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Viewpoint

Achieving Racial and Ethnic Equity in COVID-19 Vaccination From Individual Readiness to Health System Readiness

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Black and Latinx individuals in the US continue to be less likely than White individuals to have received the COVID-19 vaccine.¹ Achieving racial and ethnic equity in COVID-19 vaccination requires both individual and health system readiness. Individuals must be ready to get vaccinated, and systems administering vaccines must be ready to reach historically marginalized populations to ensure equitable access. Readiness is often viewed as a static proposition. Individuals are characterized as being either vaccine willing or hesitant, systems as prepared or unprepared.

Our work with community members, patients, public health departments, and health care organizations has led us to conclude that for both individuals and systems, vaccination readiness is a dynamic and deliberative process. One of us (O.O.H.) adapted a theoretical model of stages of individual readiness to the training of contact tracers in California to conduct vaccination outreach. Two of us (K.G. and M.C.) have conducted community-based focus groups and interviews with Black/African American, Chinese American, and Latinx residents in the San Francisco area to gain insight into their views about vaccination. One of us (K.G.) helps to lead the COVID Equity Work Group at UCSF Health, an academic health center; collaborates with the San Francisco Department of Public Health and community-based organizations on vaccine access and outreach programs; and assists patients in his primary care practice with vaccination decision-making. In this Viewpoint, we describe a model for stages of health system readiness for equitable vaccine delivery that may be used by public health departments, health care systems, federally qualified health centers, and other organizations involved in vaccine administration to assess and improve their capacity for achieving vaccination equity.

Author affiliations and article information are listed at the end of this article.

Individual Readiness

A cross-sectional survey conducted between November 27, 2020, and January 15, 2021, found that Asian, Black, and Latinx people in the San Francisco area expressed more concerns than White people about the COVID-19 vaccine and more reluctance to get vaccinated.² These differences, however, appear to be narrowing with time as people gain familiarity with vaccinations in their communities.³ In this context, the Transtheoretical Model developed by Prochaska and colleagues⁴ helps to describe the stages of behavior change, from precontemplative to action and beyond.

Our adaptation of the Transtheoretical Model characterizes individual readiness stages as antivaccine, vaccine skeptical, vaccine questioning, and vaccine confident (**Figure**). With time, individuals may move through the stages, such as from the skeptical to the questioning to the confident stage, as new experiences and information influence their decision-making. Likewise, emerging information (eg, possible blood-clotting associated with the Johnson & Johnson Janssen vaccine) may also shift individuals in the opposite direction on the readiness spectrum. Thus, educational efforts are best configured not as "one and done" unidirectional marketing campaigns, but as multidimensional outreach programs facilitating ongoing dialogue and bidirectional exchange of information and perspectives with potential vaccine recipients and their communities.

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Health System Readiness

When racial disparities in COVID-19 vaccination emerged, soon after vaccines became available to the public, the emphasis on vaccine hesitancy as the most salient factor for understanding vaccination inequities came under fire.^{5,6} Critics called out the structural racism in vaccination approaches in regions that relied heavily on online scheduling platforms that marginalized individuals with poor internet and device access, low computer literacy, and limited English proficiency; primarily operated drive-in mass vaccination sites, which were inaccessible to people without automobiles; and created or reinforced other access barriers. Moreover, a singular focus on vaccine hesitancy risked blaming the individual for vaccination disparities rather than holding health care and public health organizations accountable for ensuring equitable access to vaccination.⁶

Our variety of recent experiences in community and health system engagement has led us to conclude that vaccination readiness is not an either/or proposition. Many individuals have concerns about vaccine efficacy and safety, and many people eligible and motivated to get vaccinated have encountered difficulties in obtaining access to vaccines. Our conceptual framework thus adds to the model of deliberative stages of individual vaccination readiness a comparable model of stages of system readiness for equitable vaccine access (Figure).

