

Are We There Yet?: Chicago's Vaccine Administration Decreases Racial Inequities But Continues To Exclude The Black Neighborhoods Most Vulnerable To COVID-19

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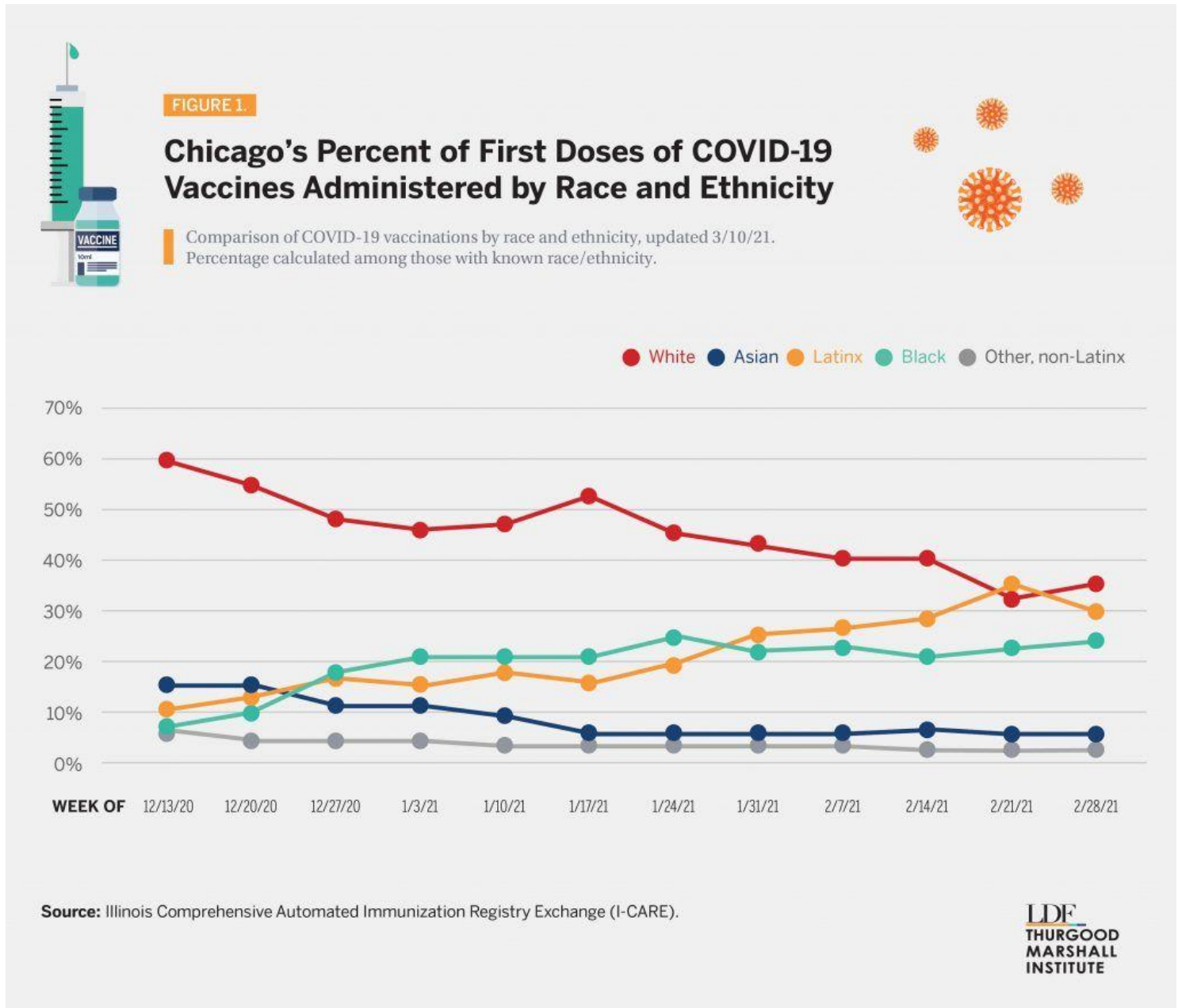
March 26, 2021

The city of Chicago, IL, used an [equity lens](#) to plan its vaccine distribution strategy early in the vaccine administration process. Observations of the city's successes and challenges reveal significant insights into the dynamics of racial disparities in vaccine uptake. First, we can see from Chicago's example that targeted interventions to reduce racial disparities in vaccine uptake are effective. Second, Chicago's experience reveals that communities highly vulnerable to COVID-19 may require different or additional interventions from moderately vulnerable communities. Finally, in Chicago, we can see that the differences in vaccine uptake levels are more likely the result of intervention strategies rather than "vaccine hesitancy" within the Black community.

