December 23, 2022

KEY TAKEAWAYS

- Weekly case rates across the Commonwealth continue to grow. They are now at 22.1 per 100k. This is up from only 10.6 per 100k in the last week of November.
- Thirty-two of Virginia's thirty-five health districts are now in growth trajectories. Twenty-five of these are experiencing surges.
- Nineteen counties and cities are reporting high COVID19 community levels. The CDC recommends residents of these areas wear masks when in indoor public places. Another 62 locales are at medium community levels. The CDC recommends masking for high-risk individuals in these areas.
- COVID19 hospitalizations are continuing to grow. There are 776 Virginians currently hospitalized for COVID19. Of these, 82 are in the Intensive Care Unit, and 29 are on ventilators. All three metrics are up more than 50% since this time last month.
- Variant proportions are continuing to change as expected. BQ.1 and BQ.1.1 are still dominant. Growth of BF.7 and BN.1 has stagnated. But XBB is starting to show significant growth. It now accounts for almost 20% of new cases.
- Models suggest that a surge is likely. Combined with flu and RSV this will severely tax the hospital system. Please consider getting your flu shot and bivalent COVID19 boosters if you haven't already. Also please continue to practice good prevention.

1,277,740
Total Bivalent Booster Doses Administered by Dec. 22, 2022

15.0% / 38.0%
Of eligible Virginians / Seniors have received a Bivalent Booster as of Dec. 22, 2022
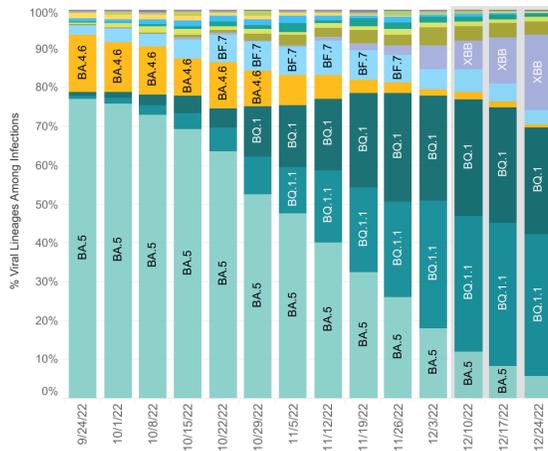
31.5% / 59.4%
Of Virginians / Seniors have received an annual Flu shot as of December 22, 2022
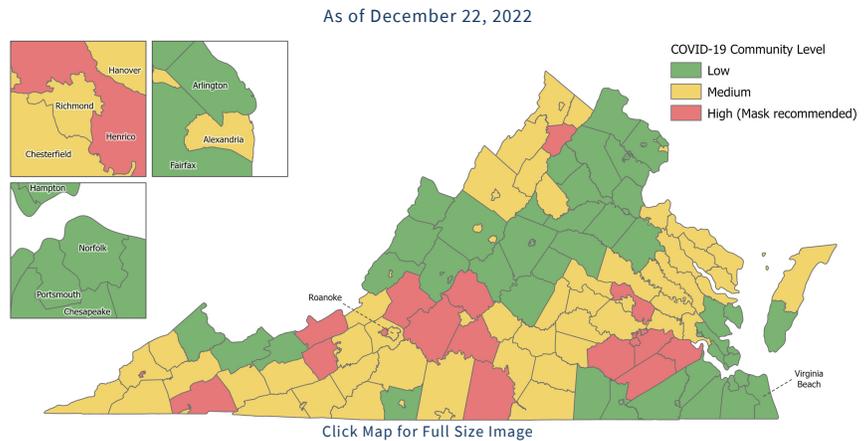
19 / 62
Virginia Localities at High / Medium Community Levels as of December 22, 2022
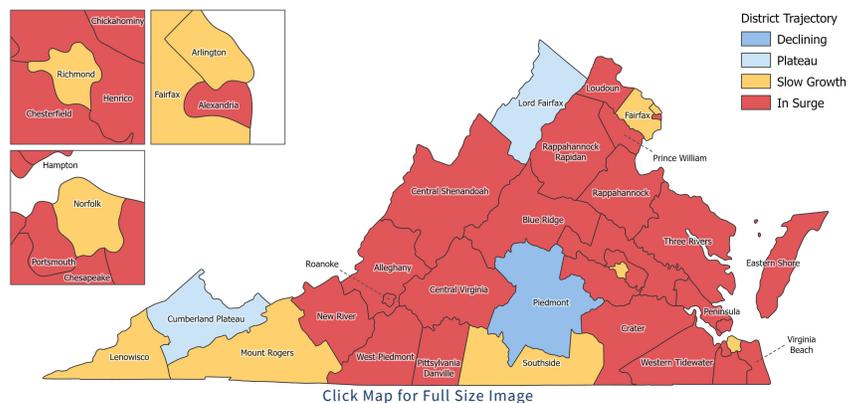
KEY FIGURES

