
Three behavioral strategies to increase the acceptance of vaccines against COVID-19

Policy Paper

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Despite international efforts, COVID-19 cases continue to rise, in particular because of the novel UK and South African variants spreading across the globe. Furthermore, many countries in Europe are experiencing a slow vaccination rollout compared to the United Kingdom, the United States, and Israel with no indication of when an increased response will occur. Reasons for the slow vaccination rates have been attributed to a low supply of vaccines. Hesitancy for the COVID-19 vaccines, in particular when it comes to taking the vaccine developed by AstraZeneca, is one other factor that slows down the immunization process. Although vaccine acceptance has been recently on the rise in many developed countries, this is not the case in Moldova where according to survey results released a few weeks ago only 1 out of 3 respondents declared to be willing to get the vaccine when it will be available. Even more worrisome is the refusal of some health workers to take the vaccine as this sets a bad example for the general population.

This short policy paper proposes three strategies to increase vaccine acceptance and uptake using insights from behavioral science.

Behaviorally-informed strategy 1: Make salient the endorsement of vaccines by trusted leaders and public figures

A potential response to vaccine hesitancy is to provide endorsement of vaccination from social figures in the media and from the government, which would send a social signal to people of the benefits of vaccination for oneself and the community. Groups that influence institutional signals include political decision-makers, health workers, media outlets, digital platforms, immunization program managers, and community and religious leaders.¹ Health care providers, such as doctors and health government officials, remain the most trusted advisor and influencer of vaccination decisions. Multiple studies have shown that health care professionals are more likely to recommend vaccination if they themselves have been vaccinated, which can be influenced by **improving their knowledge of the vaccine and showing them how many of their co-workers support the vaccine.**² The appeal to top public health officials' endorsement of the vaccine has also been shown to increase vaccine acceptance within the general population. For example, in a US randomized survey experiment, endorsement of a COVID-19 vaccine from Dr. Fauci (primary US expert on pandemic response) had a significant effect in increasing beliefs and vaccine uptake.³ However, using the COVID-19 vaccine for perceived political benefits, such as Donald Trump or

¹ Brewer, N. T. et al. (2017). Increasing Vaccination: Putting Psychological Science Into Action. *Psychological Science*, 18(3), 149-207.

² Paterson, P. et al. (2016). Vaccine Hesitancy and Healthcare Providers. *Vaccine*, 34(52), 6700-706.

³ Bokemper, S. A. et al. (2021). Timing of COVID-19 vaccine approval and endorsement by public figures. *Vaccine*, 39(5), 825-829.

Nancy Pelosi endorsing vaccination, did not affect vaccine beliefs or uptake. Therefore, using political figures to promote the vaccine in a country with high political polarization may have no effect on the intention of the general population to take the vaccine.

Behaviorally-informed strategy 2: Make it easy to get the vaccine

When it comes to changing behaviors, one simple policy with a potentially noticeable impact is to change the default option: instead of asking people to book an appointment at a nearby clinic, public authorities could work with **employers to automatically book appointments for their employees, leaving them the freedom to opt-out**. Results from previous behavioral studies on the take-up of vaccines show that this measure has the potential to dramatically increase the number of people who get a vaccine. A group of researchers from Rutgers University (USA) sent a letter to 408 university employees to inform them about a campaign of vaccination against influenza.⁴ Employees were divided in two groups (without knowing that). The first group received an email indicating the date, time and place where they had to be vaccinated. In other words, their appointment had been scheduled for them, but they could cancel it any time (opt-out). The other group received an email requesting them to choose a date to be vaccinated (opt-in). The results show a significant effect of the opt-out option: 92% of the employees in the first group kept their appointment and therefore received a vaccine, while only 50% of those in the second group made the necessary appointment in order to be vaccinated.

Behaviorally-informed strategy 3: Remind people that there is a vaccine reserved for them

A recent experiment conducted with thousands of participants who were unaware that they were participating in a scientific study has tested 19 messages designed to boost adoption of the influenza vaccine.⁵ The top performing message led to a 4.6 percentage point boost in vaccination (an 11% increase) at the cost of sending two text messages. The first text, in this condition, sent 72 hours before the patient's appointment at the local medical center noted that "it's the flu season" and "a flu vaccine is available for you". The second text in this condition, sent 24 hours before the appointment, stated simply that **"this is a reminder that a flu vaccine has been reserved for your appointment"**. The underlying theory behind this intervention emphasizing that a vaccine has been "reserved" for the patient is the concept of mental accounting. For example, one basic principle in economics is that money is fungible. To say that money is fungible means that, regardless of its intended use, all money is the same. However, studies in behavioral economics found that this principle is often violated in practice. For example, people tend to categorize their money into separate non-fungible accounts: savings accounts, retirement accounts, etc. The idea is that you'll tend to spend less on temptation goods (for example, buying an expensive watch) if your bonus is transferred automatically on your "savings account" instead of your normal account. Taking money out of your "savings account" makes you feel more guilty. This is exactly the idea of the reminder that a vaccine has been "reserved" for you: in theory, **the vaccine can be used for anyone but labeling it as reserved for someone specifically makes that person feel guilty if s/he doesn't take it on time**.

⁴ Chapman, G. B. et al. (2010). Opting-in versus Opting-out of Influenza Vaccination. *JAMA*, 304(1).

⁵ Milkman, K. et al. (2021). A Mega Study of Text-Based Nudges Encouraging Patients to Get Vaccinated at an Upcoming Doctor's Appointment. *SSRN Working Paper*.

Based on the aforementioned strategies to increase vaccine acceptance and uptake, we make the following detailed recommendations that may help public authorities to design a vaccination strategy that integrates behavioral insights. Recommendations are made in the order of their implementation priority:

1. Improve the knowledge about the vaccine safety among healthcare workers.
2. Show healthcare workers how many of their peers approve of getting the vaccine. In case the statistics do not show strong approval of vaccination among healthcare workers, use data from neighboring countries that show higher approval rates.
3. Appeal to top officials in the healthcare system to promote vaccination (local experts on pandemic response, directors of hospitals).
4. Use the opt-out strategy to automatically book appointments for employees that are allowed to be vaccinated at their workplace (healthcare workers).
5. When vaccination opens to vulnerable individuals who are easy to locate and to communicate with (either because they live in retirement homes or because they are under active medical surveillance), automatically book appointments leaving them the freedom to opt-out.
6. Once vaccination opens to the general (less vulnerable) population, design public information campaigns that show (high) vaccination rates among the healthcare workers. Furthermore, use trusted public figures to promote vaccination and at the same time avoid politicizing this practice (i.e., do not use political figures).
7. Use text messages to promote vaccination among all types of individuals (priority workers, vulnerable individuals, general population) that make use of the mental accounting concept -- that is, inform individuals that a shot has been reserved for them.