

**Lee Kirksey, MD, MBA**

Department of Vascular Surgery, Heart Vascular and Thoracic Institute, Cleveland Clinic, Cleveland, OH; Walter W. Buckley Endowed Chair, Department of Vascular Surgery, Cleveland Clinic, Cleveland, OH

**Adam J. Milam, MD, PhD**

Fellow, Anesthesiology Institute, Department of Cardiothoracic Anesthesiology, Cleveland Clinic, Cleveland, OH

**Caleb W. Curry, BA**

Case Western Reserve University, Undergraduate Studies, Cleveland, OH

**Ahmed A. Sorour, MD**

Research Fellow, Department of Vascular Surgery, Heart Vascular and Thoracic Institute, Cleveland Clinic, Cleveland, OH

# Vaccine hesitance and vaccine access in minority communities

Published May 6, 2021

## ■ ABSTRACT

Attaining equity in vaccination distribution is a moral and ethical goal that ensures all members of our community are properly cared for. We suggest a comprehensive approach that involves allocating community resources based on local economic, demographic, and COVID-19 infection data, removing technology barriers by staffing vaccine appointment call-in centers, distributing vaccines based on objective factors (eg, household density) rather than on a “first come, first served” basis, and creating pop-up vaccination sites at trusted community organizations such as federally qualified healthcare centers, churches, libraries, and barber/beauty shops. Until every community is safe, no community will be safe.

## ■ INTRODUCTION

The COVID-19 pandemic has exposed longstanding inequities in healthcare within the United States.<sup>1</sup> From the cradle to the grave, racial and ethnic minority groups and low-income White individuals experience a greater disease burden.<sup>2</sup> Specifically, Black community members experience higher rates of infant and maternal mortality and lower life expectancy than White community members. While the racial disparity in life expectancy is decreasing nationally, there continues to be a persistent gap in life expectancy across the lifespan. In fact, the difference in life expectancy between Black and White community members can be as high as 20 years in the same county or census tract.<sup>3</sup>

While it is distressing, it is not surprising that systemic stressors created by the COVID-19 pandemic

have exposed cracks in our public health structure’s ability to protect the most vulnerable members of our society—Black, minority, and poor rural White. With the onset the COVID-19 pandemic, the system was tasked with the challenge of making diagnostic testing available in racial and ethnic minority communities that were disproportionately impacted. Although the goal was to avoid worsening health inequalities, we were unable to rise to the challenge. Hospitalization rates were 4 times higher, and death rates 3 times higher, in Black patients with COVID-19 versus their White counterparts.<sup>4</sup> Moreover, reports surfaced of individuals from outside communities driving into under-resourced areas to get vaccinated.

The current and most important challenge of the COVID-19 pandemic is ensuring that we reach levels of public vaccination above 75% that will permit the nation to achieve “herd immunity.” Moreover, concerns are arising that more contagious variants from the United Kingdom, South Africa, and Brazil may increase the percentage threshold necessary to achieve herd immunity

## ■ VACCINE HESITANCY

Vaccine hesitance remains a formidable challenge. Recent polling data indicate that only 49% of Black community members say they will get the vaccine.<sup>5</sup> Another 31% report that they “will not” and 19% report that they are “unsure.” Several factors are responsible. A long-standing historical mistrust stemming from the misuse of medical research in racial and ethnic minority communities is widely prevalent. The perception that politics rather than medical science influenced the speed of vaccine development and approval also has played a role in shaping this unfortunate and detrimental public perception among Black community members.

The statements and opinions expressed in COVID-19 Curbside Consults are based on experience and the available literature as of the date posted. While we try to regularly update this content, any offered recommendations cannot be substituted for the clinical judgment of clinicians caring for individual patients.

doi:10.3949/ccjm.88a.ccc079

## ■ STRUCTURAL BARRIERS

It is myopic and detrimental to the goal of achieving broad uptake of the vaccine in racial and ethnic minority groups to fail to recognize the role structural barriers play. These systemic challenges include social and economic factors such as high rates of unemployment, wage instability, low generational wealth transfer, and low rates of health insurance coverage—all of which more commonly impact marginalized populations. These barriers are exemplified by large gaps in household earnings. For example, the median Black household income is 61% of that for White households and household wealth for Black families is 10% of that for White families.<sup>6,7</sup> These disparities cumulatively result in a household that is more vulnerable to the unanticipated economic impact of the COVID-19 pandemic.

