March 5th, 2021

KEY TAKEAWAYS

- Case rates continue to decline statewide but remain high
- 88% of Virginia counties have case rates above the mean rate of Summer 2020
- All health districts are in a declining or plateau trajectory, with 33 of the 35 districts in decline
- Model results project a continued decline along the current course, but the Fatigued Control with Variant scenario projects a substantial peak in July 2021 with cases 2.5 times higher than the January peak

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

22 per 100k
Average Daily Cases Week Ending Feb 28, 2021

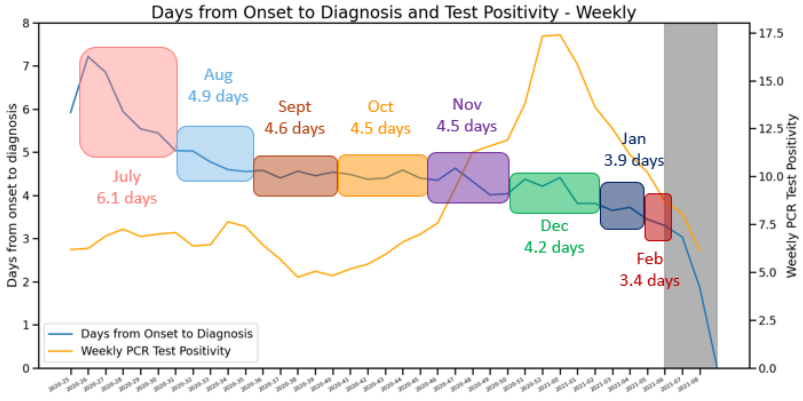
176 per 100k
Potential Peak Average Daily Cases, Week Ending July 11, 2021 with New Variants & Pandemic Fatigue

KEY FIGURES

Reproduction Rate
(Based on Confirmation Date)

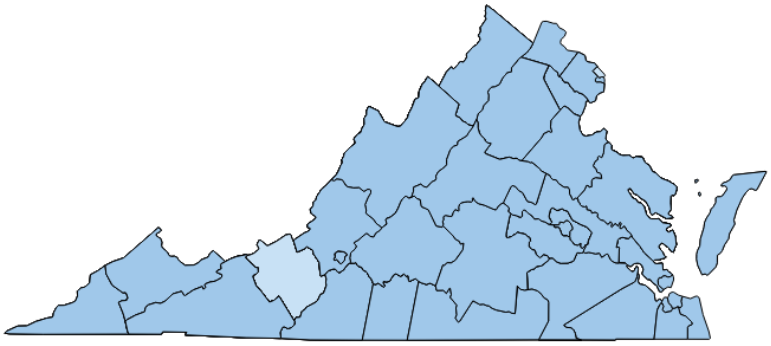
Region	R_e Mar 1	Weekly Change
State-wide	**0.836**	**0.115**
Central	0.819	0.200
Eastern	0.827	0.051
Far SW	1.085	0.476
Near SW	0.810	0.005
Northern	0.943	0.300
Northwest	0.641	-0.331

Case Detection



Growth Trajectories: 0 Health Districts in Surge

Status	# Districts (prev week)
Declining	33 (32)
Plateau	2 (0)
Slow Growth	0 (2)
In Surge	0 (1)



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.

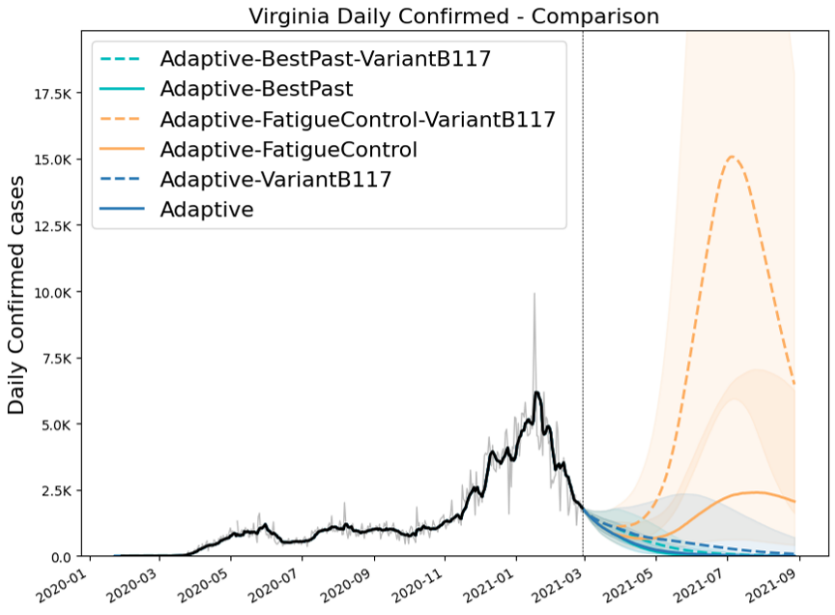
COVID-19 is a novel virus causing a global pandemic and response. The model improves as we learn more about it.

