July 8th, 2022

KEY TAKEAWAYS

- Case rates remain level but are still high in some areas of the Commonwealth. On average, rates are about four times higher than they were in Summer of 2021. Hospitalizations are also climbing.
- Two health districts are now in surge again, and twenty-four are in slow growth. This is a significant departure from last week when only seven districts showed any growth.
- The CDC estimates that BA.5 is now the dominant subvariant in Virginia, accounting for over 53% of new cases.
- BA.4 and BA.5 are both capable of causing reinfections among those with natural and vaccine-induced immunity. Models suggest these two subvariants may cause a small case surge in the coming months.
- Residents of high and medium community level counties should take appropriate precautions. Those who are eligible for a 4th vaccination dose should also get boosted as soon as possible.

33.5 per 100k
Average Daily Cases Week Ending July 4th, 2022

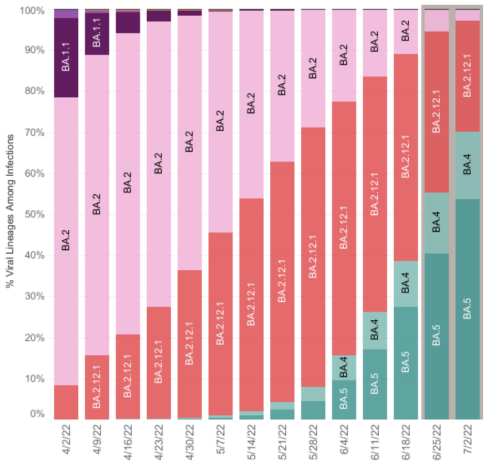
0.952
Statewide Reproductive Number as of July 5th, 2022

21
*Virginia Localities at **High** CDC Community Levels as of July 7th, 2022*

60
*Virginia Localities at **Medium** CDC Community Levels as of July 7th, 2022*

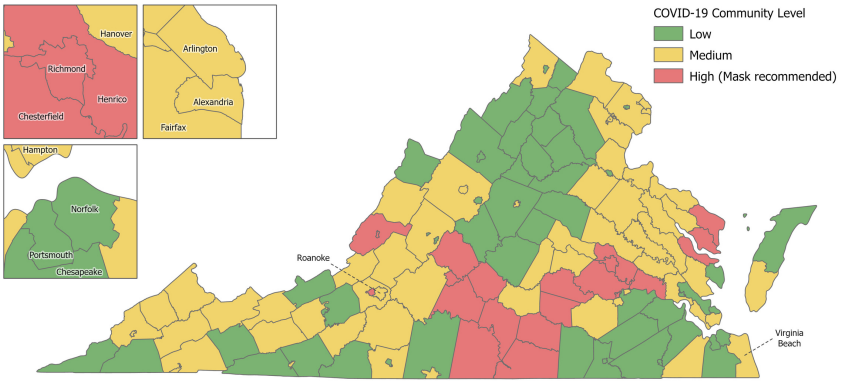
KEY FIGURES

Variant Mix -HHS Region 3



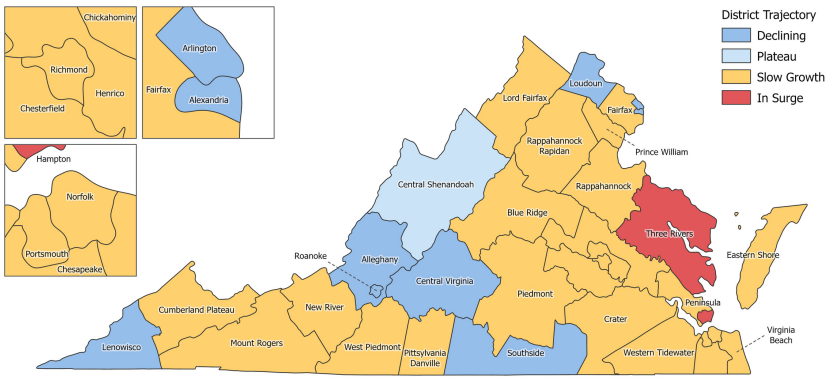
CDC Community Levels

As of July 7th, 2022



Growth Trajectories: Two Health Districts in Surge

Status	# Districts (prev week)
Declining	8 (23)
Plateau	1 (5)
Slow Growth	24 (7)
In Surge	2 (0)



