

March 12th, 2021

KEY TAKEAWAYS

- Trends in COVID-19 cases, hospitalizations and deaths in Virginia continue to improve. However, weekly new case rates statewide remain above peaks experienced last summer.
- Virginia has surpassed its goal of 50,000 vaccine doses administered per day. According to online surveys, 3 in 4 Virginians state they will definitely or probably take the vaccine when offered.
- The B.1.1.7 variant looms with model results projecting a summer peak in cases should mask use and social distancing lessen substantially.

68 per 100k

Peak Average Daily Cases
Week Ending Jan 24, 2021

18 per 100k

Average Daily Cases
Week Ending Feb 28, 2021

69 per 100k

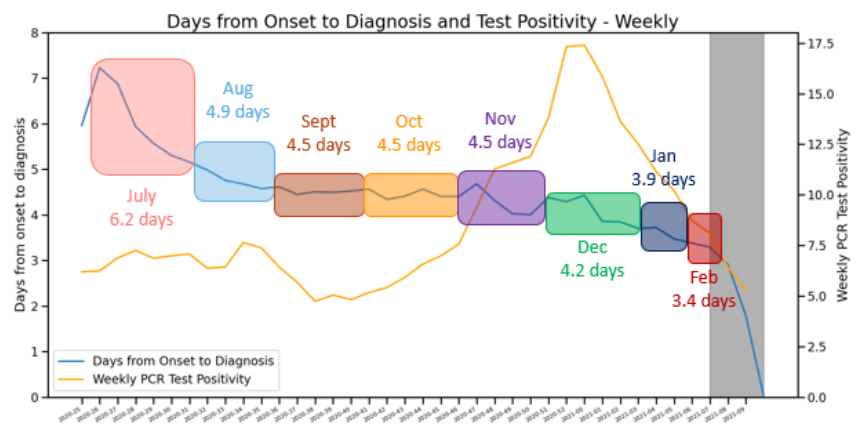
Potential Peak Average Daily
Cases, Week Ending July 21,
2021 with New Variants &
Pandemic Fatigue

KEY FIGURES

Reproduction Rate (Based on Confirmation Date)

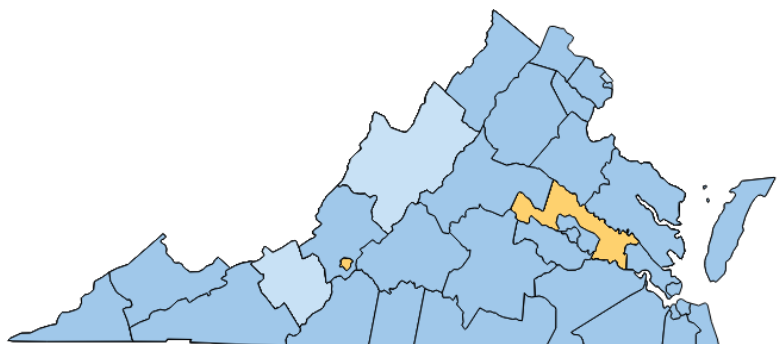
| Region | R_e Mar 8 | Weekly Change |
|------------|-------------|---------------|
| State-wide | 0.817 | -0.019 |
| Central | 0.834 | 0.015 |
| Eastern | 0.768 | -0.059 |
| Far SW | 0.927 | -0.159 |
| Near SW | 0.805 | -0.006 |
| Northern | 0.842 | -0.101 |
| Northwest | 0.825 | 0.184 |

Case Detection



Growth Trajectories: 0 Health Districts in Surge

| Status | # Districts (prev week) |
|-------------|----------------------------|
| Declining | 29 (33) |
| Plateau | 4 (2) |
| Slow Growth | 2 (0) |
| In Surge | 0 (0) |



THE MODEL

The UVA COVID-19 Model and the weekly results are provided by the UVA Biocomplexity Institute, which has over 20 years of experience crafting and analyzing infectious disease models. It is a (S)usceptible, (E)xposed, (I)nfectious, (R)ecovered epidemiologic model designed to evaluate policy options and provide projections of future cases based on the current course of the pandemic.

