

April 23rd, 2021

KEY TAKEAWAYS

- Case, hospitalization and death rates in Virginia have not changed much over the last several weeks.
- Virginia is making progress toward herd immunity, however, many more Virginians need to get vaccinated to get vaccination coverage levels to 75-80%.
- Emerging pockets of lower vaccination coverage in the Commonwealth provide opportunities for current and future disease transmission, and for new variants to emerge.

19 per 100k

Average Daily Cases
 Week Ending April 18, 2021

100 per 100k

Potential Peak Average Daily Cases, Week Ending July 11, 2021 with B.1.1.7 Variant & Pandemic Fatigue

13 per 100k

2020 Summer Peak
 Week Ending Aug 2, 2020

68 per 100k

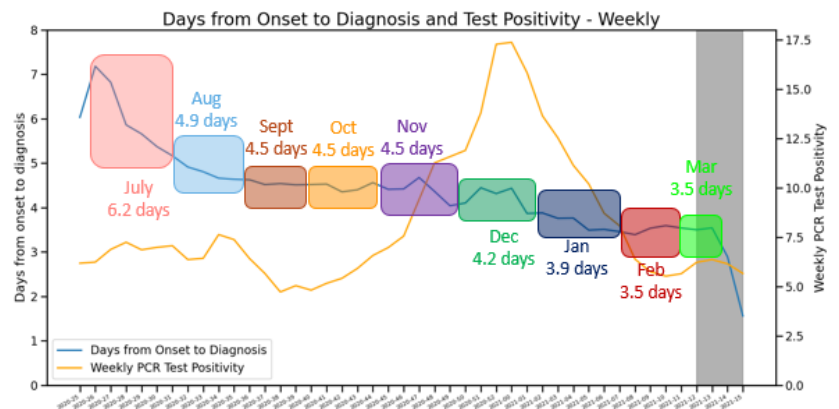
Highest Peak Average Daily Cases
 Week Ending Jan 24, 2021

KEY FIGURES

Reproduction Rate (Based on Confirmation Date)

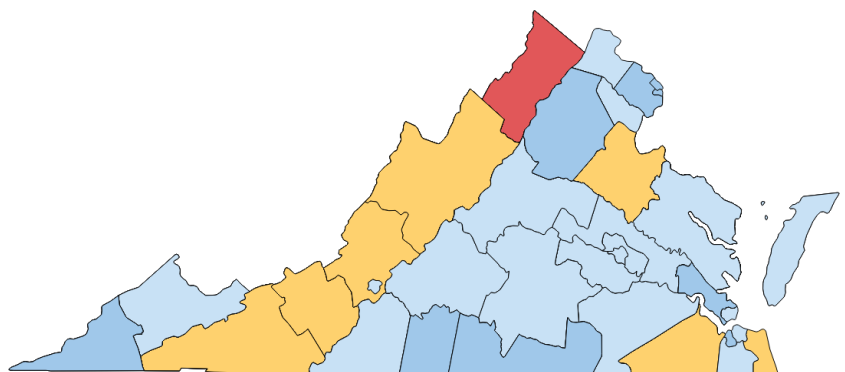
Region	R _e Apr 19	Weekly Change
State-wide	0.935	-0.074
Central	0.973	0.002
Eastern	0.945	-0.001
Far SW	0.958	0.011
Near SW	1.021	-0.006
Northern	0.889	-0.174
Northwest	0.975	-0.051

Case Detection



Growth Trajectories: 1 Health District in Surge

Status	# Districts (prev week)
Declining	9 (10)
Plateau	18 (12)
Slow Growth	7 (10)
In Surge	1 (3)



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.

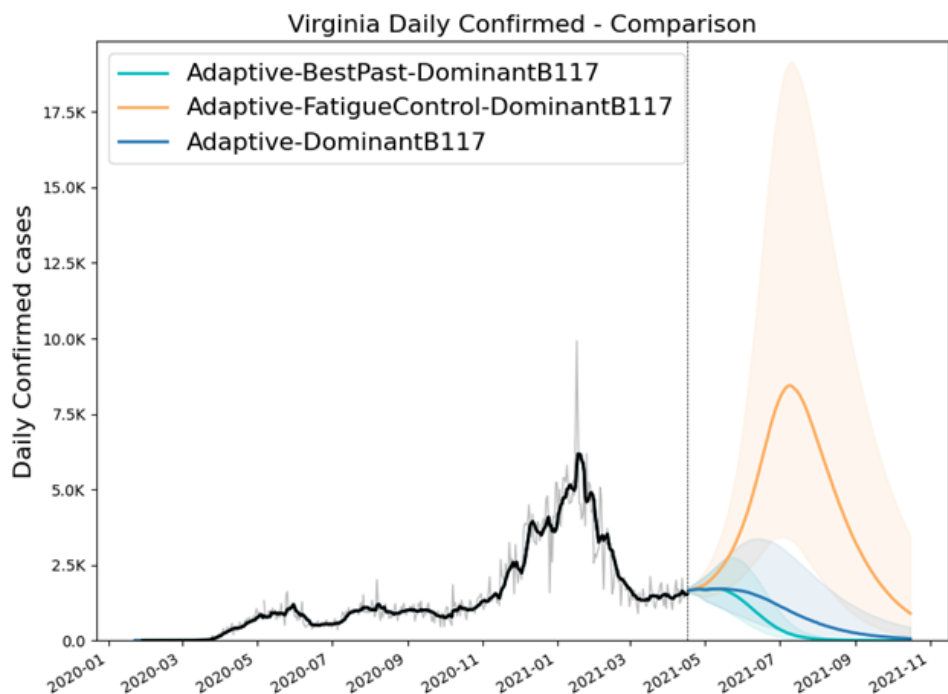
COVID-19 is a novel virus causing a global pandemic and response. The model improves as we learn more about it.

