April 22nd, 2022

KEY TAKEAWAYS

- Statewide case-rates are up from last week. However, most of Virginia is still experiencing "Low" COVID19 community levels.

- Surveillance artifacts continue to affect both models and metrics. These are largely limited to county-level data. They should not affect health district or statewide projections.

- The basic reproduction number (R_e) remains near one in most regions. This suggests that statewide case rates have plateaued.

- Some districts are still in decline, but 18 are now in slow growth. Two districts are also in surge, the first detected since February 11th. Nationally, New Jersey is also in surge, while Washington DC and five northern states are in slow growth. Maryland has plateaued.

- Wastewater surveillance continues to detect signs of case growth.

- The new BA.2.12.1 sub-lineage is out-competing BA.2, indicating a transmission advantage over BA.2. Together, the two now account for almost 95% of new cases in Virginia.

13 per 100k
*Average Daily Cases
Week Ending April 18th, 2022*

(187 per 100k)
*Adaptive Scenario
Forecast Average Daily
Cases, **Already Peaked**
on January 16th, 2022*

1,070 / 1,179
*Average Daily 1st / 2nd Doses
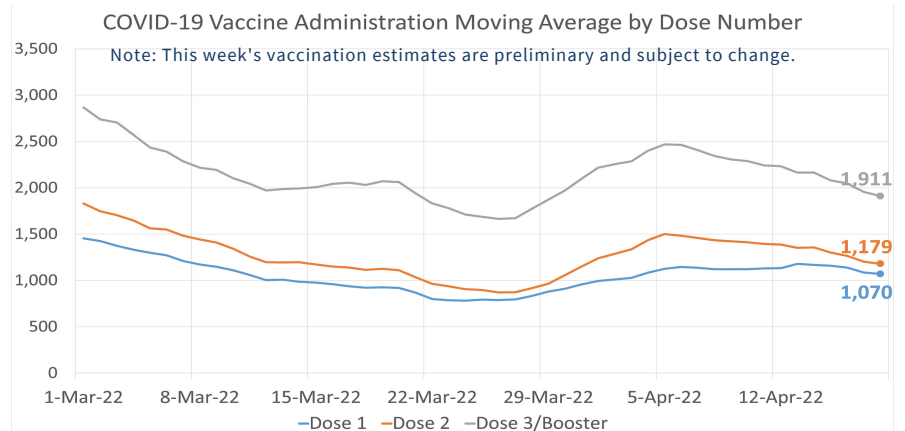April 18th, 2022*

1,911
*Average Daily Boosters
April 18th, 2022*
(Vaccine estimates are preliminary)

KEY FIGURES
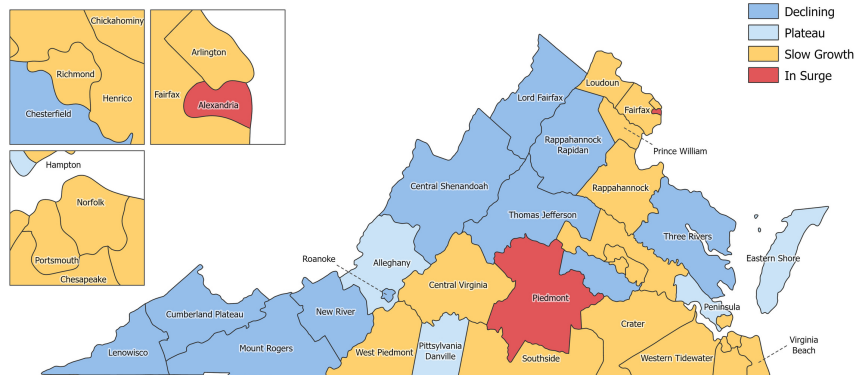
Reproduction Rate
(Based on Confirmation Date)

Region	R_e April 18th	Weekly Change
Statewide	**0.931**	**-0.099**
Central	0.916	-0.155
Eastern	0.868	-0.187
Far SW	1.074	0.238
Near SW	0.888	0.108
Northern	1.022	-0.073
Northwest	0.644	-0.315

Vaccine Administrations

COVID-19 Vaccine Administration Moving Average by Dose Number
Note: This week's vaccination estimates are preliminary and subject to change.