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

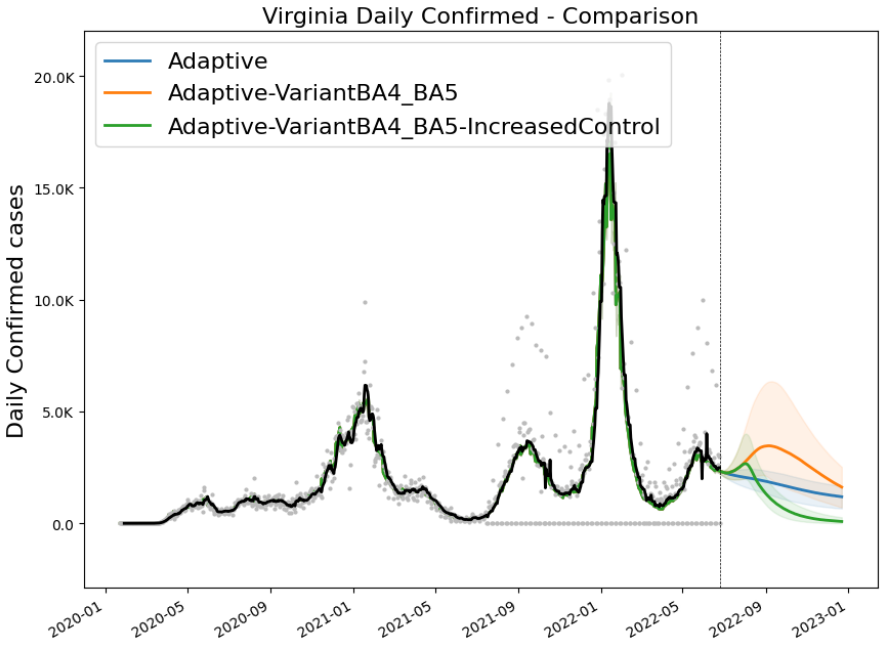
Unchanged: The model uses scenarios to explore the potential paths the pandemic may take under different conditions. Model projections take a variety of factors into account, including current variants, vaccine uptake, vaccination rates (including boosters), previous infection, waning immunity, weather, 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. The new "**Adaptive-VariantBA4_BA5**" assumes these two variants become dominant in Virginia by July 1st. In this scenario, these variants have an 80% increase in immune escape compared to BA.2.12.1, but a 20% decreased transmission advantage. The new "**Adaptive-VariantBA4_BA5-IncreasedControl**" scenario adds seasonality and increased prevention efforts to the "Adaptive-VariantBA4_BA5" scenario. These efforts include increased home testing, masking, and self-isolation when sick. This scenario explores the potential public response to a new summer surge, assuming that these could cause a 25% reduction in transmission, and will begin in 30 days.

MODEL RESULTS

Updated: As always, the current course "**Adaptive**" scenario is shown in blue. If the current course persists, this scenario projects a slow but steady decline in cases. In this scenario, Virginia reaches fewer than 2,000 daily cases by early August.

The "**Adaptive-VariantBA4_BA5**" scenario, shown here in orange, projects a small surge with the peak occurring in early September with roughly 3,500 daily cases.

The more optimistic "**Adaptive-BA4_BA5-IncreasedControl**" scenario is shown here in green. It is identical to "Adaptive-VariantBA4_BA5" until August. From there, rates quickly fall through the rest of the year reaching fewer than 1,000 daily cases by mid-September. This scenario shows the importance of Virginians continuing to practice appropriate prevention and following the prevention guidelines for the CDC Community Level in their area.



Date of Latest Model Run: 2022-06-29
Date of Next Model Run: 2022-07-13

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.