Variant Mix – HHS Region 3

CDC Community Levels

As of December 22, 2022

COVID-19 Community Level
- Low
- Medium
- High (Mask recommended)

Click Map for Full Size Image

Growth Trajectories: 25 Health Districts in Surge

Status	# Districts (prev week)
Declining	1 (1)
Plateau	2 (1)
Slow Growth	7 (17)
In Surge	25 (16)

Click Table for Dashboard

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

Click Map for Full Size Image

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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.
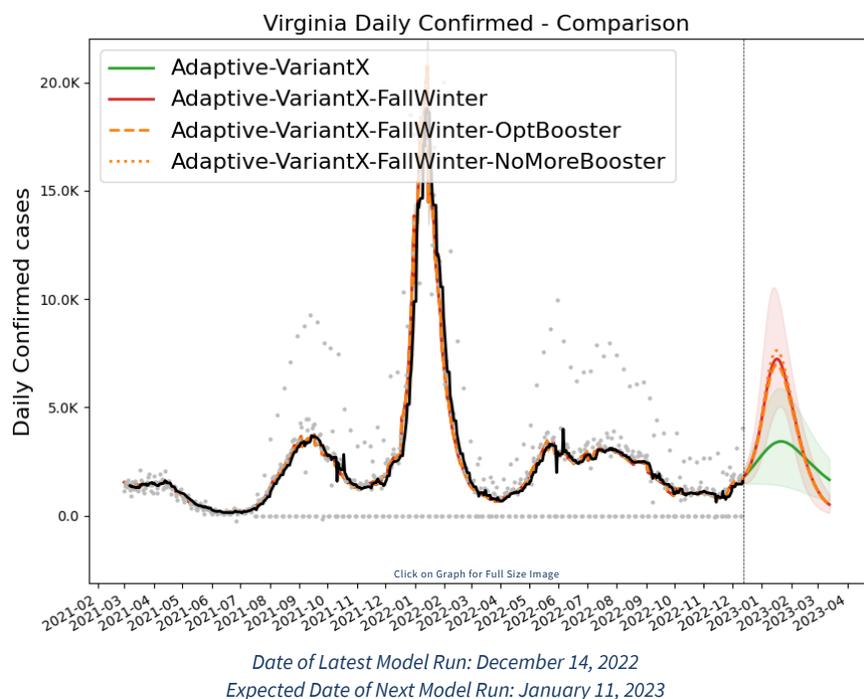
THE SCENARIOS

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. All models now account for bivalent boosters. Unless otherwise specified, they assume that they will be proportional to the 3rd dose booster rollout. Given the rise of new variants, the old BA.5 "**Adaptive**" scenario has been retired. All models presented here make use of the "**VariantX**" modifier, which accounts for the dominance of new variants like BQ.1.1. It is assumed that these variants will have 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, holiday gatherings, and 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 "**OptBooster**" (optimistic) modifier assumes that bivalent booster coverage will increase *beyond* the current pace and be 25% higher than 3rd dose boosters from Fall of 2021. The new "**NoMoreBooster**" examines the impact of a reduced vaccine rollout, and assumes that boosters stop at current levels.

MODEL RESULTS

The "**Adaptive-VariantX**" (green) scenario assumes that seasonal forcing will not be significant. It forecasts a slow growth towards a peak of 3,400 daily cases and 200 daily hospitalizations in late January. This is followed by a gradual decline.

The "**Adaptive-VariantX-FallWinter**" (red) combines both the effects of the new variants with the holiday seasonal forcing. The combination allows for a significant and rapid surge. It forecasts a peak of 7,100 daily cases and 415 daily hospitalizations in late January. This is followed by a rapid decline. While large, this surge is *not* expected to rival the Omicron wave of last January.

Both "**OptBooster**" and "**NoMoreBooster**" scenarios (dashed orange lines) are applied to the VariantX-FallWinter scenario. They show that improved booster uptake could prevent almost 10,000 new cases and 1,300 hospitalizations. If booster rates slow, this could instead cause an extra 12,000 cases and 1,600 hospitalizations.

Virginia Daily Confirmed - Comparison

Legend:
— Adaptive-VariantX
— Adaptive-VariantX-FallWinter
-- Adaptive-VariantX-FallWinter-OptBooster
··· Adaptive-VariantX-FallWinter-NoMoreBooster

Date of Latest Model Run: December 14, 2022
Expected Date of Next Model Run: January 11, 2023

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)

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VIRGINIA'S HEALTH IS IN OUR HANDS. Do your part, stop the spread.