—Dose 1 —Dose 2 —Dose 3/Booster

Growth Trajectories: 2 Health Districts in Surge

Status	# Districts (prev week)
Declining	11 (20)
Plateau	4 (6)
Slow Growth	18 (9)
In Surge	2 (0)

Declining
Plateau
Slow Growth
In Surge

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THE MODEL

The UVA COVID-19 Model and 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 county-level **S**usceptible, **E**xposed, **I**nfected, **R**ecovered (SEIR) model designed to evaluate policy options and provide projections of future cases based on the current course of the pandemic. The Institute is also able to model alternative scenarios to estimate the impact of changing health behaviors and state policy.

COVID-19 is a novel virus, and the variant mix changes periodically. These models improve as we learn more.

THE SCENARIOS

Unchanged: The models use various scenarios to explore the path the pandemic is likely to take under differing conditions. The CDC now estimates that the Omicron variant and its subvariants represent >99% of all new cases in Virginia. As such, we have retired all prior Delta variant-based scenarios. Current scenarios are based on the immune escape and transmission profiles of the Omicron BA.1 variant. As before, models use COVIDcast surveys to estimate county-level vaccine acceptance levels. They then assume that vaccinations increase in each county until they reach this value. Afterwards, we assume that 40% of vaccinated individuals will receive a booster at the same rate.

As always, the "**Adaptive**" scenario represents the current course of the pandemic. It assumes that there will be no major changes in interventions or transmissibility. It also does not track changes in seasonal forcing, variant proportions, or public vigilance. Rather, it is a basic projection of current trends.

The "**Adaptive-VariantBA2**" scenario adjusts for the new Omicron BA.2 subvariant's enhanced transmissibility. It assumes that BA.2 will become dominant in April and reach 95% prevalence by May. It also assumes that BA.2 is 30% more infectious than Omicron BA.1. The new "**Adaptive-VariantBA2-IncreasedControl**" scenario adds increased mitigation strategies and seasonality to the "Adaptive-VariantBA2" scenario. These include increased home testing, masking, and self-isolation when sick. This scenario is meant to model the potential public response to a near-term BA.2 related surge. It assumes that these interventions will have a 25% reduction in community transmission and start on May 1st.

MODEL RESULTS

Unchanged: The current course "**Adaptive**" scenario (blue) projects a slow but steady rise, doubling our current case-rates by May, and peaking at 40,000 weekly cases in early June.

The "**Adaptive-VariantBA2**" scenario (orange) shows a faster surge, reaching 40,000 weekly cases by mid-May and peaking at about 60,000 weekly cases by mid-June. The "**Adaptive-VariantBA2-IncreasedControl**" scenario (shown here in red) is identical to "Adaptive-VariantBA2" until May 1st. From there, rates peak at 45,000 weekly cases in mid-May, then decline quickly.

Please do your part to drive down cases. Always practice good prevention including masking in indoor public areas and self-isolating when sick. Also please get vaccinated and boosted when eligible.

Virginia Daily Confirmed - Comparison

Legend:
— Adaptive
— Adaptive-VariantBA2
— Adaptive-VariantBA2-IncreasedControl

Y-axis: Daily Confirmed cases (0.0, 5.0K, 10.0K, 15.0K, 20.0K)
X-axis: 2021-03 through 2022-08

Date of Latest Model Run: 2022-04-13

Note: This week's models may be over-estimating growth based on recent data quality adjustments (QA). Data QA teams have found a few cases that were placed in cities when they should have been allocated to the surrounding county. Though health district totals do not change, moving these cases has affected the county-level metrics and resulting models. The UVA team has taken efforts to compensate for this, and we expect the issue to be corrected by the next modeling run (April 27th).

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