Targeted interventions to promote equity in vaccine uptake are effective.

Figure 1 demonstrates the city's equity vaccine administration's relative success in decreasing racial inequalities in vaccine uptake. Between December 2020 and March 2021, the City of Chicago substantially reduced the overrepresentation of White residents and improved the underrepresentation of Black and Latinx residents receiving the COVID-19 vaccine. As of March 10, 2021, the COVID-19 vaccination rate of White residents is 3.1 percentage points higher than their proportion of the population in the city. The vaccination rate for Latinx

residents is 1.3 percentage points higher, and the rate for Black residents is 5.5 percentage points lower than their proportion of the city's population.



Neighborhoods with high rates of vulnerability to COVID-19 require specific interventions.

On January 25, 2021, Mayor Lori E. Lightfoot, the mayor of Chicago, announced the [“Protect Chicago Plus”](#) campaign to target vaccinations in fifteen Chicago neighborhoods vulnerable to COVID-19. The Protect Chicago Plus goal is to get the communities that have experienced the heaviest burden of COVID-19 at or above the citywide vaccination rate. The city administration asserts that by increasing vaccine uptake in the communities most negatively impacted by COVID-19, we reduce the risk of further spreading COVID-19 across the city. Yet, only one (60620) of the five zip codes initially included in the Protect Chicago Plus initiative was a highly vulnerable community according to the city’s [COVID-19 Vulnerability Index](#).

The other four zip codes (60608, 60619, 60649, 60652) are medium on the vulnerability index. Figure 2 reveals that 75% of the medium vulnerability zip codes now have vaccination rates within two percentage points of or exceeding the citywide average. The zip code from the initial Protect Chicago Plus sample with a considerable remaining difference from the citywide average vaccination rate is the only highly vulnerable community (60620) in the program.

