were guided by the 5As taxonomy for the determinants of vaccine use (Thomson et al. 2016); we focused on vaccine (1) awareness and knowledge; (2) acceptance; (3) access; (4) affordability; (5) activation.

SAMPLE CHARACTERISTICS

- National key informants included federal government agencies, nongovernmental agencies, national coalitions, foundations, and research organizations across the country.
- State key informants included state public health departments, state-level equity coalitions, and research organizations in CA, GA, MD, MI, NY, and TX.
- Community key informants included community-based organizations, community vaccine and health care provider organizations, local governments and public health departments, religious organizations, nongovernmental organizations, research organizations, and universities in Atlanta, Baltimore, Detroit, Flint, Los Angeles, Houston, New York, and Oakland.



"[Private sector] community outreach is huge…[when] they're not going to extract, but to supplement or reinforce and be there for the long term…So, really, being a good long-term partner would be huge, [especially] for pharmaceutical corporations."

Recommendation: Use iterative and adaptive techniques to co-create and scale locally informed promising practices that elevate community voices, promote long-term cross-sector partnership and investment, and build vaccine confidence and awareness. Leaders and organizations should identify promising strategies for keeping community voices at the center of vaccination equity initiatives and incorporate their perspectives into decision-making processes. Private-sector actors could work more deliberately with communities of focus over the long term by creating employment pipelines that result in private-sector employees who are racially, ethnically, and culturally matched to the communities they serve. In addition, stakeholders can explore how to further integrate less-frequently cited actors into the vaccination equity landscape. For example, faith-based organizations have been critical in spreading evidence-based information about the safety and efficacy of vaccines using trusted voices during the pandemic. To ensure that practices are successful, leaders and organizations should consider using the Equitable Evaluation Framework to assess their practices and refine and scale them based on findings. The Equitable Evaluation Framework shifts the traditional evaluation paradigm and factors systemic and structural barriers that harm historically marginalized communities into decision making. It is based on the principles that evaluation strategies and efforts should (1) center on advancing equity; (2) be multicultural and focus on participant ownership; and (3) inform on critical issues, such as how efforts to provide vaccination reach and are received by different populations and how the context in which a strategy is implemented affects the strategy itself.[7]

Acceptance of vaccines

Finding: Disaggregated data are essential to understand vaccination uptake within subpopulations and the contributing factors for that uptake, including vaccine hesitancy. This information is necessary for identifying community trends and offers insight for developing culturally relevant messaging for communities based on their unique needs. Collecting and analyzing disaggregated demographic data enables state and local governments to identify disparities in vaccine rollout and uptake by examining trends within subpopulations in a given community. This, in turn, enables these stakeholders to better understand what information communities and subpopulations might need regarding vaccines and what form of information would be most impactful. Our findings indicate, however, that many state and local governments do not have disaggregated data because they do not require vaccinators to collect race and ethnicity data at the point of care. Thus, actors are limited in the kinds of data they can use to both understand what disparities may exist in their community and inform their outreach strategies.

"[Our work] is about having conversations and creating campaigns based on data. The data tells us where people don't have access to vaccines, to health insurance, or transportation or community centers and health clinics."

Recommendation: Collect and leverage disaggregated data, in part through IIS, to understand vaccination uptake in subpopulations within communities and inform relevant messaging. Actors across sectors could work together to ensure that trusted messengers have evidence-based information to address communities' and subpopulations' concerns and misinformation about vaccines and vaccination services. A first step in this process is for actors to identify and partner with organizations skilled at collecting disaggregated demographic data and use these organizations' technical assistance and training to bolster and improve data collection efforts. Policymakers could also consider requiring vaccination providers to gather these data at the point of care. With information to identify sub-trends within the communities they serve, actors could then conduct research and develop an understanding of each community's particular concerns and the misconceptions it might hold, develop hyper-localized messaging that addresses those concerns, and identify the most appropriate messengers to deliver this information.

Access to vaccination services

Finding: Historically marginalized communities often experience multiple intersecting barriers to vaccination services, with Black and Latinx communities facing additional long-standing barriers that acutely affect access and confidence in their communities. Barriers for historically marginalized communities include lack of employer and infrastructure supports to access vaccination sites; lack of affordable transportation to vaccination sites; and bureaucratic hurdles, such as vaccine registration that requires identification. People in historically

marginalized communities often experience many of these barriers simultaneously, compounding their effects and further inhibiting access. In Black communities, the Tuskegee Syphilis Study and the ongoing Black maternal health crisis, among other events, have sowed mistrust and concerns about medical racism in the health care system, further inhibiting vaccine confidence. In Latinx communities, language barriers, concerns that citizenship will be investigated at sites run by police or the National Guard, and failure to prioritize the specific needs of migrant agriculture workers reduce vaccine access and uptake. To combat these barriers, key informants described disseminating tailored information about vaccines and vaccination across a variety of platforms, including radio, television, bus stop ads, virtual town halls, and vaccine information and resource kits.

