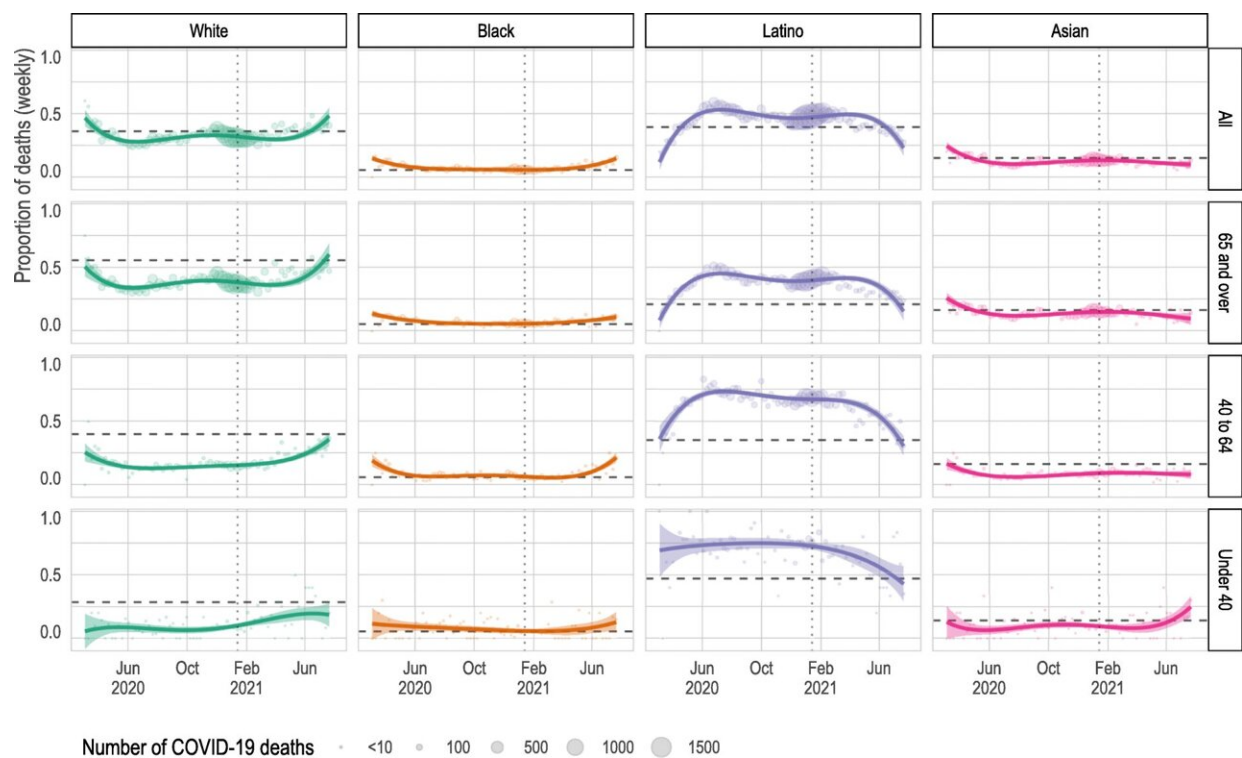


How racial and ethnic disparities in COVID-19 deaths across California changed during vaccine rollout

February 4 2022, by Allison Arteaga Soergel



Proportionate COVID-19 mortality during the pandemic by race/ethnicity and age. Note: Smoothed trends estimated using polynomial regression. We fit weighted quartic polynomial regression to the proportion of weekly deaths for each race-age subgroup relative to the total number of weekly deaths, where the total number of weekly deaths were also the weights. Vertical dotted line indicates the date of vaccine authorization for general population aged 65 and older, January 13, 2021. Horizontal dashed line indicates proportion of the total California population comprised by each subgroup. Source: CA death

certificates and 2020 American Community Survey. Credit: DOI: 10.1007/s11606-021-07380-6

A team of public health researchers from UC Santa Cruz, Stanford University, and UC San Francisco published new research showing how racial and ethnic disparities in COVID-19 deaths across California changed as the rollout process for vaccines began.

During the early phases of the pandemic in 2020, Latino people across California were dying of COVID-19 at a rate far greater than their share of the state's population, and Black communities were similarly affected, though to a smaller degree. These disparities reflect a wide variety of socioeconomic and racial inequities, ranging from who was more likely to work in occupations with high exposure risk and low workplace protections to who had the least access to testing and medical care.

