

Efficacy, politics influence public trust in COVID-19 vaccine

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If an initial COVID-19 vaccine is about as effective as a flu shot, uptake by the American public may fall far short of the 70% level needed to achieve herd immunity, new Cornell research suggests.

In surveys of nearly 2,000 American adults, barely half said they would

be willing to take a hypothetical vaccine with an efficacy, or effectiveness, of 50%—the U.S. Food and Drug Administration's minimum threshold for a COVID-19 vaccine, and comparable to flu vaccines.

Vaccine acceptance increased by 10 percentage points, to 61%, if its effectiveness increased to 90%, making efficacy among the most [important factors](#) in Americans' willingness to adopt a COVID-19 vaccine, the research found.

"Our results suggest that 50% efficacy will lead to significant vaccine hesitancy," said Douglas Kriner, professor of government at Cornell. "We might not get enough people to take it at that level, even though it would be a valuable public health intervention."

Kriner and Sarah Kreps, the John L. Wetherill Professor in the Department of Government (A&S), are co-lead authors of "Factors Associated with U.S. Adults' Likelihood of Accepting COVID-19 Vaccination," published Oct. 20 in *JAMA Network Open*.

Polls have shown broad skepticism about COVID-19 vaccines: A recent Gallup poll showed willingness to get an FDA-approved vaccine at no cost dropped from 66% in July to 50% in September.

But polls have rarely presented respondents with specific information about a potential vaccine, or about the politically charged environment into which one is likely to be released. That environment had been shaped, the authors said, by a vocal anti-vaccination movement; intense political polarization; and uncertainty surrounding vaccines being developed at breakneck speed for a novel virus.

The partisan dynamics were on display during the Oct. 7 vice presidential debate, when U.S. Sen. Kamala Harris said she would take a

virus recommended by doctors and public health professionals, "but if Donald Trump tells us that we should take it, I'm not taking it."

Kriner and Kreps conducted surveys in July asking respondents to choose between hypothetical COVID-19 vaccines based on four medical factors: efficacy, duration of protection and the chances of major or minor side effects.

They also analyzed how political factors influenced vaccine acceptance, including if it was fully approved by the FDA or made available through an Emergency Use Authorization; if it was developed in the United States, United Kingdom or China; and if it was endorsed by President Donald Trump, former Vice President Joe Biden, the U.S. Centers for Disease Control and Prevention or the World Health Organization.

Survey respondents evaluated pairs of vaccines with varying profiles, expressing a preference for one or neither. They then reported their willingness to take each vaccine individually.

Along with improved efficacy, vaccine acceptance improved with a longer protection duration (five years vs. one year) and a lower incidence of major side effects, but by smaller margins (2% and 4%, respectively).

Politically, average willingness to receive a vaccine was lowest when endorsed by Trump, at 52%, but only slightly better for Biden at 55%. Uptake was stronger when endorsements came from U.S. or global public health institutions, improving to 58% for the WHO and 59% for the CDC.

"We can see here a clear policy prescription that these individual [political leaders](#) should really stay out of this conversation," Kreps said. "There are real public health consequences to insinuating themselves in the discussion."

An FDA Emergency Use Authorization – issued for more than 170 medical products related to COVID-19 as of April – slightly increased hesitancy to take a vaccine, the surveys found.

Geopolitics also mattered: Americans' 60% average willingness to receive a vaccine developed in the U.S. dropped slightly if the vaccine came from the U.K., and significantly if it came from China, an outcome that appeared more plausible when the survey was conducted in July, the authors said.

Even one of the best-case hypothetical vaccines presented – developed in the U.K and approved by the FDA with 90% efficacy, five years of protection, few side effects and CDC endorsement – barely reached the estimated threshold for herd immunity, with 71% of Americans willing to take it.

Kriner and Kreps said the findings can help public health authorities and political leaders develop appropriate endorsements, incentives and messages to broaden [vaccine](#) uptake. That should include addressing a worrisome finding from their analysis of demographic differences among survey respondents, which indicated that older people and Black individuals – groups that have been disproportionately vulnerable to the coronavirus – on average are less willing to receive vaccines.

"Accordingly," the authors wrote, "public health authorities might consider outreach strategies that address the specific concerns of older adults and minority communities that have been more susceptible to COVID-19."

More information: Sarah Kreps et al, Factors Associated With US Adults' Likelihood of Accepting COVID-19 Vaccination, *JAMA Network Open* (2020). [DOI: 10.1001/jamanetworkopen.2020.25594](https://doi.org/10.1001/jamanetworkopen.2020.25594)

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