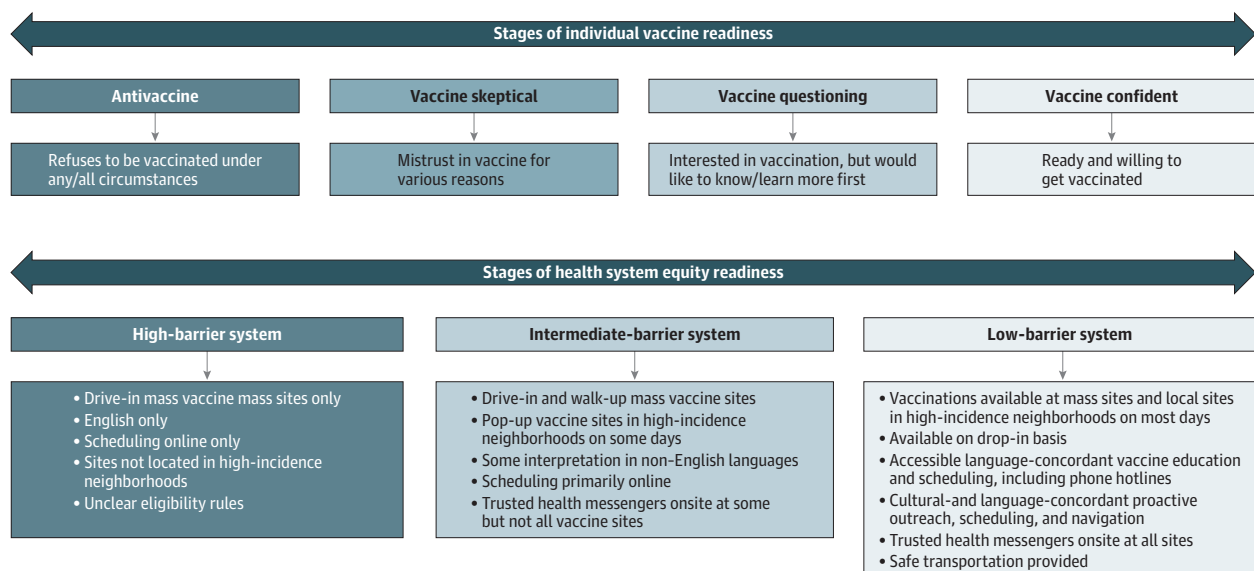
High-Barrier System

This stage comprises many of the initial vaccination programs across the US, ie, exclusively online registration, only in English, and mass drive-in vaccination sites. Although this approach achieved efficiencies in vaccination administration, it came at the expense of equity.

Intermediate-Barrier System

This stage continues to rely on mass vaccination sites and online registration but adds deployment of local vaccination sites on a “pop-up” but not consistent basis in neighborhoods with a high incidence of COVID-19. Outreach, eligibility, and scheduling processes include some attention to language access for people with limited English proficiency and provide some navigation using telephone, text messaging, and in-person outreach.

Figure. Stages of Individual and Health System Readiness for Equitable COVID-19 Vaccination



Low-Barrier System

This stage is defined by a highly accessible system that optimizes diverse outreach and scheduling modalities in multiple languages; prioritizes outreach efforts to historically marginalized communities; includes drop-in access for members of high-incidence communities; operates neighborhood sites almost daily; has staff that reflects the racial, ethnic, and language diversity of local populations at every vaccination site; and facilitates navigation of access procedures and transportation to vaccination sites when needed.

