

# Human Challenge Trials to Speed up COVID-19 Vaccine Hunt

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## Abstract

It is known that we have secured a number of safe and effective vaccines against COVID19, but it is also essential that we continue to develop new vaccines and treatments for Covid-19. These studies offer specific unique insights into how the virus works and also helps us to understand which promising vaccines offer the best chance of preventing the infection. There are few things to describe and analyze as to how much virus does it take to start an infection? How does the immune system begin its initial defense? And to tell which people will develop symptoms or not? The trials will start off by focusing on these fundamental scientific questions. We also must realize that there are also new vaccines coming up and the virus itself is evolving at a gradual speed.

**Keywords:** Human Challenge Trials, Vaccine, Defense, Pandemic, SARS-CoV-2

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## Introduction

It is seen that the challenge trials involving just a small numbers of volunteers will still give the answer to many more crucial questions – like to know if second-generation vaccines compare, to whether vaccines protect against new variants which are evolving. In this process the volunteers will be screened to check they are healthy and have not been infected by the virus before. In this process firstly they will have the virus squirted up their nose and then they are allowed to spend 14 days quarantining in hospital, while they are being closely monitored by a medical team. Finding out how the virus grows in the nose and analyzing the very early stages of infection in people before symptoms develop are two main aims.

To define clearly, Human challenge trials involve exposing healthy volunteers to a pathogen to learn more about the disease it causes and to test vaccines quickly. In this current pandemic situation that we are going through, over 38 000 people have agreed their willingness to participate in covid-19 human challenge studies. We can see two main arguments for why these trials are valuable and conducted at the first place. Firstly, while such Human challenge trials are unlikely to accelerate the development of the first vaccines to be released into the market, they may prove highly essential for second and third generation vaccines over the period of time for global distribution.

Finally, covid-19 is perhaps 10 times more lethal than influenza, and the antiviral drugs to be made available to participants in the challenge trials, did not reduce mortality. Various strategies to mitigate research risks by selecting people at high risk of covid-19 for challenge studies are likely to be unfair. Selecting people from various groups for participation in challenge studies would compound unfairness and also would increase the burdens they face eventually.

## Conclusion

It is clear that bringing an end to the pandemic will require more than an effective vaccine: people must also be willing to take it in this present situation. In a recent global survey it was clearly highlighted that the problem of covid-19 vaccine hesitancy is likely to be more than expected and found that the accelerated pace of vaccine development has further heightened public anxieties and could compromise acceptance. Public disclosure of serious injuries or deaths in SARS-CoV-2 challenge studies may undermine public trust and fuel vaccine hesitancy. Actually traditional vaccine trials pose less risk to participants than the present challenge studies and, when combined with steps to enhance transparency, represent a safer path to vaccines that will be widely accepted and distributed.