

Republicans and Blacks most hesitant to get COVID vaccine, spatial analysis finds

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Vaccine hesitancy remains a public health challenge that cuts across the country as the COVID-19 pandemic drags on, but Republican voters and Black people are among the most hesitant to get the shot, according to a

new Portland State University study.

Arun Pallathadka, a Ph.D. student in PSU's Earth, Environment and Society's program, and Heejun Chang, professor of geography, conducted a spatial analysis of vaccination data at the county level across the U.S. to identify the social, ecological and technological factors impacting [vaccine rates](#).

Among the findings:

- Vaccine hesitancy is strong in many Republican counties across the U.S., especially in the Mountain States, Southwest and the South, which other research has shown to be fueled in part by the misinformation spread by politicians. In the Northeast, however, many Republican counties in the Virginias and New Jersey as well in New England states such as Maine and Vermont show higher vaccination rates, suggesting libertarian-leaning or moderate Republicans may differ on the issue of COVID-19 vaccines.
- Vaccine hesitancy is strong among the Black population, particularly in the South, Mountain States, Southwest as well as the Pacific Northwest. Prior research has shown that a combination of lack of healthcare access, medical racism and misinformation has led to that hesitancy.
- The most highly educated demographics are more likely to get vaccinated, and this trend is strong in many urbanized parts of the U.S., while populations with lower educational attainment show [vaccine hesitancy](#) in many of the relatively less urbanized counties in the South, Southwest and Mountain States.
- Populations with access to [broadband internet](#) and [health facilities](#) per 10,000 residents are also positively linked to vaccination rates.

The researchers said that the findings indicate that a regional approach may better serve vaccination efforts than a universal approach.

"Public health officials and policymakers need to recognize that space matters to COVID-19 vaccination efforts," Pallathadka said. "This study demonstrates how spatially explicitly health policies are required to boost vaccination rates, especially targeted towards significant local factors we have emphasized in the study."

The findings were published in *Environmental Research: Health*. Daikwon Han, an associate professor of epidemiology and biostatistics at Texas A&M, is also a co-author of the study.

More information: Arun K Pallathadka et al, What explains spatial variations of COVID-19 vaccine hesitancy?: A social-ecological-technological systems approach, *Environmental Research: Health* (2022). [DOI: 10.1088/2752-5309/ac8ac2](https://doi.org/10.1088/2752-5309/ac8ac2)

Provided by Portland State University

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