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Prebunking Anti-Vaccine Narratives: An Effective Alternative to Debunking Individual False Claims

As the world has contended with the COVID-19 pandemic over the last two years, there has been a proliferation of vaccine misinformation. This online trend has had dire, real life consequences. Belief in vaccine misinformation is associated with

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lower vaccination rates and higher vaccine resistance: a survey conducted by The COVID States Project found that only 43% of respondents who believe at least one or more false vaccine statements are vaccinated, while 70% of respondents who do not believe any of the four false vaccine statements reported being vaccinated. As Covid continues its spread globally, it is the unvaccinated who are paying with their health — and often lives. Belief in medical misinformation represents a significant hurdle for public health efforts to fight COVID-19 through vaccination. Addressing the spread of vaccine misinformation is an important part in the fight against COVID-19.

Existing strategies to counter medical misinformation have proven hard to scale online. Fact-checking is the most common strategy used by public health officials to debunk medical

misinformation, often in the form of press briefings and information pages on health authority websites. However, vetting and debunking single pieces of false information takes time and is inefficient for fighting misinformation-at-scale. Fact-checking has asymmetric results. Research suggests that fact-checking is less effective for the politically conservative and socially disconnected, two groups that are well-represented among the vaccine hesitant. Furthermore, a false claim can go viral online in a matter of minutes, while fact-checking takes individual attention, precision, and time. Human moderation of misinformation is resource-intensive, and while algorithmic approaches can be useful and enable moderation at scale, they are often reactive, responding to content after it has been published online.

To get out ahead of fast-moving falsehoods, Jigsaw has been testing prebunking (or "attitudinal inoculation") as a way to teach people to spot and resist manipulative messages. This technique has been tested and shown to work across a range of topics such as alcohol education, extremism, climate change, and health. By teaching people about the manipulative approaches (like scapegoating or anti-semitic tropes, for example) commonly used in misinformation, and showing what these might look like in hypothetical examples, viewers can better resist future attempts to manipulate them. We've worked with academic experts at the University of Cambridge, University of Bristol, and American University's Polarization and Extremism Research Innovation Lab (PERIL) with promising results in using this technique to counter online misinformation, and common

male supremacy and white supremacy messages, respectively.

Bolstered by positive results from these prebunking studies, Jigsaw sought to test prebunking vaccine misinformation. We partnered with Harvard University's Emergency Preparedness, Research, Evaluation, and Practice Program (EPREP) and American University to design and test three prebunking videos in a study with unvaccinated adults. We hoped to learn if watching a prebunking video would help people get better at identifying manipulative narratives and strategies used in vaccine misinformation (like the claims that "vaccines are unnatural" or cause unrelated injuries), reduce their likelihood to share or support vaccine misinformation, and increase their intention to get a COVID-19 vaccine.

We developed 30-second videos to address common rhetorical strategies and false claims that are used to perpetuate anti-vaccination ideas. American University, Harvard University, and Jigsaw previously partnered on the creation of a codebook of online anti-vaccination rhetoric, and an online survey to uncover predictors of COVID-19 vaccine hesitancy. Insights from those studies helped us identify the viral narratives and rhetorical strategies that resonated most with vaccine hesitant people. Our 30-second videos each prebunked vaccine misinformation using a slightly different approach: 1) reveal common manipulative rhetorical strategies (e.g., invoking fear with dramatic music), 2) counter false claims about vaccine safety with facts, and 3) a hybrid approach to address both strategies, identifying the rhetorical manipulation and false information about vaccines.

We worked with trained medical professionals to “prebunk,” or preemptively correct, common misleading narratives about vaccine safety. Watch all videos on YouTube.

We recruited nearly 2,000 U.S. adults into the study who indicated they had not received the COVID-19 vaccine. Our sample was diverse but not fully representative, skewing towards those with more education and who used a mobile device, due to the survey platform we chose for this study. Participants first watched either a prebunking video or a control video that described how to make a paper airplane. Then, all participants were shown a short video containing COVID-19 vaccine misinformation that used the manipulative techniques and claims that participants who

watched the prebunking video were warned about.

The prebunking videos were successful across all three outcomes of interest: People who watched the 30-second video were more likely to recognize rhetorical strategies in the video containing misinformation about the COVID-19 vaccine. They also reported lower support for sharing or financially supporting the video containing misinformation, and indicated higher willingness to get the COVID-19 vaccine compared to the control group.

Past public health messaging studies from George Mason, SUNY Buffalo, and Utrecht University suggest that prebunking misleading narratives is more likely to be persuasive, compared with fact-based messages. We were surprised to find that there were no differences in effectiveness between the three

types of prebunking videos we tested, including fact-based refutation of the vaccine injury narrative, rhetoric-based, and a hybrid of fact and rhetoric. This could have been due to a number of factors, such as the minimal differentiation between the short videos, the use of generally appealing elements like approachable body language, or the use of authoritative narrators (doctors in this case).

These results have important practical implications for experts fighting medical misinformation: short 30-second videos that teach people about vaccine misinformation can be powerful tools to reduce vaccine hesitancy. These bite-sized videos are consistent with short-form content popular on social media, and are similar in length to online advertisements, making it possible to show them as video ads on social media, TV, or

streaming services. Jigsaw plans to continue research on prebunking on social media to see if users who watch these videos strengthen their abilities to identify and counter manipulative health narratives.

Short prebunking videos provide a potential alternative tool for public health officials to consider in their toolbox when countering online medical misinformation. Further research should be considered to establish prebunking as an effective method to combat misinformation, ever more important as people contend with the flood of information — both accurate and inaccurate — during the pandemic. It's also worth examining videos with broader, representative samples, as well as testing in both labs and real world settings, like social media platforms, to determine if narrative, fact, or hybrid

approaches are most effective.

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