An example of a health system that progressed through the stages of system readiness is the San Francisco Health Network (SFHN), an integrated health care delivery organization operated by the San Francisco Department of Public Health. The SFHN pivoted away from online vaccination scheduling because this method was preferentially attracting tech-savvy upper-income White residents rather than SFHN's traditional patient population, which mostly comprises lower income individuals and Asian, Black, and Latinx individuals. The SFHN implemented text messaging and telephone outreach, a multilingual vaccine scheduling hotline, and drop-in vaccination sites, with subsequent improvement in vaccine equity.⁷

In another example, the Protect Chicago Plus initiative, which focused on 15 neighborhoods disproportionately affected by COVID-19, the Chicago Department of Public Health partnered with community-based organizations and federally qualified health centers to organize outreach teams, to set up local vaccination sites with fewer eligibility and scheduling barriers, and to deploy a mobile vaccine bus. Although the initiative reduced racial disparities in vaccination, the winding down of the program after 3 months has raised concerns that recent gains in vaccine equity will be reversed.⁸ Other local partnerships across the US have implemented elements of low-barrier systems.⁹

Conclusions

State governments, local health departments, health care systems, federally qualified health centers, and other organizations involved in vaccine administration in the US may find this framework useful to assess stages of equitable vaccination readiness. High-barrier systems have succeeded in efficiently vaccinating many people in the US who have high vaccine confidence and are undeterred by structural barriers. However, the hard work of vaccinating a sufficient proportion of not-yet-vaccinated individuals to achieve public health goals for community immunity—in an equitable manner—will require much more. A dedicated effort to create and sustain low-barrier vaccination systems across the country is needed.

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REFERENCES

1. Ndugga N, Pham O, Hill L, Artiga S, Alam R, Parker N. Latest data on COVID-19 vaccinations, race/ethnicity. Kaiser Family Foundation. Published June 23, 2021. Accessed July 7, 2021. <https://www.kff.org/coronavirus-covid-19/issue-brief/latest-data-on-covid-19-vaccinations-race-ethnicity/>
2. Grumbach K, Judson T, Desai M, et al. Association of race/ethnicity with likelihood of COVID-19 vaccine uptake among health workers and the general population in the San Francisco Bay Area. *JAMA Intern Med*. Published online March 30, 2021. doi:10.1001/jamainternmed.2021.1445
3. Huettner E. COVID vaccine hesitancy drops among all Americans, new survey shows. Kaiser Health News. Published March 30, 2021. Accessed June 25, 2021. <https://khn.org/news/article/covid-vaccine-hesitancy-drops-among-americans-new-kff-survey-shows/>
4. Prochaska JO, DiClemente CC, Norcross JC. In search of how people change: applications to addictive behaviors. *Am Psychol*. 1992;47(9):1102-1114. doi:10.1037/0003-066X.47.9.1102
5. Corbie-Smith G. Vaccine hesitancy is a scapegoat for structural racism. *JAMA Health Forum*. 2021;2(3):e210434. doi:10.1001/jamahealthforum.2021.0434
6. Boyd R. Black people need better vaccine access, not better vaccine attitudes. *New York Times*. March 5, 2021. Accessed June 29, 2021. <https://www.nytimes.com/2021/03/05/opinion/us-covid-black-people.html>
7. Stern RJ, Rafferty HF, Robert A, et al. Concentrating vaccines in neighborhoods with high COVID-19 burden: how an urban public health care system delivers vaccines to the communities that have experienced the highest burden of COVID-19 disease. *NEJM Catalyst*. Published online April 6, 2021. <https://catalyst.nejm.org/doi/full/10.1056/CAT.21.0056>
8. Vevea B, Schorsch K. Chicago's plan to flood areas with COVID-19 vaccines improved racial equity—now it's ending. *WBEZ Chicago*. May 19, 2021. Accessed May 24, 2021. <https://www.wbez.org/stories/chicagos-plan-to-flood-areas-with-covid-19-vaccines-improved-racial-equity-now-its-ending/356d0aeb-43a2-4b2f-a6c9-1c6a2b49884b>
9. Public Health Alliance of Southern California. The Public Health Alliance Vaccine Equity video series: promising and actionable practices for local health departments. Accessed May 24, 2021. <https://phasocal.org/vaccine-video-series/>