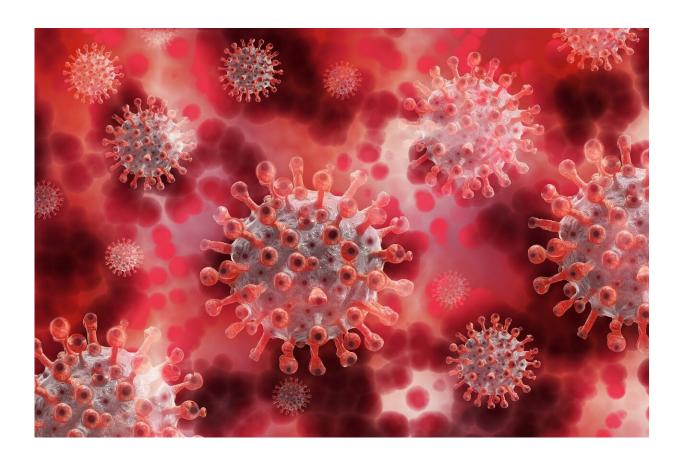# Forecast: The impacts of vaccines and variants on the U.S. COVID-19 trajectory

March 3 2021

Credit: Pixabay/CC0 Public Domain

In a report summary released today Thomas McAndrew, a computational scientist and assistant professor at Lehigh University's College of Health includes probabilistic forecasts of the impact of vaccines and variants on

the U.S. COVID trajectory over the next few weeks. The goal of the report, says McAndrew, is "to support public health officials, infectious disease modeling groups, and the general public."

Report highlights

- A [consensus](#) of 91 forecasters predicts that the B.1.1.7. variant will be found in 42% of all genetic sequences with an S-gene mutation in the first two weeks of March and in 72% in all sequences between March 29 and April 4, 2021.
- The consensus among experts in the modeling of infectious disease and trained forecasters from Metaculus is that by Feb 28th, 55,420,000 people will have received at least one dose of a vaccine. Generalist forecasters from Good Judgment Open (GJO)—an online forecasting platform open to any interested member of the public—responded similarly with an implied median of 52,200,000 people receiving one or more vaccine doses. Preliminary data from the CDC shows 49,772,180 people have received an initial dose on Feb. 28th.
- Consensus forecasts from both Metaculus and Good Judgment Open predicted a decrease in the rate of cases, deaths, and hospitalizations for the last week of Feb (21st-27th).

The team will share with members of the Centers for Disease Control and Prevention (CDC), the Council of State and Territorial Epidemiologists, and members of MIDAS.

McAndrew's approach to forecasting is different from the traditional approach. Rather than build a [computational model](#) to predict cases, deaths, and hospitalizations due to COVID, he asks experts and trained forecasters to predict these targets and combines their predictions into a single consensus [forecast](#).

In addition he and his team produce a metaforecast, which is a combination of an ensemble of computational models and their consensus forecast.

"The idea behind this approach is to combine computational models with human judgment to make more accurate predictions of the U.S. outbreak," says McAndrew.

More information: [github.com/computationalUncert …](link) [ID-19Targets_Feb.pdf](link)

Provided by Lehigh University

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