*August 5, 2022*

KEY TAKEAWAYS

- Across the nation, case rates are beginning a slow but steady decline. Hospitalization trends are always a few weeks behind. Most states are still showing slow growth or plateaued hospitalization trajectories.

- We continue to see a mixture of slow growth and declining case rate trajectories in Virginia. Only two health districts are currently in surge. Statewide, case rates remain level. The effective reproduction number continues to hover around one. Urgent care and emergency room visits for COVID19-like illness have also flattened out.

- Though we are not seeing significant statewide growth, Virginia has plateaued at an elevated level. Currently 122 of our 133 localities are experiencing Medium or High community levels. Hospitalizations have grown slightly. Models suggest they will level off in the coming weeks.

- The BA.5 subvariant continues to out-compete its cousins in Virginia. The newer BA.4.6 and BA.2.75 subvariants are being tracked carefully. So far, there is no indication of substantial growth by either in Virginia.

35.3 per 100k
Average Daily Cases Week Ending August 1, 2022

0.955
Statewide Reproductive Number as of August 1, 2022

65
Virginia Localities at **High** *CDC Community Levels as of August 4, 2022*

57
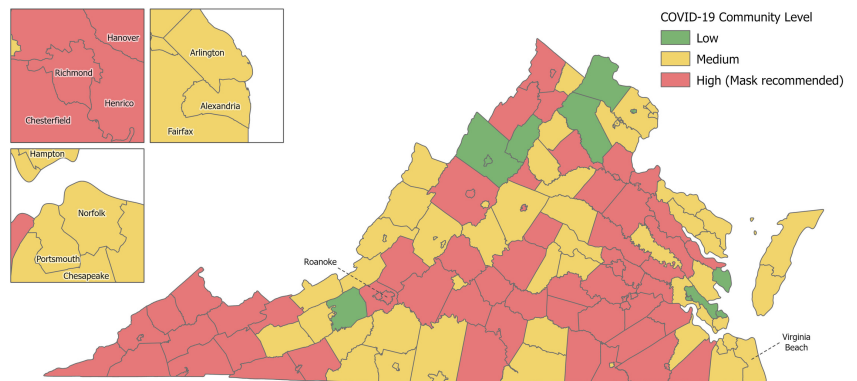*Virginia Localities at* **Medium** *CDC Community Levels as of August 4, 2022*
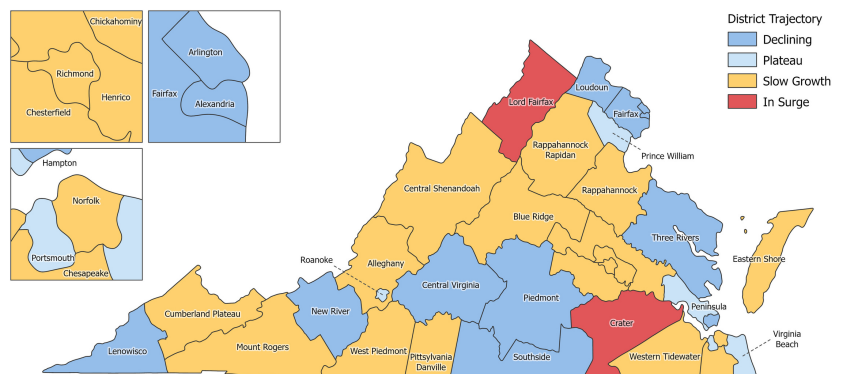
KEY FIGURES

Variant Mix -HHS Region 3
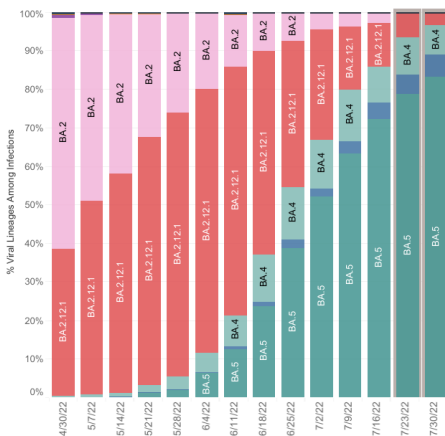
CDC Community Levels

As of August 4, 2022

Growth Trajectories: Two Health Districts in Surge

Status	# Districts (prev week)
Declining	11 (6)
Plateau	5 (4)
Slow Growth	17 (17)
In Surge	2 (8)

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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 flattening of cases, followed by a slow but steady decline. In this scenario, Virginia just peaked, and will fall below 1,000 daily cases by October.

The new "**Adaptive-FallWinter**" scenario, shown here in orange, follows the same course until September. From there it bottoms out in October and begins to grow again, peaking in January 2023.

The new *hypothetical* "**Adaptive-VariantX**" scenario, shown in green, is also identical until September. From there it projects a much slower decline, not reaching fewer than 1,000 daily cases until mid-December.

The "**Adaptive-VariantX-FallWinter**" (red) follows the same course until September. From there it projects another rise, peaking at 3,500 daily cases in late November.

Virginia Daily Confirmed - Comparison

Legend:
- Adaptive
- Adaptive-FallWinter
- Adaptive-VariantX
- Adaptive-VariantX-FallWinter

Date of Latest Model Run: July 27, 2022
Date of Next Model Run: August 10, 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.

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