

Contextualizing risk information increases COVID-19 vaccine intentions

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Adding simple statements that put vaccine side-effect risks into broader context could improve vaccine uptake, a study published today in *eLife* has shown.

The research could help inform public health campaigns aimed at increasing the uptake of COVID-19 booster jabs, which are currently far

from target levels.

The study was conducted in the U.S. and U.K., where vaccination rates have slowed and only 63.9% and 71.3% of the respective populations are fully vaccinated. Moreover, just over 27% and 55% of adults have received their booster vaccines in the U.S. and U.K., respectively.

"Vaccine hesitancy is not the result of a single common cause and can vary for different people and populations," explains lead author Nikkil Sudharsanan, assistant professor of behavioral science for [disease prevention](#) and [health care](#), Technical University of Munich, Germany.

"A common fear around COVID-19 vaccination is concern about [side effects](#), heightened by widespread media coverage that did not put the very low risk of side effects in context with other risks, such as the likelihood of death from COVID-19 itself. Addressing these [public concerns](#) will be a key component of efforts to improve [vaccine](#) use in the U.S., U.K. and globally, especially with recommendations for ongoing booster doses."

Evidence shows that the way risks are framed and presented to people can affect their perceptions of the severity of risk and, ultimately, their behavior. The researchers therefore set out to compare different ways of framing risk for a hypothetical COVID-19 vaccine, then asked participants whether they would take the vaccine and how safe they thought it was.

They designed an online randomized controlled trial, providing vaccine information to 8,988 people aged over 18 years old in the U.K. and U.S. Participants were presented with information about the hypothetical vaccine, including the risk of serious blood clots, framed in three different ways: 1) with an additional label explaining whether the risk is low or high, 2) adding a comparison risk, such as the risk of dying in a

[motor vehicle](#), and 3) whether risks were communicated as absolute (that is, the presenting the actual vaccine side-effect risk next to other common risks) or relative (presenting the vaccine side-effect risk as a multiple of other common risks).

They found that adding a simple qualitative risk level of "very low risk" next to the vaccine side effect increased people's intentions to take the vaccine by 3 percentage points. Similarly, adding a comparison to motor vehicle death rates increased intentions by 2.4 percentage points. These framing tools worked even better when used together: increasing vaccine intentions by 6.1 percentage points.

The authors also report some surprising results: comparing vaccine side-effect rates with COVID-19 death rates did not appear to influence vaccine intentions. This was unexpected because COVID-19 death rates are substantially higher than motor vehicle death rates (170 per 100,000 versus 12 per 100,000 in the U.S.) and it is a cause of death directly associated with the purpose of COVID-19 vaccination strategies. A second surprise was that expressing risk as relative versus absolute had no apparent impact on people's willingness to take the hypothetical vaccine.

"We believe our results can inform communication efforts aimed at increasing vaccination, especially booster vaccinations," concludes co-author Alain Vandormael, senior data scientist at the Heidelberg Institute of Global Health, Heidelberg University Hospital, Germany. "Our results are focused on vaccine intentions and not [vaccination rates](#), so the next step is to test whether these framing efforts can increase shots in arms before translating our findings into policy action."

More information: Nikkil Sudharsanan et al, Effects of side-effect risk framing strategies on COVID-19 vaccine intentions: a randomized controlled trial, *eLife* (2022). [DOI: 10.7554/eLife.78765](https://doi.org/10.7554/eLife.78765)

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