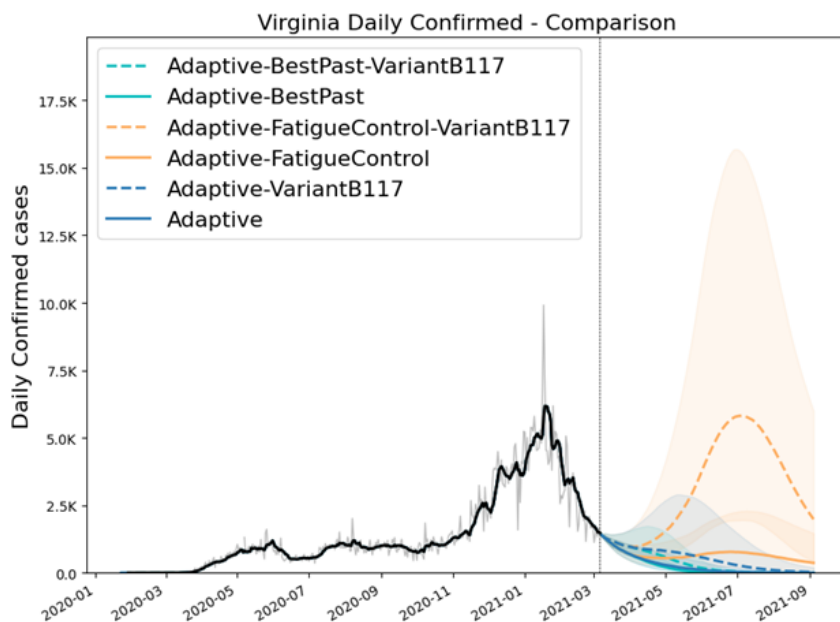
COVID-19 is a novel virus causing a global pandemic and response. The model improves as we learn more about it.

THE PROJECTIONS

The UVA team continues to improve the model weekly. The UVA model uses an "adaptive fitting" methodology, where the model traces past and current trends and uses that information to predict future cases at the local level. The model incorporates projections on the impact of vaccines which will improve over time. Several scenarios are modeled, including counterfactual "no vaccine" scenarios. The model also includes three "what-if" or planning scenarios. The "Best Past Control" scenario projects what may occur if localities match the lowest rates of transmission seen earlier in the summer. This scenario also includes an optimistic vaccine rollout scenario, meeting public targets. The "Fatigued Control" scenario does the opposite, projecting the highest transmission rates forward and using a pessimistic vaccine rollout scenario. The "New Variants" scenario projects the potential impact of new variants, including a 40% increase in transmission, with the B.1.1.7 variant becoming dominant in late March.

MODEL RESULTS

The model shows a continued declining trajectory along the current course, but warns of a spike in cases that could occur as variants predominate and cautious behavior relaxes. Under the current course, model scenarios show that cases peaked at just over 68 average daily cases per 100,000 residents during the week ending January 24th. However, under the Fatigued Control - Variant B.1.1.7 scenario, if Virginians relax their behavior as new variants take hold, the summer could bring another peak about as high as what we saw at the beginning of this year. To avoid another peak, we must give vaccines time to have an impact, especially as new variants become more prevalent across the nation. **Do your part to stop the spread. Continue to practice good prevention and get vaccinated when eligible.**



POSITIVITY

This is a positive time for key COVID-19 measures in Virginia. Trends in cases, hospitalizations, deaths, vaccinations and test positivity have all been improving. Despite this, case rates are plateauing nationally and this may happen soon in Virginia. The B.1.1.7 variant, with its higher transmission rate and greater disease severity, remains on track to become the predominant strain in the United States and Virginia by the end of the month as CDC has projected.