But as vaccines became available starting in January of 2021, deaths across the state quickly began to decline, and the research team wanted to know how this might affect disparities among the four largest racial and [ethnic groups](#) in the state. Their analysis showed that, while some of the equity gaps in proportional [death](#) rates closed during this time period, others widened.

"The dominant narrative in the media at the time was about how much success vaccination was having with creating large declines in overall mortality, but this research shows that it's also important to pay close attention to proportional changes within racial and ethnic groups," said Alicia Riley, a joint-first author of the study and an assistant professor of sociology at UCSC.

By analyzing data specific to race and ethnicity, the team found that,

from March 2021 to July, the proportion of California's COVID-19 deaths occurring among middle-aged Latino people dropped from 66% to 30%, while the proportion of deaths increased among middle-aged Black people, from 6% to 21%, and among middle-aged white people, from 17% to 36%. Trends did not change substantially for Asian communities in California during this time period.

Equity gap closes between Latino and white Californians for first time in pandemic

Overall, from January to July of 2021, California's Latino population experienced a 48-fold age-standardized reduction in COVID-19 deaths. By July, this had helped to bring the group's proportionate death rate down to below their share of the state's population for the first time in the pandemic, closing the biggest longstanding equity gap.

The paper's authors believe multiple factors may have driven these trends for Latino populations, including a combination of vaccine-induced and natural immunity. Some estimates suggest the proportion of Latino people in California who were fully vaccinated by early May was about 24%.

"The 2020 winter COVID-19 surge hit Latino communities especially hard, resulting in a lot of deaths but also likely some natural immunity, which vaccination then built upon," Riley explained. "There were also widespread efforts, from the state to the local level, taking place over this time period to try to reduce these disparities by reaching people with testing and vaccination, and that's likely playing a role in some of this too."

On the other hand, during the vaccination period, death rates for white people in California climbed slightly above their share of the population

for the first time in the pandemic, despite an estimated 41% being vaccinated by early May. The paper's authors suspect this trend may reflect a combination of vaccine hesitancy in some more rural and conservative predominantly-white communities and overall lower immunity, since white people were disproportionately spared from earlier infection.

"Part of what is closing this equity gap and making disparities look like they're improving is that whites are now dying at a higher proportion," Riley said. "They're kind of losing the advantage that they enjoyed for the first part of the pandemic, and that has really shifted during the vaccination period."

By comparison, Asian people in California—who also experienced advantages in reduced mortality early in the pandemic—had an estimated vaccination rate of about 50% by May and have maintained fewer deaths than their share of the state's population since that time.

Growing equity gap for Black Californians raises alarm

The paper's most important finding may prove to be the widening of mortality disadvantages for Black Californians during the early vaccination period. It's a distinctly different outcome from Latino communities, despite the fact that estimated vaccination rates for Black people in California by May were greater, at 26%. Differences in prior exposure and resulting natural immunity may be contributing to these trends, but overall, the research team considers these findings a red flag.

"This really is concerning, because it highlights how the structural forces driving some of these disparities may be different for different racial and ethnic groups, and some of those factors may be more intractable

than others," Riley said. "For example, differential workplace exposure may be easier to eliminate through policy than structural discrimination in the health care system."

Additional research will be needed to investigate the potential causes of these disparities and to parse out how specific policy actions may have affected equity gaps.

"I think there's a lot to be learned about vaccine rollout in different racial and ethnic groups in different areas," said Mathew Kiang, an assistant professor of epidemiology and population health at Stanford University and a joint-first author of the paper alongside Riley. "Vaccination campaigns are often implemented as one-size-fits-all, but we clearly see racially patterned uptake and room for improvement."

The current study may help to focus future research and public health strategies on the changing nature of vulnerability to COVID-19. That landscape of disparities may continue to shift, especially with variants like delta or omicron.

"This study shows us that racial disparities in who is dying of COVID-19 can transform quickly," Riley said. "That means mortality disparities are not inevitable; different choices can worsen or improve them. But any gains can also be lost quickly if there aren't adequate structural factors and policies put in place to protect people."

More information: Alicia R. Riley et al, Recent Shifts in Racial/Ethnic Disparities in COVID-19 Mortality in the Vaccination Period in California, *Journal of General Internal Medicine* (2022). [DOI: 10.1007/s11606-021-07380-6](https://doi.org/10.1007/s11606-021-07380-6)

Provided by University of California - Santa Cruz

Citation: How racial and ethnic disparities in COVID-19 deaths across California changed during vaccine rollout (2022, February 4) retrieved 4 May 2024 from

<https://medicalxpress.com/news/2022-02-racial-ethnic-disparities-covid-deaths.html>

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