

February 4nd, 2022

KEY TAKEAWAYS

- Case rates remain high, but they are falling quickly across most of the Commonwealth. All regions reported a reproductive number (R_e) of less than 0.8, and the statewide R_e is less than 0.6.
- Thirty four of thirty five health districts are now in decline. All neighboring states are in decline as well.
- The CDC estimates that the BA.2 Omicron subvariant now makes up about 4% of Virginia's sequenced cases. Models suggest this variant may become dominant and slow the decline in cases, though another surge is not projected at this time.
- Evidence suggests a three dose vaccine regime is more protective against hospitalization and death than the initial two dose series. It may also offer longer lasting, more durable immunity. Vaccination remains the best way to protect against serious illness.

68 per 100k
Average Daily Cases
Week Ending Feb. 6, 2022

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

2,609 / 3,626
Average Daily 1st / 2nd Doses
Feb. 6, 2022

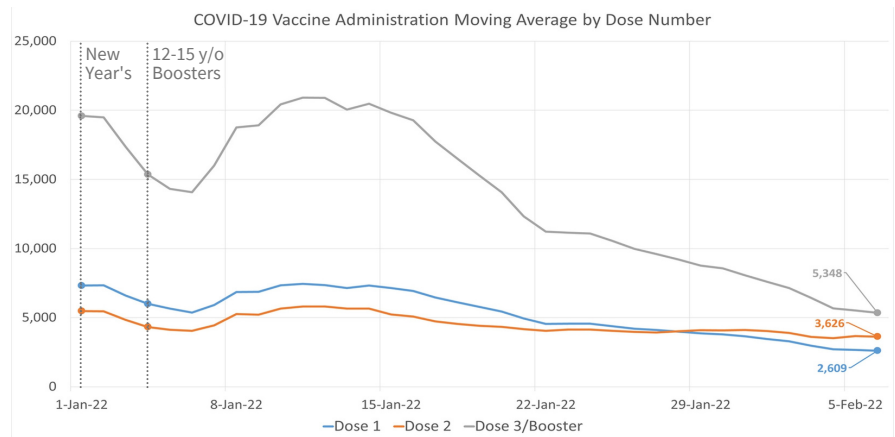
5,348
Average Daily Boosters
Feb. 6, 2022

KEY FIGURES

Reproduction Rate (Based on Confirmation Date)

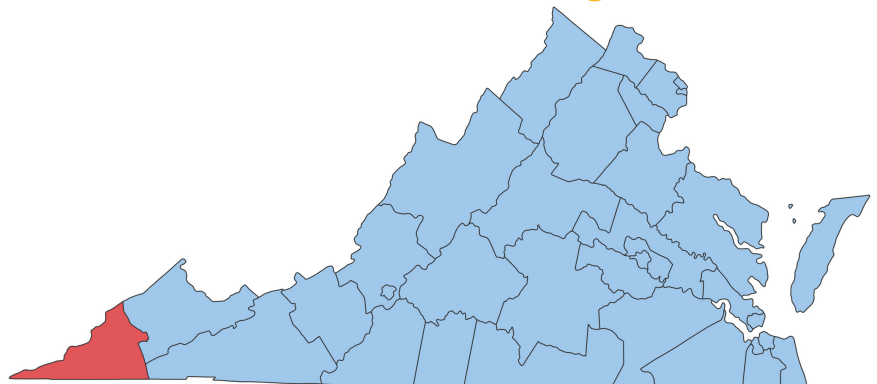
Region	R_e Feb. 6th	Weekly Change
Statewide	0.576	-0.173
Central	0.408	-0.467
Eastern	0.443	-0.110
Far SW	0.793	-0.121
Near SW	0.774	-0.093
Northern	0.622	-0.005
Northwest	0.708	-0.117

Vaccine Administrations



Growth Trajectories: 1 Health District in Surge

Status	# Districts (prev week)
Declining	34 (28)
Plateau	0 (0)
Slow Growth	0 (3)
In Surge	1 (4)



THE MODEL

The UVA COVID-19 Model and these 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 constantly. The model improves 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. As the [CDC now estimates](#) that the Omicron variant represents >99% of all new cases in Virginia, all prior Delta variant scenarios have been retired. All current scenarios are based on the immune escape and transmission profiles of the Omicron variant. As before, models use [COVIDcast](#) surveys to estimate county-level vaccine acceptance. They then assume that vaccinations continue steadily in each county until this value is reached and 40% of vaccinated individuals receive a booster.

The new "**Adaptive**" scenario assumes that Omicron is as transmissible as Delta but adds an immune escape of 80%. This represents the current course of the pandemic and assumes that there will be no significant changes in interventions or transmission rates in the near future. Note that this scenario was called "Adaptive-Omicron" until January 21st.

The "**Adaptive-Spring**" scenario is meant to approximate the epidemic trajectory seen in the Spring of 2021. In this scenario, transmission rates from now until mid-March are manually set to reflect the falling transmission rates from the same time last year, then boosted by Omicron's enhanced transmissibility and immune escape. The "**Adaptive-DecreaseControl**" scenario explores the effects of a hypothetical increase in transmission rates. This scenario is meant to demonstrate that continued vigilance remains important despite Omicron's milder illness. The "**Adaptive-VariantBA2**" scenario adjusts for the new Omicron BA.2 subvariant's enhanced transmissibility, and assumes it will reach 95% prevalence by April 1st.

MODEL RESULTS

Unchanged: The current course "**Adaptive**" scenario (blue) shows a continued rapid decline in case rates, with Virginia reaching fewer than 2,000 daily cases by March. The "**Adaptive-Spring**" scenario (green) is similar, but the quicker decline in case rates results in 30,000 fewer cases by April.

The "**Adaptive-DecreaseControl**" (shown here in orange) causes a second mild surge, and delays case declines. This results in 145,000 additional cases by April and keeps Virginia above 2,000 daily cases until mid-April.

The "**Adaptive-VariantBA2**" (maroon) projects a far slower decline but no surge. It keeps Virginia above 2,000 daily cases until late April.

Please do your part to drive down cases. [Practice good prevention](#), including indoor masking, social distancing, self-isolating when sick, and [get vaccinated and boosted](#) as soon as possible.