Vaccinations

Virginia has attained its goal of administering 50,000 doses per day and then some. Because of this vaccination acceleration, the model is projecting a much milder summer peak of cases under the worst case scenario of fatigued control and B.1.1.7 variant predominance (Figure). This illustrates well the benefit to the Commonwealth of Virginia of an aggressive vaccination rollout. And CDC's guidance that vaccinated people can visit with each other in private settings without masks or distancing shows the benefit on a personal level.

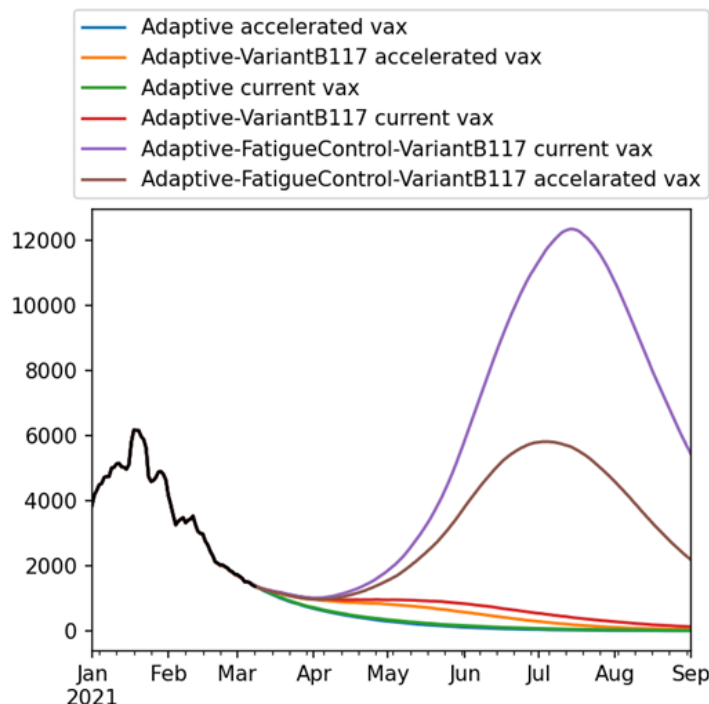
Variants

The B.1.1.7 variant remains on track to become the predominant strain by the end of the month. What this means for Virginia is unclear. The model projects either a drawn out plateau of the case rate with current control measures or a new peak in cases this summer with fatigued control that can be lessened with the projected accelerated vaccination rollout.

Behavior

Our personal and community COVID-19 control practices remain critically important even in light of the positive trends. Just this week CDC published that state-level mask mandates were associated with decreased COVID-19 case and death growth rates, and allowing on-premises restaurant dining was associated with increases in case and death growth rates. Unfortunately, some states, most recently Texas, have lifted their mask mandates. Fortunately none of Virginia's neighboring states have lifted their mask mandates.

Spring break is typically a time for travel and increased gathering. However, the projected increase in cases and deaths associated with the B.1.1.7 variant highlights the risk of relaxing prevention efforts. Even those who have been vaccinated should continue to wear masks and distance in while in public, and to avoid travel.



The chart above shows projected daily cases for each of the scenarios the UVA Biocomplexity team models. Even if the B.1.1.7 variant becomes predominant as expected, cases will continue to decline if Virginians maintain prevention measures and vaccinations continue at the current rate. If Virginians begin to loosen prevention efforts, however, the B.1.1.7 is projected to cause a summer surge (purple line). If vaccination rates continue to increase as expected, the surge should be milder, but may still approach peaks seen in January and February (brown line).

No Spring Surprises

Let's not mess with the positive trends by increasing risky behavior. COVID-19 growth has occurred in the past when controls are loosened and now is not the time to further test this relationship. With the B.1.1.7 variant looming, even in the face of strong vaccination progress, continued mask use and social distancing are as important as ever.