Recommendation: Consider a Health in All Policies approach to develop and implement policies that improve vaccine access and situate access barriers within broader environmental and structural conditions, such as a lack of paid time off from work to receive vaccinations or lack of public transit to vaccination sites. Leaders and organizations working to advance vaccination equity must consider how to have a deep understanding of how factors outside of traditional health conditions impact health. Using Health in All Policies, a cross-sector collaborative approach to develop policies that includes considering the health implications of all decisions, could enable leaders and organizations to enhance their understanding of the root causes of inequitable access for historically marginalized communities and, in turn, policies to address them.[8] A broad range of policy decisions, such as decisions on public transit routes that connect communities to health providers or the implementation of school-located vaccination clinics, could be leveraged to promote people's access to vaccination-related information and services.

Resource support for vaccination equity

Finding: Community-based organizations require additional human resources and sustainable long-term funding to offer comprehensive vaccination and supportive services that promote uptake in communities. Community organizations need more staff to write grants, secure funding, meet grant reporting requirements, and support monitoring and evaluation activities. Many key informants also described a need for sustainable funding, which helps community-based organizations plan comprehensive multi-year programs to address vaccination disparities. Sustainable funding can also ensure the recruitment and retention of community health workers who have the context and understanding needed to effectively work and partner with communities. This can help deliver health messaging to hard-to-reach populations, such as rural populations, and the most vaccine-hesitant communities, such as young adults. One key informant said it was difficult to retain health staff with short-term grant-based funding, which affected trust-building between staff and communities. Without this funding, organizations might also have to pare back programs as they prepare for grant cycles to end (for example, by removing additional or ancillary supportive vaccine services offered to people in their community, such as mobile or walk-up clinics or transportation to vaccination sites), which could increase the indirect cost of vaccination for patients and possibly discourage uptake.

Recommendation: Expand and sustain investments and equity-focused strategies that have been used to support COVID-19 vaccination to improve routine vaccination. The American Rescue Plan Act provided funding to states and communities to build COVID-19 vaccine confidence and uptake in underserved communities; these efforts could lay the foundation for ongoing work to build confidence in routine vaccinations. Equity-focused strategies funded to drive COVID-19 vaccination uptake that can also support routine vaccination efforts include leveraging networks of trusted messengers to disseminate information and resources to communities about vaccination (that is, the COVID-19 Community Corps), developing culturally and linguistically sensitive educational materials, offering transportation to vaccination sites, hosting vaccination events outside traditional business hours and on weekends, and holding events to vaccinate underserved community members in community spaces such as houses of worship and homeless encampments. Moving forward, U.S. Department of Health and Human Services leaders should be empowered to find more direct mechanisms for funding community-based organizations' work supporting routine vaccination as well as through state and local health partners. This will enable more sustainable tailored outreach programs built upon the knowledge and experience community leaders gained during the pandemic.

> "Your approach has to be like a Rubik's Cube. You have to keep shifting and going to where people need you with the information they need. There isn't one approach…You can't just set up a booth and hope people show up."

Motivation to seek vaccination services

Finding: Further efforts are needed to meet people where they are by increasing education and awareness on the value of vaccination to make routine vaccination the easy choice.

Several key informants reported that members of the community have difficulty understanding which vaccinations they need, when they need them, and whether and when they need boosters. Although CDC provides this information in its recommended adult immunization schedule, key informants stated that knowledge of this schedule is not widespread.

Recommendation: Maximize the utility of state IIS to identify patients' vaccination needs at the point of clinical care and identify gaps in vaccination rates at the population health level. State IIS record which vaccinations an individual received and when. By expanding knowledge of state IIS and CDC's adult immunization schedule, and by broadening access to these systems, providers could more easily obtain and track clients' personal vaccination information

> "[COVID-19] showed us how unprepared we were for any type of emergency and how inequitable our public health care system is. There needs to be regular appropriations and funding for equity issues and vaccine issues and public health infrastructure in general. There has to be consistent long-term funding."

at the point of care and provide services or information accordingly. In addition, IIS reminder/recall functionality can be leveraged to remind and empower people to make appointments to get caught up on vaccinations. Stakeholders working to advance vaccination equity could also leverage IIS to track vaccination gaps in their communities, tailor resources, and provide additional support.

Conclusion

The COVID-19 pandemic has exposed many long-standing challenges to achieving vaccination equity and uncovered many contextual and environmental factors that shape equitable access to a range of quality health services, including COVID-19 and routine vaccination. As many actors in the public, private, and nonprofit sectors focus on achieving equitable distribution, access, and uptake of the COVID-19 vaccine, there is an opportunity to use the growing interest and emerging lessons to promote equity in routine vaccinations. This study provides leaders and organizations with information on what key informants at the national, state, and community levels need to achieve vaccination equity, and it illuminates potential policy pathways to support this work.

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Endnotes

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[2] Throughout this brief, we use the term Latinx to describe people of Latin American origin or descent. But when referencing data collected by CDC, we use the term Hispanic to reflect CDC's terminology.

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[7] For more information, see https://www.equitableeval.org/framework.

[8] For more information, see https://www.cdc.gov/policy/hiap/index.html.