The effect of COVID-19 on offer acceptance rates by age and race

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I have no financial relationships to disclose within the past 12 months relevant to my presentation. The ACCME defines 'relevant' financial relationships as financial relationships in any amount occurring within the past 12 months that create a conflict of interest.

My presentation does not include discussion of off-label or investigational use.

I do not intend to reference unlabeled/unapproved uses of drugs or products in my presentation.

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Introduction

COVID-19 has more severe complications in older patients, and racial minorities have disproportionately worse outcomes.

Transplant is a critical treatment for patients with end-stage organ failure, and high offer acceptance rates indicate better access to transplant.

Thus, we investigated the effect of COVID-19 on offer acceptance rates by candidate age and race before and after the national emergency declaration on March 13, 2020.

Data

We used match run data from March 13, 2019, to August 31, 2020, and included offers that resulted in at least 1 acceptance.

The eras before and after the emergence of COVID-19 were, respectively, March 13, 2019, to March 12, 2020, and March 13 to August 31, 2020.

The effects of age and race had an interaction in the two eras that estimated the effect of COVID-19 across age and race categories.

The logistic regressions adjusted for the location of the offers in the match run and other candidate and donor characteristics.

Results: Candidate age

Organ	18-34	35-49	50-64	65+
Kidney	$_{1.02}1.14_{1.27}$	Ref.	$_{0.88}0.95_{1.03}$	$_{0.76}0.84_{0.93}$
Liver	$_{0.86}1.05_{1.28}$	Ref.	$_{0.95}1.07_{1.20}$	$_{0.83}0.98_{1.15}$
Lung	$_{0.49}0.74_{1.13}$	Ref.	$_{0.72}0.94_{1.22}$	$_{0.64}0.85_{1.14}$
Heart	$_{0.75}0.98_{1.29}$	Ref.	$_{0.93}1.11_{1.34}$	$_{0.87}1.12_{1.44}$

Odds ratios and 95% confidence intervals for the 'change' in offer acceptance. For example, the difference in the odds of offer acceptance between 65+ and 35- to 49-year-olds was 16% lower after COVID-19 than before.

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Results: Candidate race

Organ	White	Black	Asian	Other
Kidney	Ref.	$_{0.84}0.91_{0.98}$	$_{0.81}0.91_{1.03}$	$_{0.80}1.00_{1.25}$
Liver	Ref.	$_{0.87}1.05_{1.25}$	$_{0.90}1.13_{1.42}$	$_{0.61}0.89_{1.29}$
Lung	Ref.	$_{0.68}0.89_{1.16}$	$_{0.58}0.91_{1.44}$	$_{0.44}1.15_{2.98}$
Heart	Ref.	$_{0.85}1.02_{1.21}$	$_{0.56}0.85_{1.28}$	$_{0.32}0.82_{2.12}$

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Odds ratios and 95% confidence intervals for the 'change' in offer acceptance. For example, the difference in the odds of offer acceptance between Black and White patients was 9% lower after COVID-19 than before.
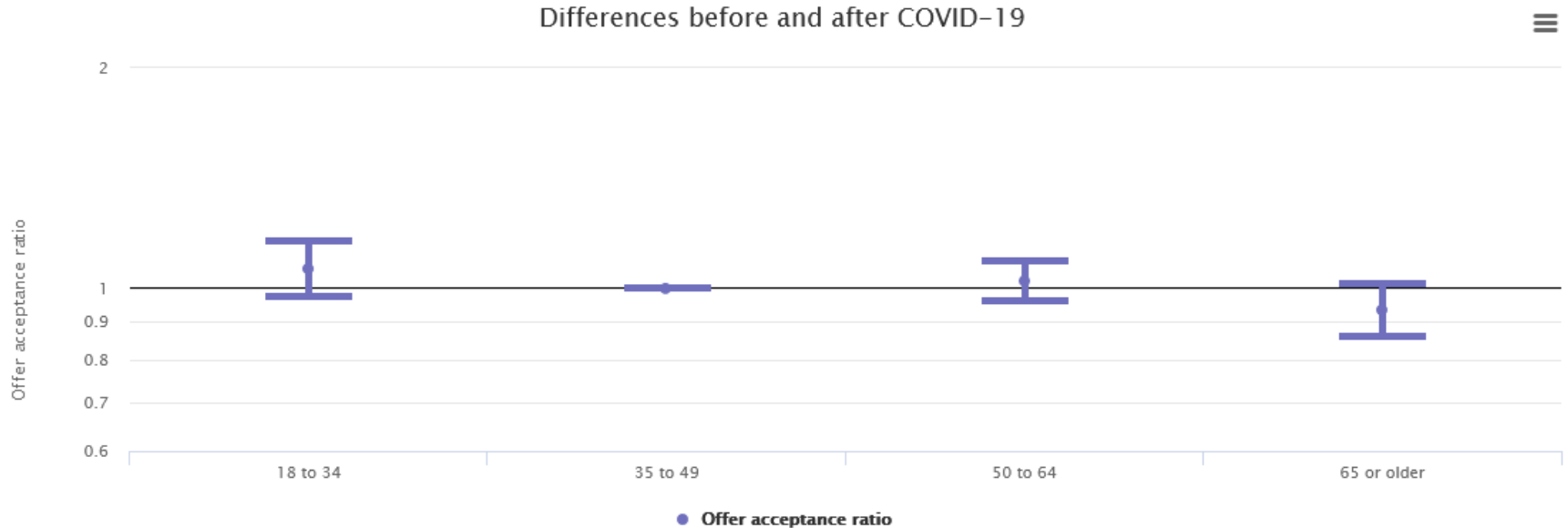
Have these trends continued?