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 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, if Virginians relax their behavior as new variants take hold, the summer could bring another peak over twice as high as what we've seen in the past. Under the Fatigued Control, Variant B.1.1.7 scenario, cases would reach 176 average daily cases per 100,000 the week ending July 11th. 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.**



CAUTIOUS OPTIMISM

The situation is looking favorable once again, as cases continue to drop and vaccine uptake rises. The optimistic outlook brings with it increased capacity limits at outdoor venues and extended hours for restaurant and beverage establishments. These new measures go into effect just in time for spring. With loosening restrictions and warmer weather, Virginia could be on the brink of widespread behavior change.

While the current situation remains promising, modeling efforts warn of what could happen if behavior becomes too relaxed. Variants are increasing nationwide and more continue to appear in Virginia. Paired with loosening restrictions, the outlook could be grim if not taken seriously. While it is important to celebrate our successes, now is not the time for complacency.

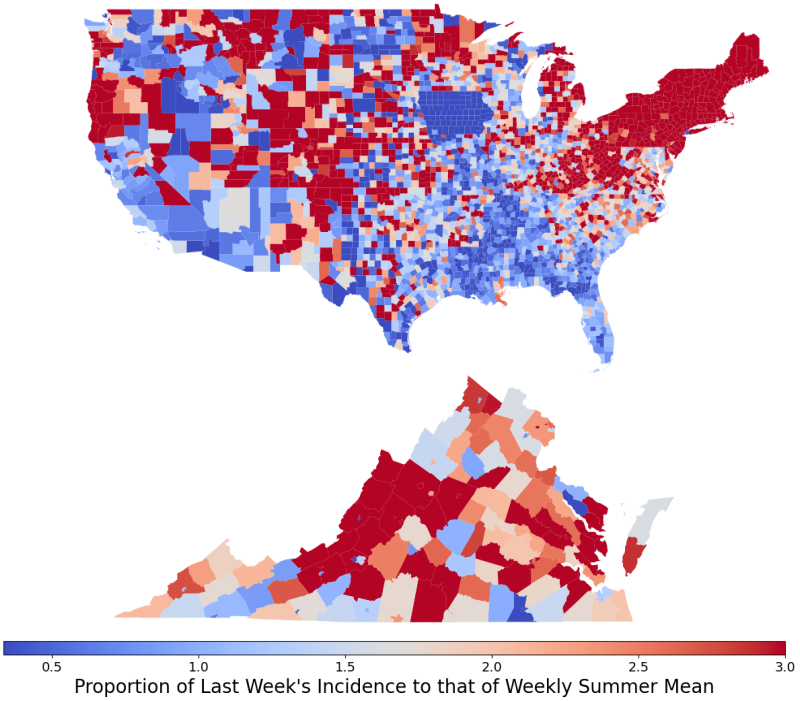
Looking Back: Then vs. Now

Nationally, states are moving towards fewer restrictions. To some this may appear as a signal that they can loosen personal precautions. However, particularly in light of growing variants, it is as important as ever to maintain strict public health precautions.

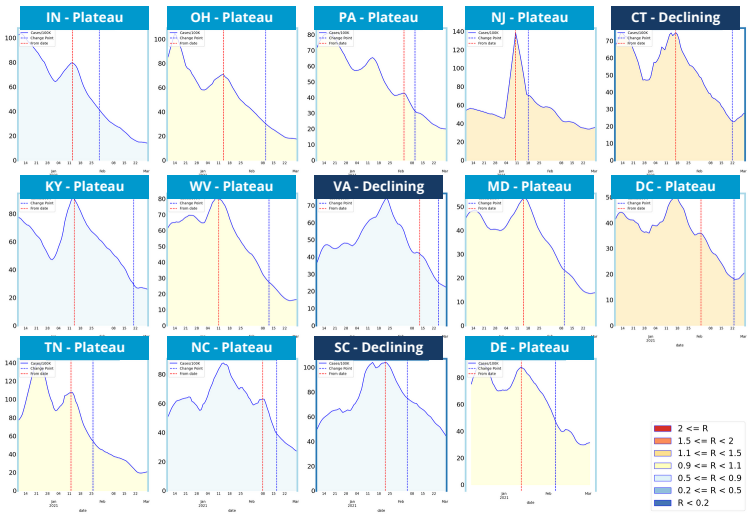
A useful reminder comes from looking back to Summer 2020. Last summer, cases rose steeply and counties began experiencing surges. As tighter restrictions were put into place there was an atmosphere of concern. Today, in many counties nationwide and across Virginia, case counts are two or even three times higher than the peaks from last summer. Today's case rates are a dramatic improvement over January 2021 but are not yet where they need to be.

There is a bright side: if we continue public health precautions and get vaccinated with one of the three approved vaccines, we should continue along a declining trajectory and achieve even lower case rates in the near future.

Recent Incidence Compared to Weekly Summer Mean by County



Around the Neighborhood



Trends tend to occur regionally. For example, patterns in the Southwestern part of the state follow those of Tennessee, Kentucky, and West Virginia. Rates in Northern Virginia often align with those in Maryland and DC. This is because our neighbors impact case rates in our state; we do not operate in isolation.

Virginia is faring well, with a low reproduction number and declining case rates. We have also done well to avoid a spike in death rates observed among many of our neighbors. We must strive to keep that up even as neighboring states' declines begin to plateau.

As always, Virginia's health is in our hands.