

# Using a Patient Portal as a Recruitment Tool to Diversify the Pool of Participants in COVID-19 Vaccine Clinical Trials

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## INTRODUCTION

- The COVID-19 pandemic has disproportionately affected racial and ethnic minorities in the US.
- Racial and ethnic minorities have historically been underrepresented in clinical research.
- It is important to ensure minorities are adequately represented in COVID-19 vaccine clinical trials, so we can ensure the vaccines are safe and effective in these populations. This can help increase vaccine uptake.
- An electronic health record (EHR) patient portal is a low cost, quick, and secure platform that can be used to engage with patients.
- We assessed the feasibility of using an electronic patient portal to recruit racial/ethnic minorities into COVID-19 vaccine clinical trials.

## METHODS

- In June 2020, the University of Pennsylvania Health System (UPHS) EHR was used to identify individuals that fit the following inclusion criteria:
  - Ages 40 and older
  - Living in zip codes with high rates of SARS-CoV-2 test positivity, high rates of racial/ethnic minorities, within an accessible distance from the clinical trial study office
  - Risk factor for severe COVID-19 disease
  - Activated electronic patient portal MyChart account
- Eligible individuals were sent a patient portal message inviting them to participate in the Moderna COVID-19 vaccine trial.
- Descriptive data on race and ethnicity were collected at each step of recruitment.
- Follow-up phone calls were made to non-responders and decliners, and reasons for declining were gathered.
- Qualitative interview data on individuals' reasons for or against enrollment were coded by two study team members. The kappa was 0.69, indicating good inter-rater reliability.

Figure 1. Rates of UPHS patient portal account activation among patients residing in Philadelphia, by race/ethnicity.

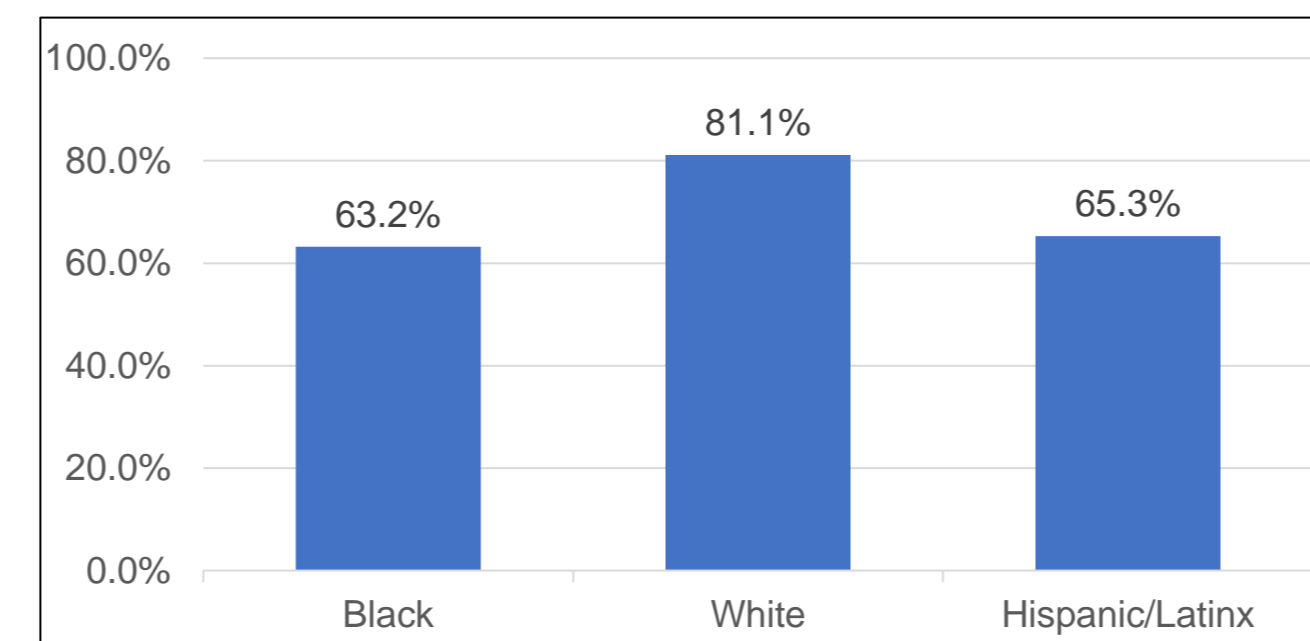
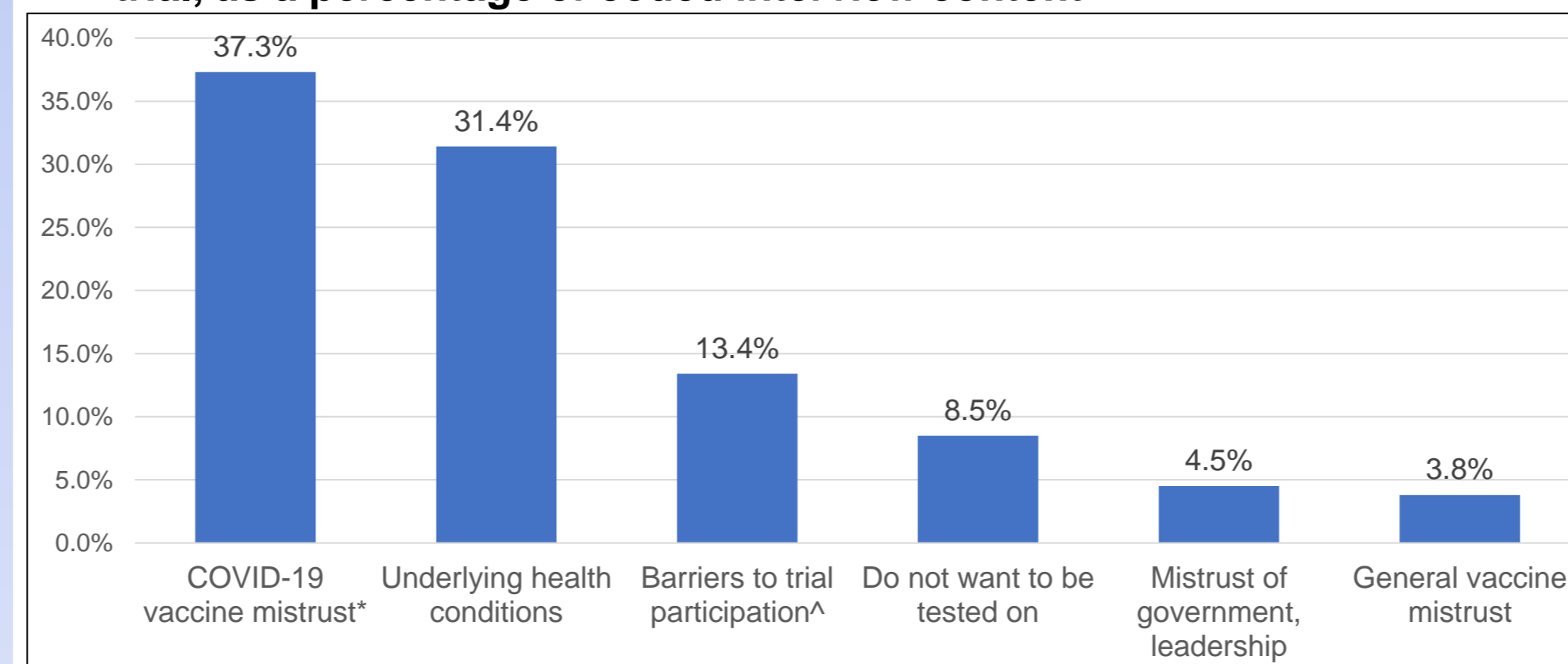


