



## How long is Covid 19 Here to Stay?

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### Abstract

Research Institution is the first scientific organization to study the new variant in November 2020 (Obasun, F 2020). In leading this Research that undertook the results from 450 participants showing the effectiveness of the vaccine. How long with it take to reach herd immunity with covid-19 in the United States and around the world. Research Institution study of 450 participants shows that, at best, it will take seven years for the world to reach herd immunity. All of the members were vaccinated; within the observation of 450 participants, five members had the Covid 19 twice within one year and a half and seventy-five participants were A-symptom but can transport the disease. Many scientific models suggested that the population would achieve herd immunity once 43% of the world population has contracted the virus within five years (Schelden, 2020). Due to the new variants, half of the world has not been vaccinated or gotten the disease. Research Institution study is based on a small sample of participants that show an average, transmitting or reinfection is less than 5 percent, but becoming infected and spreading Covid-19—this study factor in school and the reopening of venue in the U.S. around the world. Further refinements show that 5% of the reinfection acknowledge an increase or multiple factors model would benefit from additional spreads to consider other factors. These include the variable rates of spread in households, schools, workplaces, and population density.

**Keywords:** Covid 19, immunity, disease, symptom, vaccine.

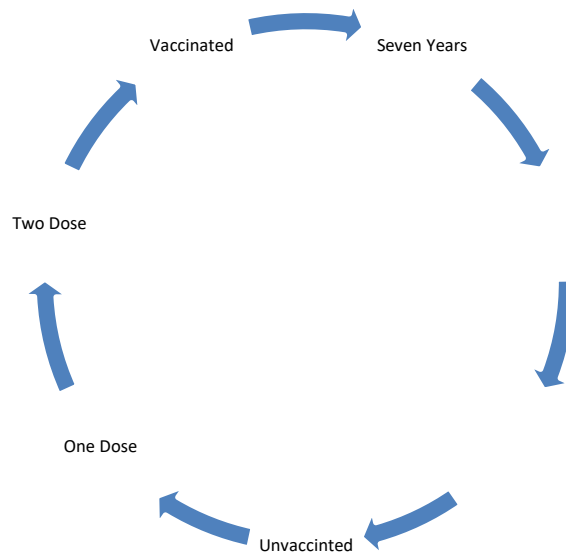
## INTRODUCTION

In the wake of Covid 19, a majority of nations went into lockdown. While self-isolation was an effective way of limiting the spread, the social and economic damage caused the lockdowns to be lifted before the vaccines were produced (Hernandez & Hinshaw, 2021). Recently, a series of vaccines such as Pfizer, Moderna, AstraZeneca, and Johnsons and Johnsons have been developed. Despite this breakthrough, the virus's mutation rate keeps rising, posing the question of how long the virus is likely to stay? A sufficiently substantial proportion of a population becomes immune to an infection; it can no longer spread; this can be true if Covid 19 was not mutating. A new modeling study suggests that the threshold for achieving herd immunity for COVID-19 is much lower than scientists had assumed. To begin with, the rates of vaccination around the world are rising steadily. Achieving herd immunity is dependent on the vaccination of the majority of the world's population and the effectiveness of the available vaccines, which may take a while (Hanaei & Rezaei, 2020). Even so, many experts feel that the disease will first move into the endemic stage before the world reaches herd immunity. Part of the reason is that new variants of the disease continue to rise as time progresses, decreasing the immunity from potential infections. For instance, early in May, studies conducted regarding real-world vaccinations found the recently approved Pfizer vaccine to be 95% effective against severe disease caused by the Alpha and Beta variants, respectively. However, Israel recently reported decreased effectiveness of the vaccine against severe disease (90%) and infection (39%) from the Delta variant based on their national health statistics analysis (Philip, 2021). Secondly, the extensive vaccination of the world's population is meant to ensure that only a few remaining hosts are susceptible to infection (Toriesen et al., 2021). That means that vaccinated individuals can no longer contract or spread the virus. However, several cases have been reported regarding vaccinated individuals contracting the virus for a second and even third time (Pashaei & Rezaei, 2020). In addition, breaking the transmission chain is even harder, seeing as some individuals with underlying chronic conditions cannot take the vaccine because of the high risk of complications. More

importantly, the vaccinations pose a risk for even further transmission. Some countries like Israel and the United Kingdom have made substantial progress in terms of vaccination. However, the more people get vaccinated, the more social interactions increase (Brown, de Bolle & Obstfeld, 2021). Seeing as the vaccine's efficiency keeps changing with the emergence of new variants, the number of people being exposed to the virus will continue to rise, including those already vaccinated. Other than vaccines, the nonpharmaceutical measures may not be helpful either if people stop implementing them (Diseases, 2020; Jabbari & Rezaei, 2020). For instance, some states have eased restrictions like wearing masks and social distancing, which effectively limited the spread of infection, despite the emergence of more dangerous variants like the Delta variant. Conclusively, considering the speed with which Covid 19 first spread into the entire world, countries are much safer observing the protocols that have been efficient in the past if herd immunity is to be achieved (Charumilind et al., 2021). Between the emergence of riskier variants, the impatience of humanity, the easing of restrictions, and the unfeasibility of vaccinating the entire world, there is very little potential that herd immunity will be accomplished any time soon (Rabiee et al., 2020). However, if the emerging variants are contained effectively, and the vaccines' efficiency remains constant, there is a possibility that the world will reach herd immunity as early as in the next seven years.

### Modeling Study for Achieving Herd Immunity for COVID-19 in Seven Years

This model is based on a vaccine calculator by Research Institution. The world vaccination rate is 4,700,010 doses per day, on average. At this rate, it will take an expected 7 years to meet 77% of the population with a two-dose vaccine, (Research Institution).



**Conflict of Interest:** The authors declare no conflicts of interest.

**Ethical Approval:** This study was approved by the IRB at Research Institution and was pre-registered in the ORCID registry (ID: <https://orcid.org/0000-0001-7233-881>).

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