Now with the availability of 2 vaccines that have been rigorously tested and determined to be safe and 94% to 95% effective—and a 3rd vaccine with comparable effectiveness after 1 dose—another manifestation of the structural inequities imbedded in our society and healthcare delivery system is being revealed.<sup>8,9</sup> Comparatively, lower access to medical care among those from Black and minority communities continues to be problematic and is highlighted by the COVID-19 vaccination roll out. Although racial and ethnic demographic data are available for only 50% of patients vaccinated thus far, the US Centers for Disease Control and Prevention (CDC) notes that Black Americans represent only 6% of those vaccinated despite representing 13% of the national population. While vaccine hesitancy may be contributing to these lower rates of vaccination, it is important to remember that vaccine hesitancy is present within White communities as well, and in some instances, at similar rates. Thus, it is fair to posit that a large component of the disparity is lack of vaccination access.

In Ohio, Black community members represent only 5% of those vaccinated despite accounting for 14% of the state's population.<sup>10</sup> This statistic is more alarming because early rollout focused on healthcare providers and historically, healthcare systems employ a higher percentage of racial and ethnic minority community members in service roles. One may argue that with the high presence in healthcare system, these individuals should have comparable, if not higher, vaccination rates than their White counterparts.

Access to COVID vaccination is most starkly demonstrated for those elderly Black individuals who, despite living within a 10-mile radius of a met-

ropolitan hub, find themselves unable to navigate the complexities of vaccination scheduling. Time, technology, and transportation are key variables that present formidable obstacles. These include having the time and availability to schedule and physically wait in a line, the technology competence to use online scheduling, and having transportation to drive to a physical site to receive the vaccine. Furthermore, 1 in every 5 seniors 65 years or older lives in a household without internet access.<sup>11</sup> The number could be further terrifying for Black seniors as US Census Bureau data shows that 9% of Black households have no internet subscription compared with 4.9% of White households.<sup>12</sup>

A larger systemic issue of a frenzied rush with mandated time goals to achieve rapid vaccination distribution in prescribed stages may actually work to the detriment of racial and ethnic minority groups that struggle with these structural impediments, compounded by vaccine hesitancy. If speed is the goal, an individual with hesitance and structural impediments to scheduling is less likely to move through the process quickly and more likely to be left behind. These factors create a perfect storm for poor vaccine rollout.

## ■ WIDENING ACCESS

To combat these challenges, state and county health services charged with leading the vaccine effort must acknowledge the existence of such barriers. First, a complete understanding of this inequity is best demonstrated through detailed and complete racial and economic demographic data of COVID-19 cases, fatalities, and vaccine administration rates. The mandate for complete anonymized racial and ethnic data must originate at the federal and state level and extend down to both private and governmental vaccination sites, allowing resources to be appropriately allocated. However, this has already proved to be problematic as racial and ethnic data are available for only 50% of vaccine recipients.

Second, technology barriers in Black, racial and ethnic minority, and low-income White communities must be reduced by allocating resources to staff telephone appointment centers with counselors who can provide accurate vaccine information. The CDC has previously published 4 ethical principles to guide vaccination distribution when the quantity is limited.<sup>13</sup> These are:

1. maximize benefits and minimize harms;
2. mitigate health inequity;
3. promote justice; and
4. promote transparency.

When we make vaccination roll out a matter of “first come, first served,” we inherently introduce a bias that favors more resourced communities.

Third, to this end, vaccine distribution should be based on objective factors such as the Social Vulnerability Index (SVI), Area Deprivation Index (ADI), or both. The CDC’s SVI identifies vulnerable communities based on social and economic variables and medically underserved areas as defined by the US Health Resources and Services Administration. These are areas the federal government has identified as requiring assistance following disasters and areas that lack access to primary care. The ADI is a validated and publicly accessible measure classifying neighborhood adversity that uses variables such as education, employment, housing quality, and poverty measures originally drawn from US Census data.<sup>14</sup> As such, these underserved communities should be identified and prioritized for vaccine distribution.

And finally, healthcare systems are finding themselves with limited number of vaccines for their employees and patients. Therefore, county health department programs should partner with existing and trusted community facing organizations such as federally qualified healthcare centers, churches, libraries, and barber/beauty shops to provide vaccinations with trained community-based vaccinators to create “pop-up” vaccination sites. All sites should be staffed with personnel who can provide information as needed and address patient concerns.

