February 19, 2021

KEY TAKEAWAYS

- While still high, cases, hospitalizations, and deaths in Virginia continue to decline from the recent peak.
- The most significant obstacle to continued improvement in case counts remains the further emergence of variants.
- One year into the pandemic, Virginia is performing well compared to other states on case, death and vaccination rates, but COVID-19 racial/ethnic disparities provide opportunities for improvement.

68 per 100k
Peak Average Daily Cases Week Ending Jan 24, 2021

39 per 100k
Average Daily Cases Week Ending Feb 14, 2021

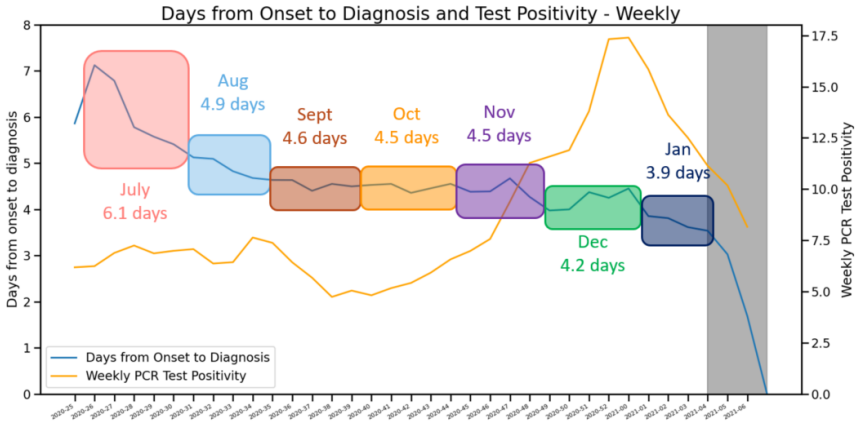
46 per 100k
Potential Peak Average Daily Cases, Week Ending May 30, 2021 with New Variants & Pandemic Fatigue

KEY FIGURES

Reproduction Rate
(Based on Confirmation Date)

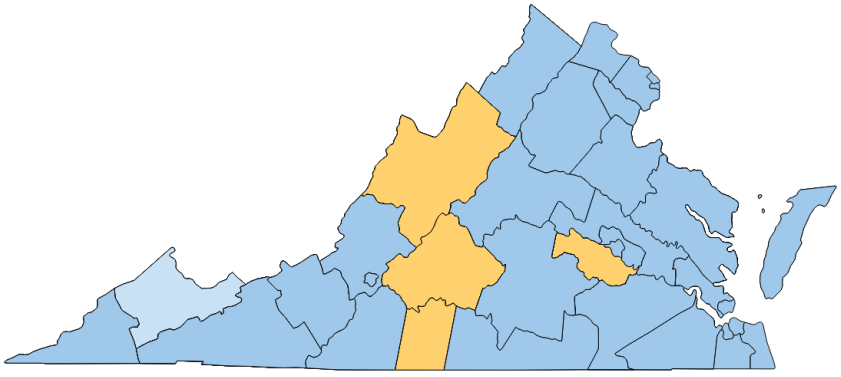
Region	R_e Feb 15	Weekly Change
State-wide	**0.878**	**0.098**
Central	0.951	0.135
Eastern	0.826	0.039
Far SW	0.752	0.013
Near SW	0.897	0.108
Northern	0.875	0.107
Northwest	0.883	0.145

Case Detection



Growth Trajectories: 0 Health Districts in Surge

Status	# Districts (prev week)
Declining	30 (33)
Plateau	1 (0)
Slow Growth	4 (2)
In Surge	0 (0)



UNIVERSITY of VIRGINIA
BIOCOMPLEXITY INSTITUTE

UVA COVID-19 MODEL WEEKLY UPDATE

VDH VIRGINIA DEPARTMENT OF HEALTH

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)nfected, (R)ecovered epidemiologic model designed to evaluate policy options and provide projections of future cases based on the current course of the pandemic.

