

September 2, 2022

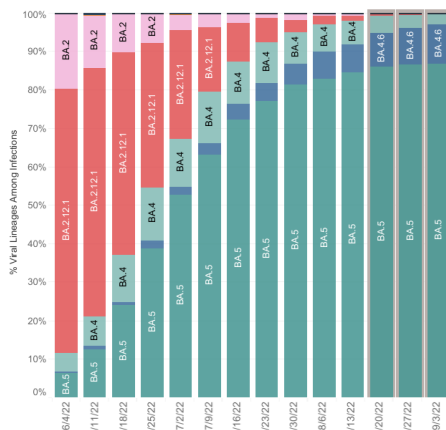
KEY TAKEAWAYS

- Case rates across the Commonwealth have plateaued and begun a slow decline. The statewide effective reproduction number (R_e) continues to hover just below one. Reported cases are down almost 20% since July but have been mostly static for a few weeks.
- Most health districts are in declining or plateaued case trajectories. Thirteen are in growth trajectories, with four of these in surge.
- Hospitalizations in Virginia have plateaued and remained level since the start of August. Models project this rate will decline in September.
- Models suggest minor case surges in the Fall barring the introduction of a new variant. An aggressive new variant, in combination with holiday travel and colder weather, could cause another surge in December. But bivalent vaccine boosters could cut this surge short.
- As expected, BA.5 remains the dominant subvariant in Virginia, with BA.4.6 making slow progress. Currently, there are no new variants of concern making progress in the state. BA.2.75 remains rare.

29.7 per 100kAverage Daily Cases
Week Ending August 29, 2022**0.936**Statewide Reproduction
Number as of August 29, 2022**58**Virginia Localities at
High CDC Community Levels
as of September 1, 2022**50**Virginia Localities at
Medium CDC Community
Levels as of Sept. 1, 2022

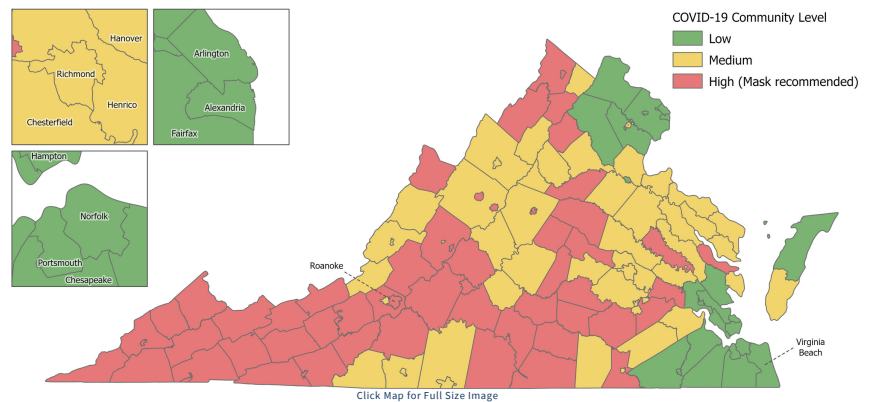
KEY FIGURES

Variant Mix – HHS Region 3



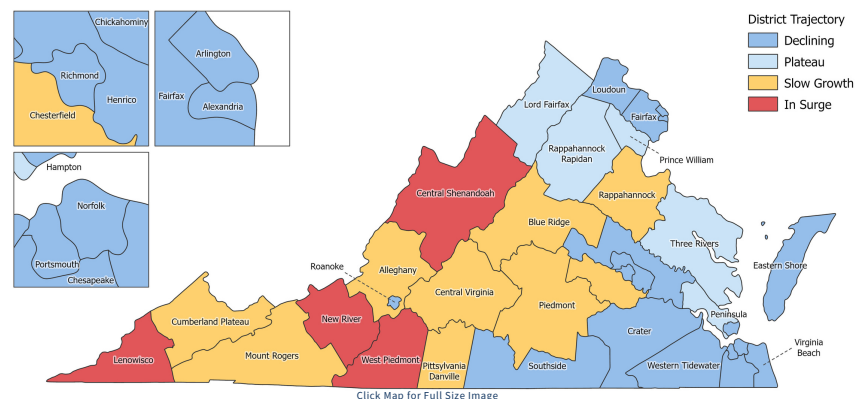
CDC Community Levels

As of September 2, 2022



Growth Trajectories: Four Health Districts in Surge

Status	# Districts (prev week)
Declining	17 (28)
Plateau	5 (3)
Slow Growth	9 (2)
In Surge	4 (2)



