Article

Changing the Focus on Fighting Vaccine Hesitancy: From Correcting Misinformation to Building Trust in Official Information

February 2, 2023

Lessons from a Public Opinion Analysis in Colombia

A year ago, when this research project started, we anticipated two obstacles for immunization plans against Covid-19 in Colombia and, more generally, in Global South countries: vaccine availability and vaccine hesitancy. These issues have been understudied in Latin America. The region has been usually welcoming and in need of vaccines, and it has hosted international health organizations' immunization campaigns for decades. However, the Covid-19 pandemic was different from previous public health crises. As scholars of public opinion and social media, our focus needed, therefore, not be only on misinformation flows but also on citizens' expectations. Our study suggests that, as important as it is to combat health misinformation, it is equally crucial to focus on how to make official health information believable and trustable. In a context where citizens cast serious doubts on the capacity and will of their governments to make health services available and mandate appropriate health policies, this might be a more feasible and effective approach.

At the time, vaccine hesitancy in Colombia rounded 40% according to official figures and, as a consequence of the global inequities worsened by the Covid-19 crisis, we were concerned that there would be delays in beginning Covid vaccination. In fact, although the first vaccination campaign started in February 2021, only 55% of Colombians older than 12 were fully vaccinated more than ten months after that date, somewhat lagging both relative to other countries in Latin America and *vis-à-vis* the goal set by the government. The plan faced delays in the acquisition and arrival of vaccines, logistic problems in the national distribution of the jabs, and, of course, vaccine hesitancy. The pace of the vaccination plan allowed us to capture public opinion at different stages of the process: from expectations regarding vaccine acquisition to the report of vaccination symptoms and side-effects.

During the first nine months of 2021, we used a mixed-method approach to characterize

narratives on social media, and how they influence citizens' attitudes towards vaccines. Using topic modeling algorithms, we analyzed 94,344 tweets and 171,475 public posts on Facebook that mentioned vaccines against Covid-19 and were published between January 2020 and July 2021 in Colombia. We also conducted a nationwide online survey experiment between June and July 2021 that allowed us to identify the effect of exposure to misinformation and corrective information on Colombians' hesitancy towards Covid-19 vaccines.

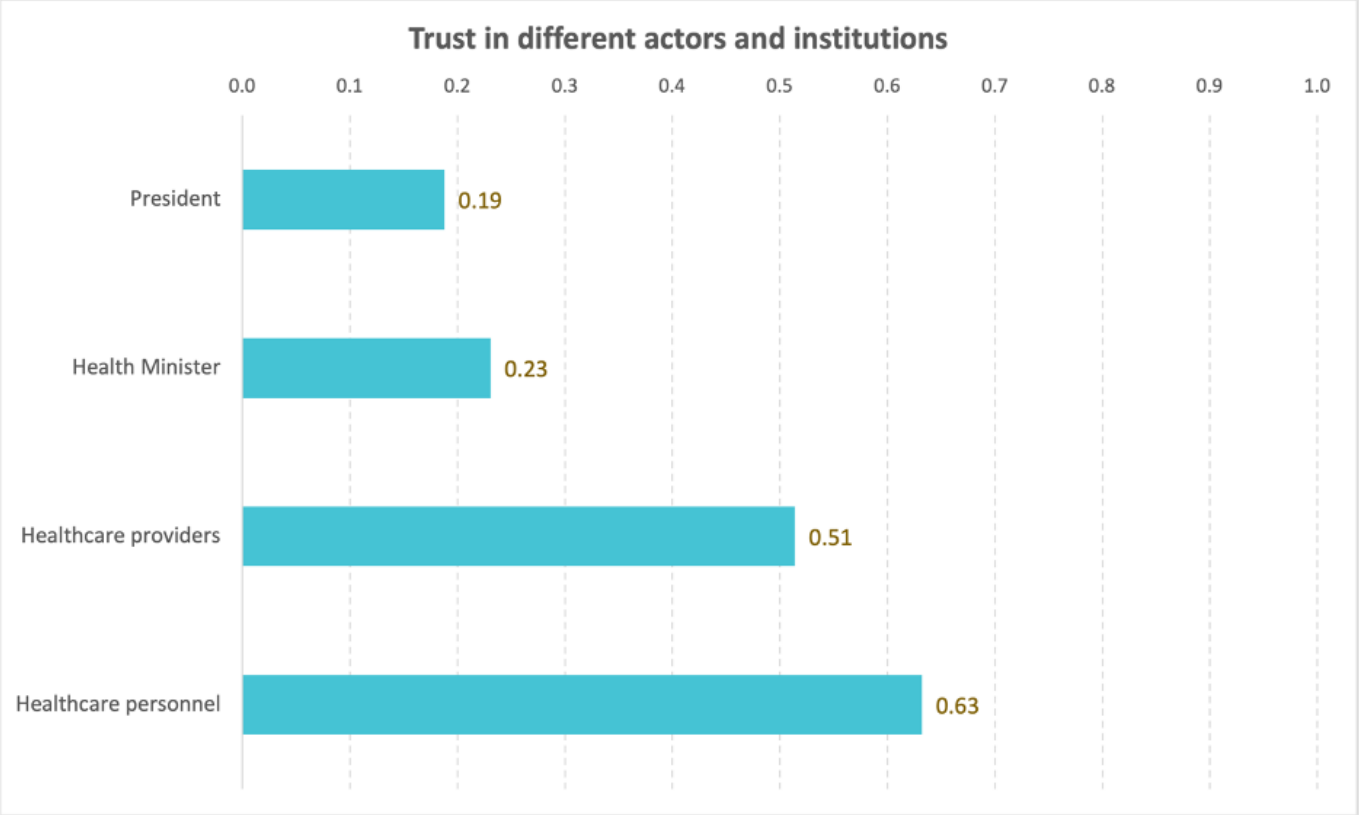
Narratives on social media: Health institutions and the government under the spotlight.

