

# Getting people vaccinated: Are we ready for the next pandemic?

Novel technology such as the mRNA vaccines increases vaccine hesitancy. But there is at least one way to overcome resistance

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Not if but when the next pandemic strikes, the speed at which technology moves to produce a new vaccine will be one of our greatest assets. But one of our largest liabilities follows close behind – because of its very

newness, people are likely to hesitate to take the vaccine. In the current Covid-19 pandemic, we have already seen that people's reluctance to be vaccinated has been one of the largest public policy stumbling

blocks. In the current pandemic, hesitancy has been mapped across the world: In a survey of 13,426 people across 19 countries, less than half (or only 47 per cent) reported that they “completely agree” with getting a Covid-19 vaccine.

Vaccine hesitancy is merely the latest in a long line of visceral aversions towards novel technologies – from eating genetically-modified foods to drinking recycled water. Specific to vaccines, past research has demonstrated this effect for vaccines for HPV and the influenza A (H1N1) virus.

In the current pandemic, the role of mRNA vaccines has been intriguing – these are more effective than vaccines produced using conventional technology, but how much does the novelty of its technology affect vaccine hesitancy?

A second important question – what, if anything, can reduce this hesitancy?

We conducted a large study to find out – 35,180 adults in nine of the most populated countries in the Americas (Brazil, Mexico and the United States), Asia (China, India and Indonesia) and Europe (Germany, Russia and the United Kingdom) were surveyed.

Here's what we found out – first, the newness of the mRNA vaccine does reduce people's willingness to be vaccinated. Second, that even a relatively small group of early adopters is enough to provide momentum for vaccination.

This finding is particularly relevant during the early stages of the pandemic where vaccination can make the biggest difference

from the policymaker's perspective. Knowing this will help governments manage mass vaccination programmes better, not just in the current pandemic, but in future mass outbreaks.

## NOVELTY PENALTY FOR VACCINES

This study is among the first in the world to determine the extent of increased hesitancy towards novel mRNA vaccines. Going into the study, we had already anticipated that people will be more hesitant due to the novelty of the mRNA vaccine technology. Psychologists call this a “novelty penalty”, referring to people's preference for familiar experiences over novel ones.

This was indeed what we found.

Around 50 per cent of people from our study indicated that they are “very likely” to get vaccinated, well below the 84-90 per cent of the population needed for herd immunity. However, our study was conducted at the start of the vaccination programmes in February last year, when less than 3 per cent of the world was vaccinated.

Now that the programmes have proven highly successful, we expect a significant increase in the proportion of people “very likely” to get vaccinated.

Second, our study shows that the difference between people's willingness to get the mRNA vaccine is 3.4 per cent lower than their willingness to get the conventional vaccine. Given the much higher level of efficacy of an mRNA vaccine (94-95 per cent) when compared to a conventional

vaccine (below 70 per cent), herd immunity achieved through vaccinations may be more likely in countries offering an mRNA vaccine.

## FORCE OF SOCIAL CONFORMITY

What of our second ambition? What reduces vaccine hesitancy? Would a person's willingness to get vaccinated increase dramatically if he knew that others in the community had already been vaccinated?

To investigate this, we asked three questions. First, we asked for the likelihood of Covid-19 vaccine acceptance; second, we asked the same question after randomly showing one of five hypothetical adoption rates in the country (0 per cent, 20 per cent, 40 per cent, 60 per cent and 80 per cent); and finally, we asked the likelihood of subjects recommending getting a Covid-19 vaccine to their loved ones.

When no one in the country is vaccinated, only 31.7 per cent of people responded that they are very likely to get an mRNA vaccine and 35.1 per cent a conventional vaccine. Upon learning that 20 per cent of their peers have been vaccinated, the proportion jumps to 49.6 per cent for an mRNA vaccine and 52.4 per cent for a conventional vaccine. At above 20 per cent, the proportion of people responding that they are very likely to receive the vaccine continues to increase although less dramatically.

Overall, we show that the novelty of the mRNA vaccine technology reduces the odds of a higher level of vaccine acceptance by 14.2 per cent. On the other hand, we find that social conformity reduces vaccine hesitancy.

In short, the novelty of the mRNA vaccine increases hesitancy, but social conformity reduces it.

This “bandwagon effect” is a powerful policy instrument against the pandemic. But there is a more general lesson.

Technology today holds the promise to more of society's problems than ever before. And as societies urbanise, problems and solutions become increasingly common to cities all over the world.

In Singapore, for example, the acceptance of Newater has allowed the country to transcend the limits of its small water supply; in the same way, perhaps, the role of lab-grown proteins may do the same for food security.

But technology is powerless without human acceptance. Understanding the role of social conformity in the willingness to accept novel technologies is our next big step.

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A nurse administering the Pfizer booster shot at a Covid-19 vaccination and testing site in Los Angeles last month. It has been found that the novelty of the mRNA vaccine increases vaccine hesitancy, but social conformity reduces it. PHOTO: AGENCE FRANCE-PRESSE