These were the trends up to August 31, 2020. Did they continue?

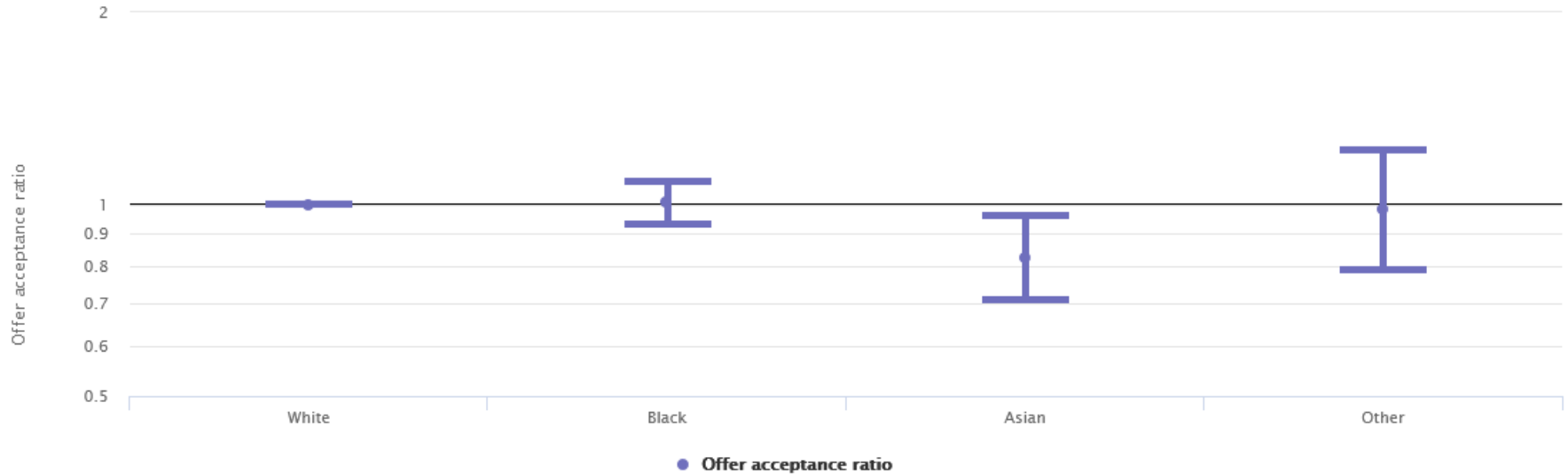We extended the cohort to range from March 13, 2019 to February 28, 2021, and then performed the same analysis.

Extended analyses for kidney: Candidate age

Differences before and after COVID-19

Extended analyses for kidney: Candidate age

Differences before and after COVID–19

Conclusion

Initially, COVID-19 inequitably affected kidney offer acceptance rates across candidate age and race. Most differences attenuated with additional follow-up after the emergence of COVID-19, although kidney offer acceptance rates for Asians remained lower after COVID-19 than before.

Offer acceptance rates for liver, lung, and heart candidates did not notably differ across candidate age and race before and after the emergence of COVID-19.

CDRG

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