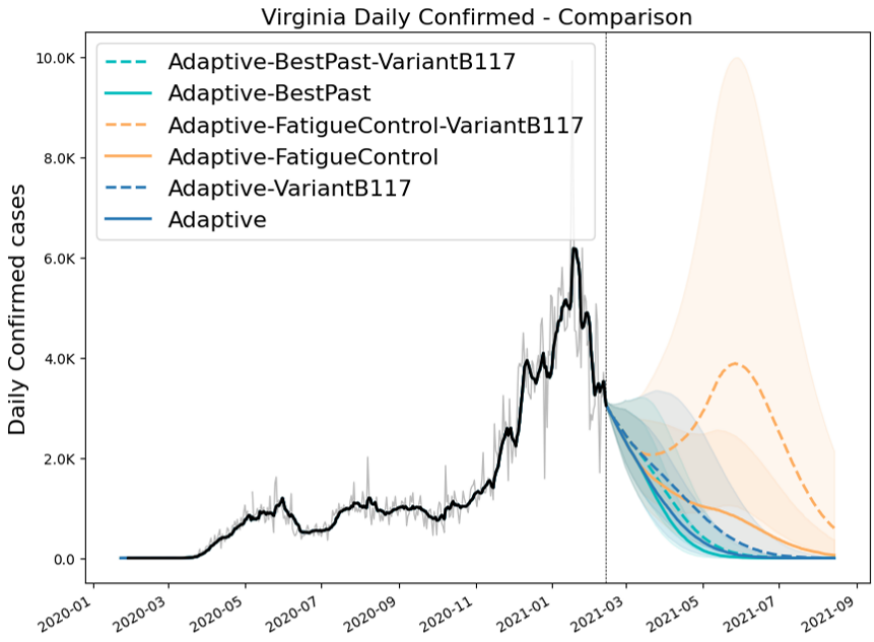
COVID-19 is a novel virus causing a global pandemic and response. The model improves as we learn more about it.

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 included, 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 results are encouraging again this week. All model scenarios show that weekly cases have already peaked at just over 68 average daily cases per 100,000 residents during the week ending January 24th. However, if Virginians relax their behavior as new variants take hold, we could face another smaller peak in the spring. Under the Fatigued Control, Variant B.1.1.7 scenario, cases would reach 46 average daily cases per 100,000 the week ending May 30th. 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.**



COVID-19 COMPARISONS

With the first COVID-19 case occurring in the United States a little over a year ago this is a good time to look at how things stand a year into the pandemic. Some key comparisons at the international, national and state levels can help with this review.

Trends provide comparisons over time and continued good news for Virginia and the United States this week. While all are still high, COVID-19 cases, hospitalizations and deaths continue to drop sharply from the recent peak and vaccination numbers continue to increase steadily. The most significant obstacle to the improving case counts remains the further emergence of variants in the United States, but widespread use of masks, social distancing and vaccines can reduce this threat.

International

While the whole world has been overwhelmed by COVID-19, the United States, with its patchwork approach to community prevention measures, has been particularly affected. As it leads the world with over 480,000 COVID-19 deaths, the United States has the 10th highest death and case rates per 100,000 people per WHO. On the other hand, Australia, New Zealand and some other countries in Asia have had a much lower disease burden due to more timely and aggressive community prevention measures. One major plus for the United States is its relatively high vaccination coverage compared to other countries.

National

Among states, Virginia, while still impacted severely, has fared relatively well. Despite currently having an average daily case rate higher than that of the United States, Virginia has the 8th lowest cumulative crude death rate and the 9th lowest cumulative case rate per CDC. Also on the positive side for vaccine doses administered, Virginia is currently 15th highest among states.

Virginia

Within Virginia, certain subpopulations have faced greater burdens from COVID-19 than others. Comparisons can point out disparities and disparities point out where equity needs to be addressed. One category of disparities are racial/ethnic disparities. For COVID-19 cases and hospitalizations, Hispanics are at the wrong end of the disparity with rates per 100,000 three times greater than those of Asian and Pacific Islanders, the group with the lowest rates.

For death comparisons, the picture is obscured by different age structures since COVID-19 death rates are much greater in older persons. When comparing death rates of an older population, such as Whites, to a younger population, such as Hispanics, this needs to be taken into account. One way to do this is by comparing age group specific death rates for each racial/ethnic group. In Virginia, when compared to Asian and Pacific Islanders, who have the lowest crude death rate, Hispanics and Blacks have much higher age-specific death rates. For those 20-49 years of age, Hispanics and Blacks have 9 and 5 times higher rates, respectively. For those 50-69 years of age, Hispanics and Blacks have 3 and 2 times higher rates, respectively. And for those 70 years and older, Hispanics and Blacks have twice the death rate of Asian and Pacific Islanders. With respect to doses of vaccinations administered, the White population's rate currently is almost twice those of the other racial/ethnic groups.

The Future

Virginia compares favorably to other states on key pandemic indicators. To retain this position Virginians should get vaccinated when eligible, continue to wear masks and practice social distancing. With further emergence of variants looming, these prevention practices are as important as ever.