*June 17, 2022*

KEY TAKEAWAYS

- Per CDC estimates, BA.2.12.1 remains the dominant subvariant in Virginia. But BA.4 and BA.5 continue to make inroads, and may account for a combined 20% of new cases in Virginia. These subvariants have stronger immune escape properties than previous Omicron subvariants.

- For the second week in a row, the Commonwealth's reproductive number (R_e) is below one. The same holds for all six regions. Furthermore, twenty of the thirty-five health districts are in declining or plateauing trajectories.

- The latest models are more encouraging than those produced last week. The current course scenario projects a continued slow decline. The BA.4/BA.5 scenario suggests the possibility of a small surge starting in July, but not exceeding the Delta surge of Fall 2021.

32.1 per 100k
Average Daily Cases Week Ending June 13, 2022

0.942
Statewide Reproductive Number as of June 13th, 2022

23
Virginia Localities at **High** *CDC Community Levels as of June 16th, 2022*

57
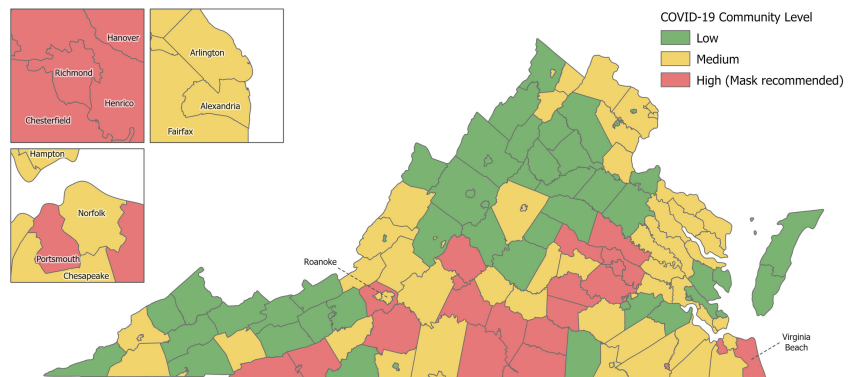*Virginia Localities at* **Medium** *CDC Community Levels as of June 16, 2022*
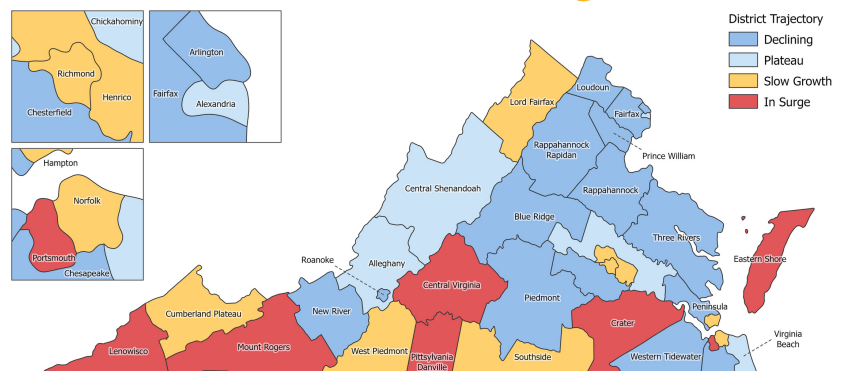
KEY FIGURES

Variant Mix - HHS Region 3

CDC Community Levels
As of June 16, 2022

COVID-19 Community Level
- Low
- Medium
- High (Mask recommended)
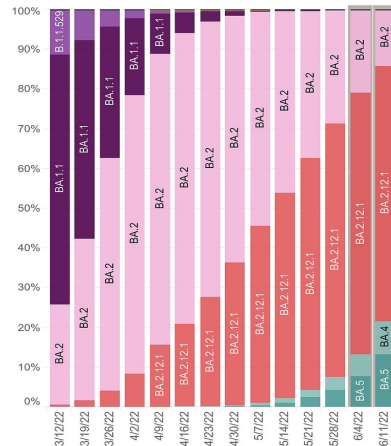
Growth Trajectories: 7 Health Districts in Surge

Status	# Districts (prev week)
Declining	15 (11)
Plateau	5 (6)
Slow Growth	8 (8)
In Surge	7 (10)

District Trajectory
- Declining
- Plateau
- Slow Growth
- In Surge

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UNIVERSITY*of*VIRGINIA
BIOCOMPLEXITY INSTITUTE

UVA COVID-19 MODEL
WEEKLY UPDATE

VDH
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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 new "**Adaptive-VariantBA4_BA5**" scenario, shown in orange, projects a small surge with the peak occurring in early August 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 mid-July. From there, rates quickly fall through the rest of the year reaching fewer than 1,000 daily cases by September. This scenario shows the importance of Virginians continuing to practice <u>appropriate prevention</u> and following the prevention guidelines for the <u>CDC Community Level</u> in their area.

Virginia Daily Confirmed - Comparison

- Adaptive
- Adaptive-VariantBA4_BA5
- Adaptive-VariantBA4_BA5-IncreasedControl
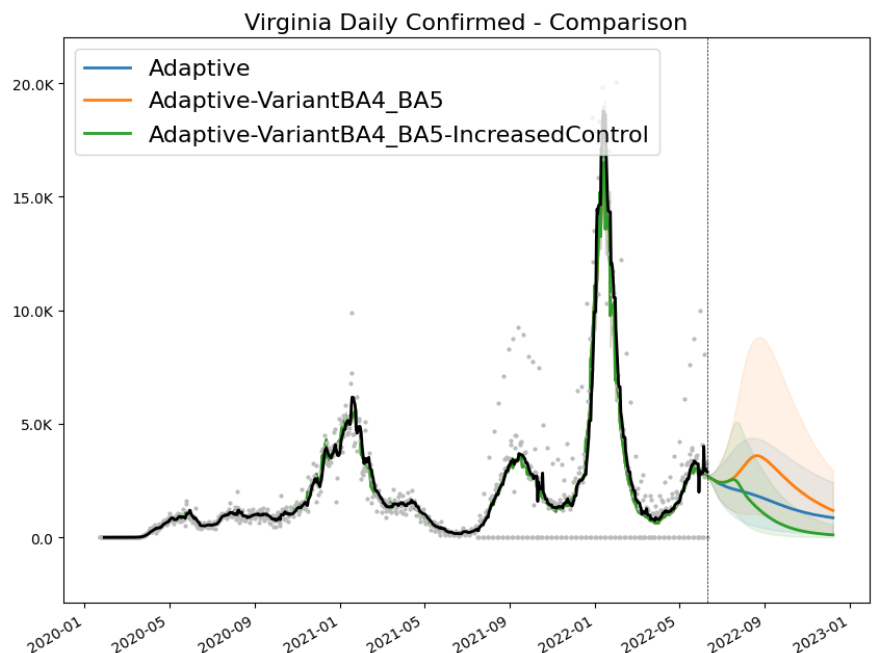
Date of Latest Model Run: 2022-06-15
Date of Next Model Run: 2022-06-29

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 <u>page three of the May 13th modeling report</u> for more details.

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