Narratives varied across social media: On Facebook, most of the detected topics were related to news, announcements, and comments on the development, acquisition, and application of the vaccines. On Twitter, most narratives revolved around complaints and derision vis-à-vis the government's handling of the inoculation process, including the slow arrival of vaccines and low vaccination rates. Despite these differences, there is a common focus: In both platforms, government and health institutions were the center of attention, and the posts were more centered in the supply and logistic process than in the safety or effectiveness of the vaccines, which is the usual framing in vaccine-related misinformation.

In fact, Facebook and Twitter differ not only in their design, but also in the characteristics of their users in Colombia, the use they make of those platforms, and the content that is spread within each of them. According to data from the *Observatorio de la Democracia*, by 2020 68% of Colombians held an account on Facebook, while only 14% were Twitter users, most of which are a subset of the first group. This is not a random subset, though: Twitter users are on average more often male and urban, and more educated than Facebook users. It is possible, therefore, that this disparity in such demographic traits accounts for the difference in the content we saw in the publications related to vaccines against Covid-19.

In any case, that content was disseminated in a context of intermittent vaccine scarcity, and low trust in the national authorities in charge of the vaccination process. According to data from our survey that measures trust in different actors and institutions on a scale from 0 to 1, Iván Duque, President of Colombia, received an average grade of 0.19, while Fernando Ruiz, the Health Minister, obtained 0.23. Healthcare providers and personnel were perceived as considerably more trustworthy, *as shown in the figure below*. Moreover, trust in the information provided by national and international health authorities about the safety and effectiveness of vaccines is not remarkably high either. This context may shed light on the fact that the analyzed social media content focuses on governmental institutions and the

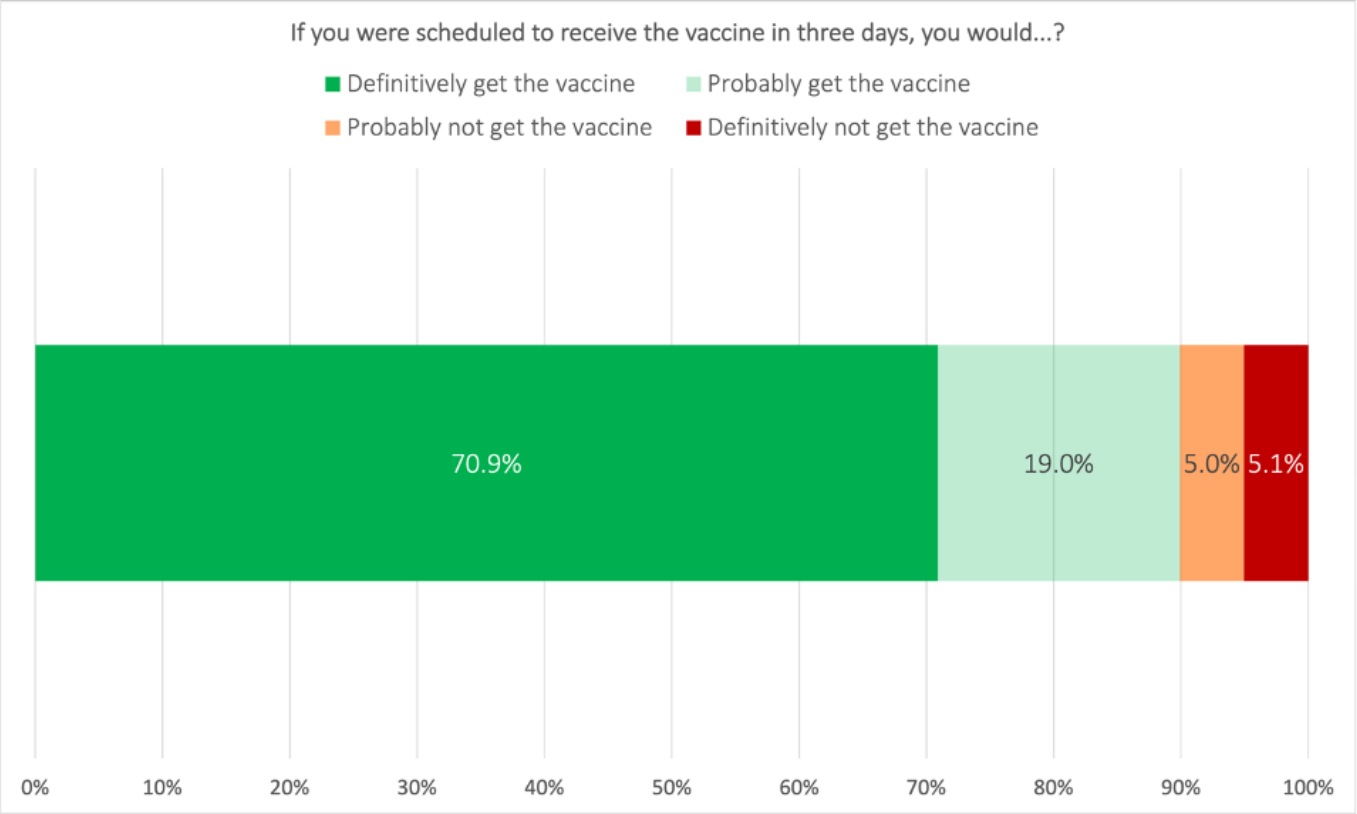
vaccination process—its supply and logistics— rather than on vaccine safety concerns.