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. Since the B.1.1.7 Variant has become dominant, the model includes increased transmission and severity associated with this Variant of Concern. The model also includes "what-if" or planning scenarios. The "Fatigued Control" scenario identifies the highest transmission rates seen since May 2020 and projects those forward. The "Best Past" scenario does the opposite, identifying the lowest transmission rates seen since May 2020, projecting them forward.

MODEL RESULTS

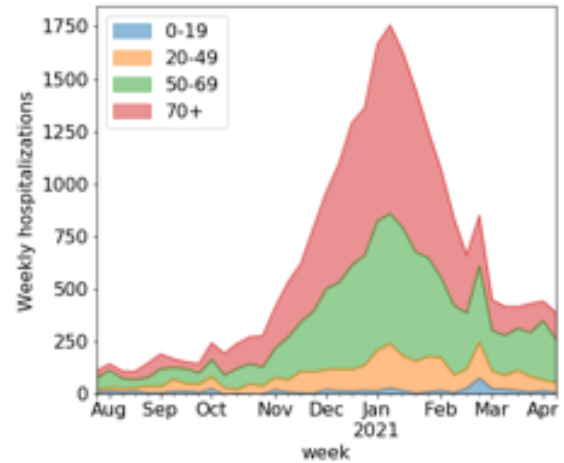
With the B.1.1.7 variant becoming predominant, the model shows a slight rise in new weekly cases along the current course, but warns of a surge in cases that could occur if Virginians relax precautions. Under the current course, model scenarios show that cases peaked at **68 average daily cases** per 100,000 residents during the week ending **January 24th**. However, under the Fatigued Control - Dominant B.1.1.7 scenario, if Virginians relax their behavior as Variants of Concern take hold, cases will reach a higher peak with **100 average daily cases** per 100,000 the week ending **July 11th**. To lessen the projected peak, we must give vaccines time to have an impact, especially as the B.1.1.7 variant becomes the predominant strain in Virginia. **Do your part to stop the spread. Continue to practice good prevention and get vaccinated when eligible.**



Many of the key pandemic measures have stabilized. Case, hospitalization and death rates in Virginia have not changed much over the last several weeks. Earlier in the pandemic stable measures would have been viewed positively. But with vaccination coverage continuing to increase these rates across the Commonwealth should be dropping. Bright spots, however, are the decreasing case, hospitalization and death rates among older adults, who benefit from high vaccination coverage rates.

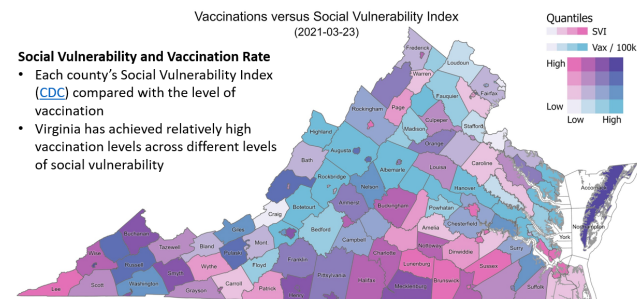
Vaccination Numbers Peaking?

With Virginia's at least one dose vaccination coverage of 41.1%, which is similar to that of the United States at 40.5%, plus some additional immunity in the population due to past infection, Virginia is over half way to herd immunity – the level of immunity in the community that is high enough so that people who are susceptible are much less likely to come into contact with an infected person. However, many more Virginians need to get vaccinated to get vaccination coverage levels to 75-80%. And average daily doses of vaccine administered dropped slightly from 84,264 earlier in April to 76,893 this week, possibly due to the J and J vaccine pause.



Hospitalizations have declined from peaks but are still well above levels seen last summer and fall. Regardless, the share of COVID-19 hospitalizations in Virginia among those 70 years and older (red) has decreased substantially. It is no coincidence that those over 70 also have the highest vaccination rates.

Uneven Vaccination Coverage



This figure maps both social vulnerability and vaccination coverage by locality in Virginia. Darker colors = higher levels.

Some counties – Albemarle, Goochland, James City, Lancaster and Northampton – have vaccination coverages over 50%, while others – Carroll, Lee and Prince George – have vaccination coverages below 28%. Norfolk and Portsmouth also have coverage rates below 28%. Some areas like the Eastern Shore despite high rates of social vulnerability – such as higher poverty rates – have managed very high levels of vaccination coverage. Ultimately the degree to which communities can vaccinate the most vulnerable is critical. For the 80 years and older population, it is safer to be living in Albemarle, James City and Lancaster counties with coverage rates in this age group of over 85%, than in Carroll, Lee, Patrick and Tazewell counties where coverage in this age group is currently below 60%.

Holding Pattern

The COVID-19 holding pattern Virginia currently is in will be broken with continued vaccination coverage gains. Improvements in key measures have been postponed due to growth of the B.1.1.7 variant and decreases in social distancing and mask use. Emerging pockets of lower vaccination coverage in the Commonwealth provide opportunities for current and future disease transmission.

For more information on the UVA COVID-19 Model, visit www.vdh.virginia.gov/coronavirus