July 22, 2022

KEY TAKEAWAYS

- Case rates remain high and continue to grow. Current rates are 5.1 times higher than the mean rates of Summer 2021. Twenty-eight districts are in growth trajectories. This includes eight in surge.
- Hospitalizations have grown slowly but consistently for the past three weeks. Wastewater surveillance and test positivity rates also suggest continued growth in Virginia.
- The BA.5 subvariant now represents an estimated 73% of new cases in our region. We expect it to continue to drive growth across Virginia.
- A total of 61 localities are now at High community levels. At these levels, the CDC recommends masking in public indoor places for all residents. A further 55 are at Medium community levels. High risk individuals in these communities should also consider masking.
- Please continue to practice good prevention. Though the situation has improved since winter, we are not in a "summer lull".

35.2 per 100k
Average Daily Cases Week Ending July 18, 2022

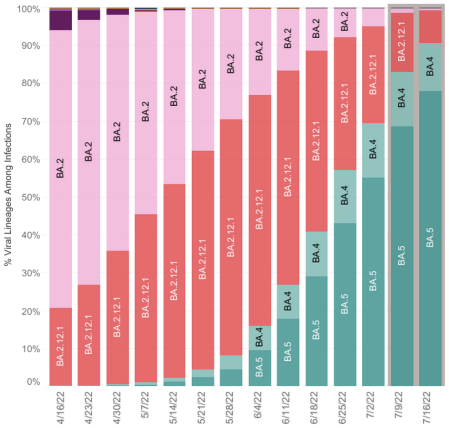
0.981
Statewide Reproductive Number as of July 18, 2022

61
*Virginia Localities at **High** CDC Community Levels as of July 21, 2022*

55
*Virginia Localities at **Medium** CDC Community Levels as of July 21, 2022*

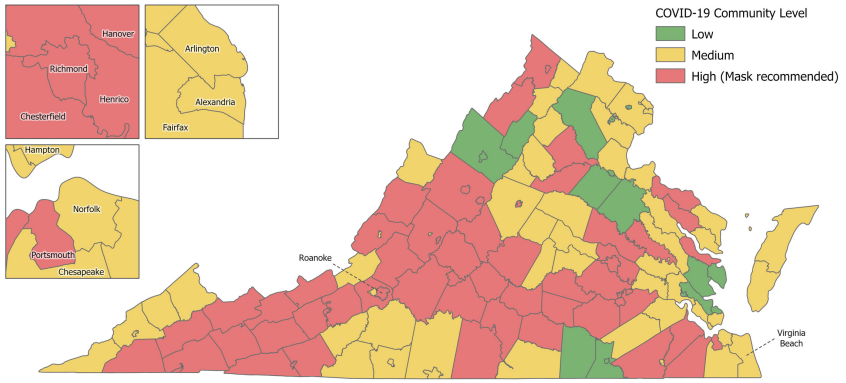
KEY FIGURES

Variant Mix -HHS Region 3



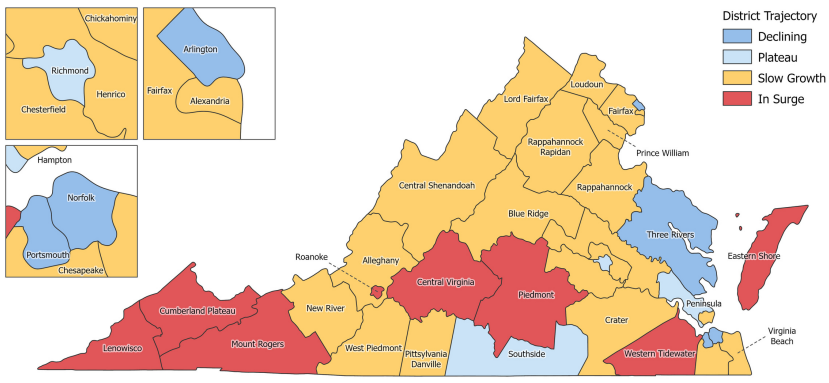
CDC Community Levels

As of July 21, 2022



Growth Trajectories: Eight Health Districts in Surge

Status	# Districts (prev week)
Declining	4 (11)
Plateau	3 (7)
Slow Growth	20 (14)
In Surge	8 (3)



UNIVERSITY of VIRGINIA
BIOCOMPLEXITY INSTITUTE

UVA COVID-19 MODEL WEEKLY UPDATE

VDH VIRGINIA DEPARTMENT OF HEALTH

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 rates (including boosters), previous infection, waning immunity, weather, and behavioral responses (e.g., mask-wearing, social distancing). The "**Adaptive**" scenario represents the current course of the pandemic, projecting it forward with no major changes. It now includes the impact of the BA.4 and BA.5 Omicron subvariants which together are dominant in Virginia. As such, the old BA.4_BA.5 scenario has been retired. The new "**Adaptive-VariantX**" is a *speculative* scenario to explore the potential impact of a new variant emerging in 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. Both scenarios have an associated "**FallWinter**" modifier like the one used last year. This 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.

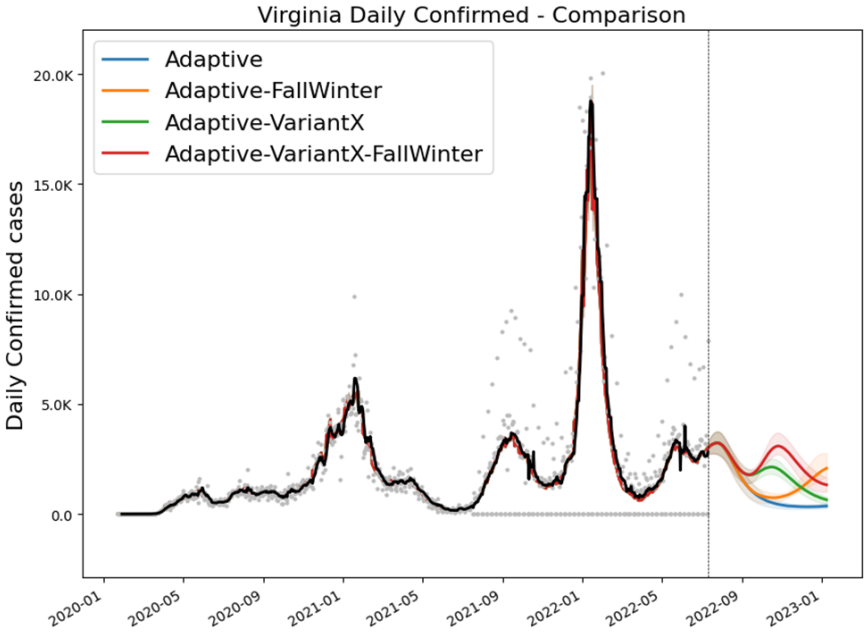
MODEL RESULTS

Unchanged: As always, the current course "**Adaptive**" scenario is shown in blue. If the current course persists, this scenario projects a short-term bump in cases, followed by a slow but steady decline. In this scenario, we peak in late July and fall below 1,000 daily cases in September.

The new "**Adaptive-FallWinter**" scenario, shown here in orange, follows the same course until September. From there it continues to rise, peaking in December at 2,000 daily cases.

The new *hypothetical* "**Adaptive-VariantX**" scenario, shown in green, is identical until September. From there it projects another small surge, peaking in mid-October at about 2,500 daily cases.

The "**Adaptive-VariantX-FallWinter**" (red) follows the same course until September. From there it projects a rapid rise, peaking at 3,000 daily cases in November.



Date of Latest Model Run: July 13, 2022
Date of Next Model Run: July 27, 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.