Table 1. Patient portal response rates by race/ethnicity.

	Black (N = 5426)	White (N = 83)	Hispanic/Latinx (N = 73)	Total* (N = 5614)
No response	5220 (96.2%)	7 (8.4%)	66 (90.4%)	5313 (94.6%)
Declined	151 (2.8%)	26 (31.3%)	2 (2.7%)	186 (3.3%)
Interested	55 (1.0%)	50 (60.2%)	5 (6.8%)	115 (2.0%)
Enrolled	6 (0.1%)	3 (3.6%)	1 (1.4%)	9 (0.2%)

Data are expressed as N (%).  
 \*Total includes Asian, multiracial, and other.

Figure 2. Reasons for declining to participate in COVID-19 vaccine trial, as a percentage of coded interview content



## RESULTS

- Black and Hispanic/Latinx patients had decreased rates of patient portal account activation compared to white patients. (Figure 1)
- Black and Hispanic/Latinx individuals had lower rates of response to the patient portal message and lower rates of interest in participation as compared to white individuals. (Table 1)
- Of 115 respondents who expressed interest, 24 agreed to a screening visit, and 9 were ultimately enrolled. This included 6 black and 1 Hispanic/Latinx individual.
- Phone calls were made to 277 non-responders and 110 decliners. Commonly discussed reasons for declining are shown, as a percentage of coded interview content (Figure 2)
- The most discussed theme was COVID-19 vaccine mistrust, including concerns about the speed of vaccine development, efficacy, ingredients, and side effects.
- Another commonly discussed theme was barriers to clinical trial participation, such as the lack of time, other pressing obligations, a lack of transportation, lack of compensation, the need for social distancing during the pandemic, and a fear of needles.

## CONCLUSIONS

- Because of low rates of patient portal account activation and use, compounded with vaccine hesitancy, recruitment of racial/ethnic minorities into COVID-19 vaccine clinical trials through patient portal messaging yielded a small number of eligible individuals.
- Strategies to lower the digital divide in electronic patient portal use are needed.
- We must continue to develop approaches to address concerns about clinical trial participation and vaccine hesitancy.

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