As physicians, we must also not overlook the important role we play in helping expand vaccine access and utilization rates in our local communities. The COVID-19 pandemic represents the single greatest challenge in many of our careers and is an opportunity to demonstrate leadership in disseminating accurate public health information to enhance the management of this crisis and bring an end to the COVID-19 pandemic. In particular, evidence exists that minority physicians maintain a credibility within their communities, which may facilitate effective delivery of factual information around the science of the vaccination.

## CONCLUSION

Some may view this effort to attain equity in vaccination distribution as an act of benevolence. However, we believe it is a moral and ethical goal that helps ensure all members of our communities are properly cared for. Many of these communities are high-risk for COVID-19 because of decades of historical disinvestment and discrimination resulting in social deter-

minants of health. Moreover, it is a public health priority. The longer the virus circulates at high levels in communities, the more likely it will be that mutations, more contagious virus variants, or more vaccine resistance will occur. And that just means a longer, drawn out end to the pandemic for everyone. Until every community is safe, no community will be safe.

## DISCLOSURES

The authors report no relevant financial relationships which, in the context of their contributions, could be perceived as a potential conflict of interest.

## REFERENCES

1. **Webb Hooper M, Nápoles AM, Pérez-Stable EJ.** COVID-19 and Racial/Ethnic Disparities. *JAMA* 2020; 323(24):2466–2467. doi: 10.1001/jama.2020.8598
2. **Bosworth B.** Increasing Disparities in Mortality by Socioeconomic Status. *Annu Rev Public Health* 2018; 39:237–251. doi: 10.1146/annurev-publhealth-040617-014615
3. **Centers for Disease Control and Prevention (CDC).** Life Expectancy at Birth for U.S. States and Census Tracts, 2010-2015. Accessed April 19, 2021. <https://www.cdc.gov/nchs/data-visualization/life-expectancy/index.html>
4. **Karaca-Mandic P, Georgiou A, Sen S.** Assessment of COVID-19 Hospitalizations by Race/Ethnicity in 12 States. *JAMA Intern Med* 2021; 181(1):131–134. doi: 10.1001/jamainternmed.2020.3857
5. **Ellis, NT.** Many Black adults are still hesitant to get the Covid-19 vaccine, new survey says. *CNN*. Accessed April 19, 2021. <https://www.cnn.com/2021/02/04/health/vaccine-trust-black-adults-nfid-survey/index.html>
6. **The United States Census Bureau.** Income and Poverty in the United States: 2019. Accessed April 19, 2021. <https://www.census.gov/library/publications/2020/demo/p60-270.html>
7. **National Student Clearinghouse Research Center.** Completing College - National by Race and Ethnicity - 2017. Accessed April 19, 2021. <https://nscresearchcenter.org/signaturereport12-supplement-2/>
8. **Baden LR, El Sahly HM, Essink B, Kotloff K, et al.** COVE Study Group. Efficacy and Safety of the mRNA-1273 SARS-CoV-2 Vaccine. *N Engl J Med*. 2021; 384(5):403–416. doi: 10.1056/NEJMoa2035389
9. **Sadoff J, Le Gars M, Shukarev G, et al.** Interim Results of a Phase 1-2a Trial of Ad26.COV2.S Covid-19 Vaccine. *N Engl J Med*. Published online Jan. 13, 2021; NEJMoa2034201. doi: 10.1056/NEJMoa2034201
10. **KFF.** State COVID-19 Data and Policy Actions. Accessed April 19, 2021. <https://www.kff.org/coronavirus-covid-19/issue-brief/state-covid-19-data-and-policy-actions/>
11. **Ryan C.** Computer and Internet Use in the United States: 2016. United States Census Bureau. Accessed April 19, 2021. <https://www.census.gov/library/publications/2018/acs/acs-39.html>
12. **United States Census Bureau.** Types of Computers and Internet Subscriptions. Accessed April 19, 2021. <https://data.census.gov/cedsci/table?q=internet&tid=ACST1Y2019.S2801>
13. **Centers for Disease Control and Prevention (CDC).** How CDC Is Making COVID-19 Vaccine Recommendations. Accessed April 19, 2021. <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/recommendations-process.html>
14. **Kind AJH, Buckingham W.** Making Neighborhood Disadvantage Metrics Accessible: The Neighborhood Atlas. *New England Journal of Medicine*, 2018. 378: 2456–2458. doi: 10.1056/NEJMp1802313

**Correspondence:** Lee Kirksey, MD, MBA, Department of Vascular Surgery, H32, Cleveland Clinic, 9500 Euclid Avenue, Cleveland, OH 44195; [kirksele@ccf.org](mailto:kirksele@ccf.org)