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 health district-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 model uses scenarios to explore the potential paths the pandemic may take under future conditions. Model projections take a variety of factors into account, including current variants, vaccine uptake, vaccination/boosting rates, previous infection, waning immunity, weather, and behavioral responses. The **"Adaptive"** scenario represents the current course of the pandemic, projecting it forward with no major changes. The **"VariantX"** modifier explores the potential impact of a new variant emerging in the next three months. This hypothetical variant is imagined as having the same immune escape and transmissibility advantages over BA.4/5 that BA.4/5 did over the earlier BA.2. See [page three of the July 15 report](#) for details. The **"FallWinter"** modifier layers seasonal increases associated with colder weather, indoor gatherings, and holiday travel on top of the base scenarios. It does this by artificially adjusting transmissibility between September and January to match transmissibility from the same time last year. The new **"EarlyBooster"** and **"LateBooster"** modifiers explore the impact of a vaccine booster campaign starting in mid-September or mid-November respectively. It assumes that these will be Omicron-specific vaccines, and that they will be 80% effective against symptomatic disease.

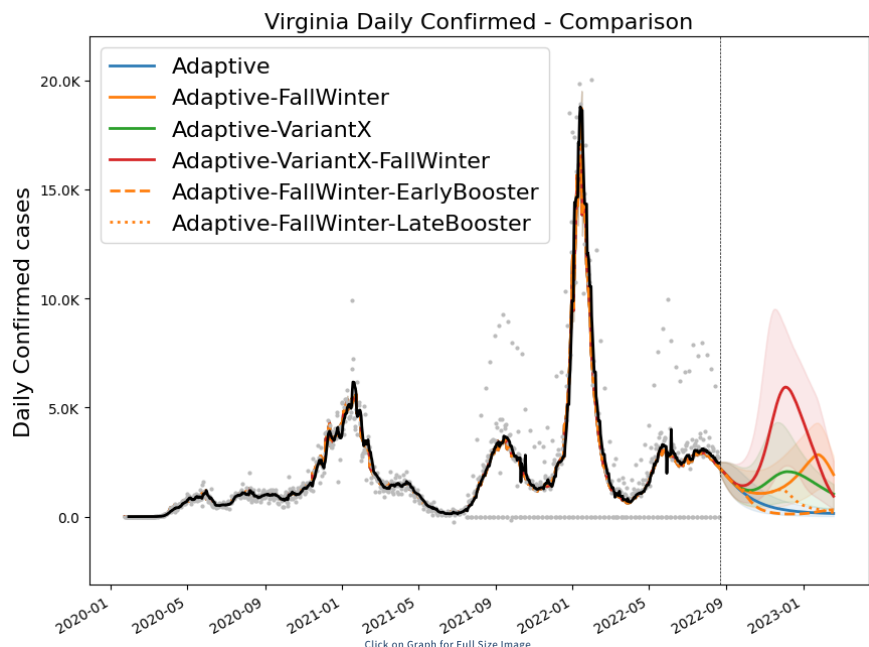
MODEL RESULTS

Unchanged: As always, the current course **"Adaptive"** scenario is shown in blue. This scenario projects a continued slow decline of cases. In this scenario, Virginia will fall below 1,000 daily cases by October 9th.

Both the **"Adaptive-FallWinter"** (orange) and **"Adaptive-VariantX"** (shown in green) scenarios project mild surges, peaking at around 2,500 daily cases in January, and 2,000 daily cases in December, respectively.

The **"Adaptive-VariantX-FallWinter"** (red) combines both a hypothetical new variant with the seasonal forcing of Fall / Winter. The combination allows for a significant surge, peaking at almost 6,000 daily cases in early-December before quickly declining.

The **"Adaptive-FallWinter-EarlyBooster"** and **"Adaptive-FallWinter-LateBooster"** scenarios (dashed orange lines) show that even in the case of a Fall / Winter surge, a booster campaign can quickly tamp down cases. Models suggest such campaigns could reduce hospitalizations by 50%.



Date of Latest Model Run: August 24, 2022

Date of Next Model Run: September 7, 2022

Please note: The data and projections shown here reflect reported cases. During the Omicron wave, testing shortages resulted in far fewer infections being reported as cases. This suggests fewer total infections than experienced in January. Please see [page three of the May 13th modeling report](#) for more details.

[\(Explore the model results in detail on this dashboard\)](#)