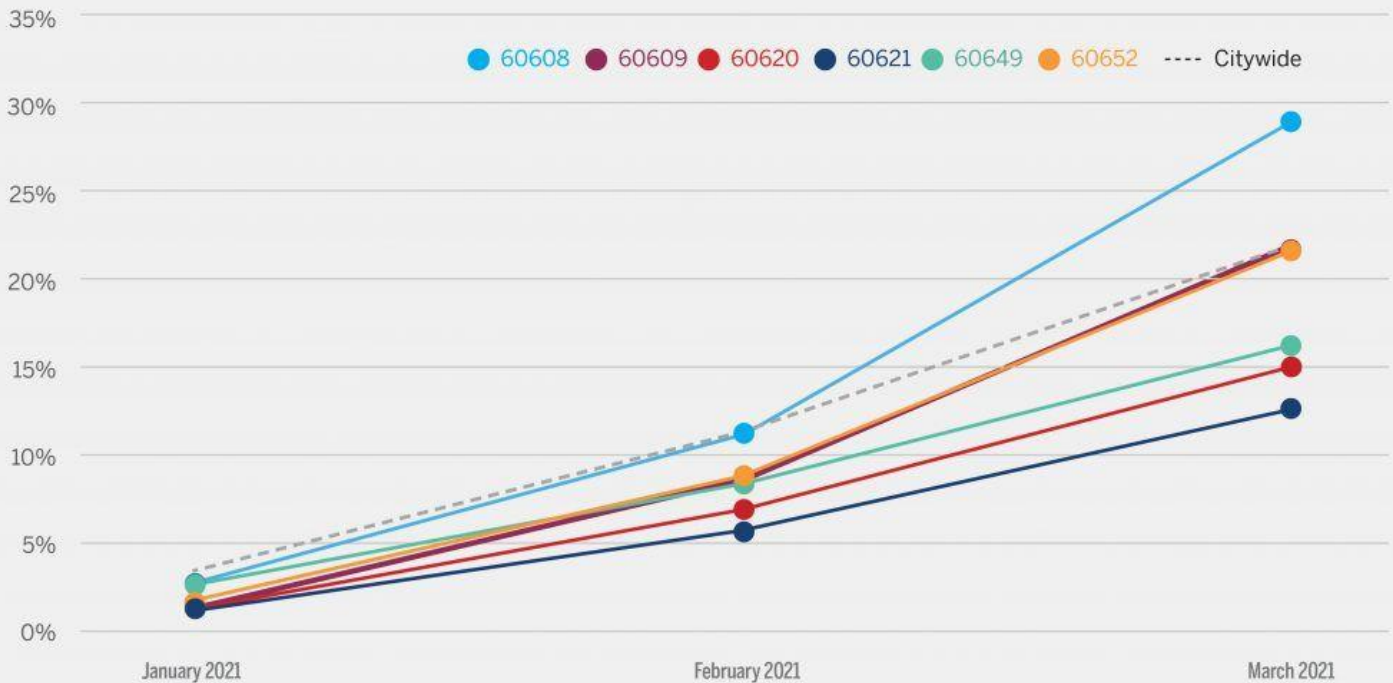


Figure 2 also compares this targeted highly vulnerable zip code to a similar highly vulnerable community (60621) not included in the pilot initiative. We can see in Figure 2 that both the absolute difference from the citywide average and the rate of change in the vaccination rate disparity was more substantial for the highly vulnerable community excluded from Protect Chicago Plus. This pattern of changes in vaccine uptake suggests that the current intervention efforts work great for medium vulnerable communities, not as well for highly vulnerable communities, but better than highly vulnerable communities not included in targeted interventions.

FIGURE 2.

COVID-19 Vaccination Rates of Chicago's Targeted Zip Codes

Comparison of changes over time in the percent of the population that received at least one dose of the COVID-19 vaccination for zip codes included and excluded from the initial Protect Chicago Plus Initiative, updated 3/20/21.