Vaccine-related misinformation: It may not be the most prevalent problem, but it is a problem

We did not find a substantial amount of misinformation narratives on either Facebook or Twitter. On Facebook, only one of the ten topics identified through topic modeling analysis could be labeled as “misinformative” or “conspirative,” and it represented a mere 7% of the public conversation on this platform. Also, Twitter users primarily used the platform to rebut or mock concerns about side effects or common misinformation about the vaccine.

The low prevalence of misinformation narratives on social media in Colombia resonates with results from our survey analysis showing that vaccine hesitancy is relatively low in this country. Only one in ten Colombians who had not been vaccinated against Covid-19 by the time of our survey (June-July 2021) expressed any level of hesitancy towards getting the jab. Moreover, people who reported in our survey that they use Twitter frequently seemed to be more willing to get vaccinated and less prone to be negatively affected by anti-vaccine misinformation. In contrast, 86% of our respondents expressed concern about government corruption surrounding the vaccination plan against Covid-19.



We do not mean to imply that vaccine-related misinformation has not been problematic for the advance of the national immunization program. On the contrary, our analysis suggests that people who believe in conspiracy theories about vaccination against Covid-19, or those who have overall anti-vaccine opinions, are somewhat more reluctant to get vaccinated. Specifically, the probability of hesitancy doubles in people who are convinced that "vaccines will be used to control the global population" or that "kids receive too many vaccines" in comparison with people who do not hold those beliefs. Moreover, the evidence from our experimental design allows us to conclude that participants exposed to misinformation have on average a higher level of vaccine hesitancy than respondents who have not received such exposure. In sum, health misinformation is in fact a global issue. However, it just does not seem to be as prevalent in Colombia.

> Fighting misinformation is important but it requires paying attention to institutional trust.

Our research suggests that fighting health misinformation and building trust in official or institutional information can be thought of as two sides of the same coin. In Colombia, complaints regarding the government's handling of the inoculation campaign were more prevalent than anti-vaccine misinformation. In a context where health provision is rather precarious and highly unequal, as it is in Colombia and many other Latin American

countries, governments need to convey the message that they have the ability and will to make health services available to the public and to mandate appropriate health policies for the common good. Latin American countries should not only focus on tackling vaccine misinformation, but also on building trust in their health institutions.

By contrast, we found no evidence that common ways of correcting misinformation, either fact-checking or messages promoting the safety of vaccines, are able to reduce vaccine hesitancy in a context where people do not trust authorities. With such a low baseline proportion of people reluctant to receive the vaccine, this kind of intervention aimed at further reducing vaccine hesitancy may not be as effective. While refuting misinformation might be a specific solution for a concrete misleading narrative, cultivating trust in official sources seems to be a more encompassing and cost-effective answer that can affect the way citizens interact with health information more generally. Without trust, health authorities cannot refute false narratives about vaccines against Covid-19; they need to be seen as trustworthy sources of answers to the legitimate concerns of citizens in uncertain times. We found that the lack of trust opens the door to more serious and harmful flows of misinformation and may generate further uncertainty.