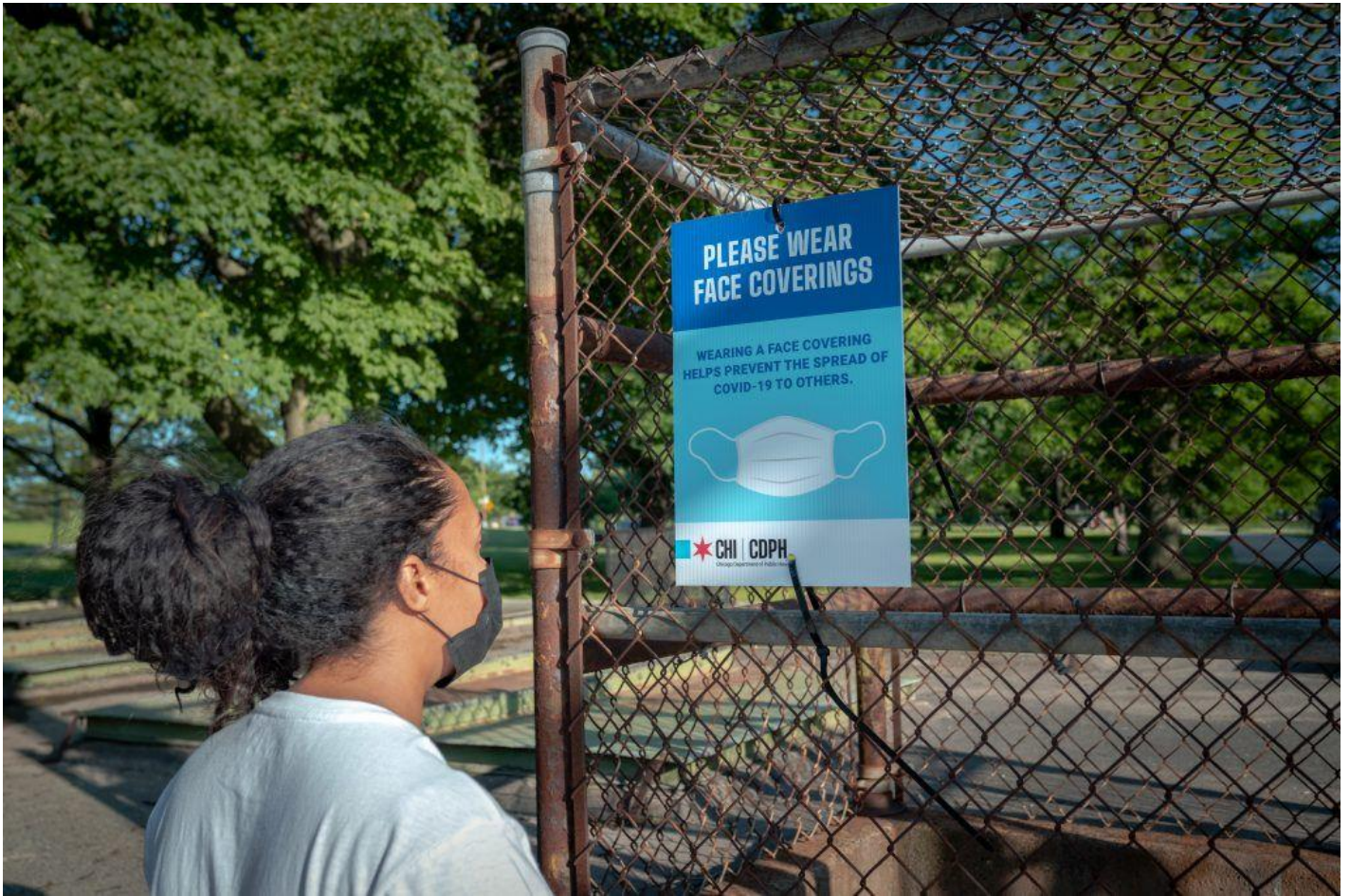


Source: COVID-19 Vaccination Coverage by ZIP Code- At Least One Dose, Chicago Data Portal, Health and Human Services.



Current racial differences in vaccine uptake are likely the result of intervention strategies rather than vaccine hesitancy among Black residents.

The city of Chicago has [expanded its Protect Chicago Plus](#) program to include four additional zip codes, three of which are highly vulnerable neighborhoods (60624, 60644, 60651). One zip code (60653) is medium on the COVID-19 community vulnerability index. Surprisingly, there are three highly vulnerable zip codes (60636, 60621, 60628) that have not been included in the initiative even though they all have disparities in vaccine uptake equivalent to or greater than those zip codes included in the program.



Inclusion of zip codes 60636, 60621, and 60628 in the Protect Chicago Plus program is likely to help reduce the vaccine disparities between these zip codes and the citywide average and help reduce current citywide racial differences in vaccine uptake since these communities are respectively 88%, 95%, and 93% Black. Protect Chicago Plus’s success in zip codes 60619 (95% Black) and 60652 (46% Black) suggests that vaccine hesitancy among Black residents is not the primary cause of the observed racial disparities. Suppose Chicago includes these highly vulnerable Black communities into the targeted program. In that case, it is likely to increase their vaccine uptake, and additional targeted interventions for highly vulnerable neighborhoods are likely to increase vaccine uptake even more.

FIGURE 3.

Differences from Citywide Average in Vaccination Rates for COVID-19 Vulnerable Zip Codes

Comparison of the percent of the population who received at least one dose of the COVID-19 vaccination for zip codes included and excluded from the expanded Protect Chicago Plus initiative, updated 3/20/21.

■ High Vulnerable ■ Medium Vulnerable



Source: COVID-19 Vaccination Coverage by ZIP Code- At Least One Dose, Chicago Data Portal, Health and Human Services.

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The city of Chicago provides an illustrative case study for racial equity in administering the COVID-19 vaccine. Their experience affirms the value and effectiveness of targeted interventions to reduce racial disparities in vaccine uptake. It also suggests that the specifics of vaccine distribution and intervention strategies may be more relevant than vaccine hesitancy in explaining the lower rates of COVID-19 vaccinations within the Black community.