

September 2nd, 2021

KEY TAKEAWAYS

- COVID19 cases continue to rise at a steady pace across the Commonwealth, with 26 of 35 Health Districts in "surge".
- Although still surging in most of the state, cases are beginning to plateau, led by slowing or even declining cases in some populous areas of the state.
- Modeling indicates that in the short-term, mask-usage and social distancing is the most effective countermeasure against Delta.
- A repeat of surges seen last September and over the holidays could lead to higher peaks, or sustained high case levels. Increased vaccinations could prevent tens of thousands of winter cases along with many hospitalizations and deaths.

39 per 100k

Average Daily Cases
 Week Ending Sept 5, 2021

69 per 100k

Potential Peak Average
 Adaptive Scenario Daily
 Cases, Week Ending
 October 10, 2021

8,995

Average Daily 1st Doses
 August 29, 2021

7,771

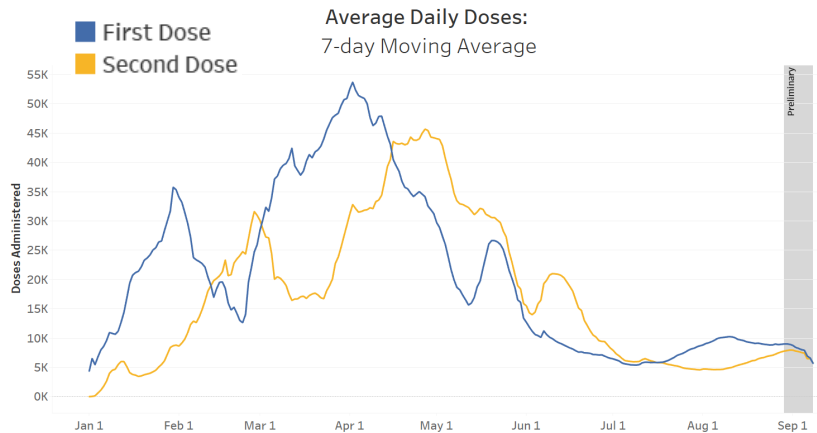
Average Daily 2nd Doses
 August 29, 2021

KEY FIGURES

Reproduction Rate (Based on Confirmation Date)

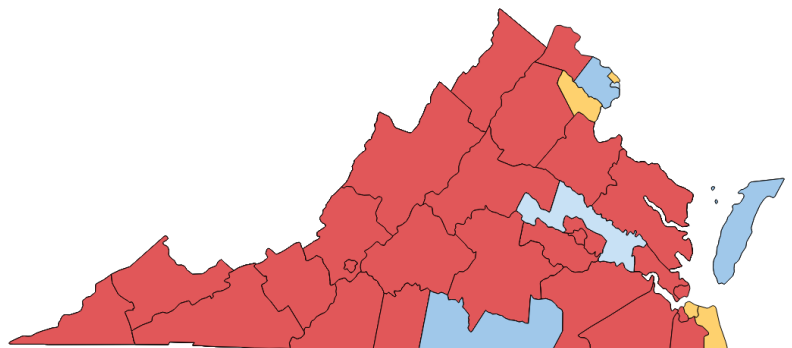
Region	R _e Sept 6th	Weekly Change
Statewide	1.003	-0.109
Central	0.908	-0.201
Eastern	0.905	-0.167
Far SW	0.936	-0.171
Near SW	1.019	-0.088
Northern	0.914	-0.198
Northwest	0.982	-0.182

Vaccine Administrations



Growth Trajectories: 26 Health Districts in Surge

Status	# Districts (prev week)
Declining	3 (0)
Plateau	2 (0)
Slow Growth	4 (3)
In Surge	26 (32)



THE MODEL

The UVA COVID-19 Model and these 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 county-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 constantly. The model improves as we learn more.

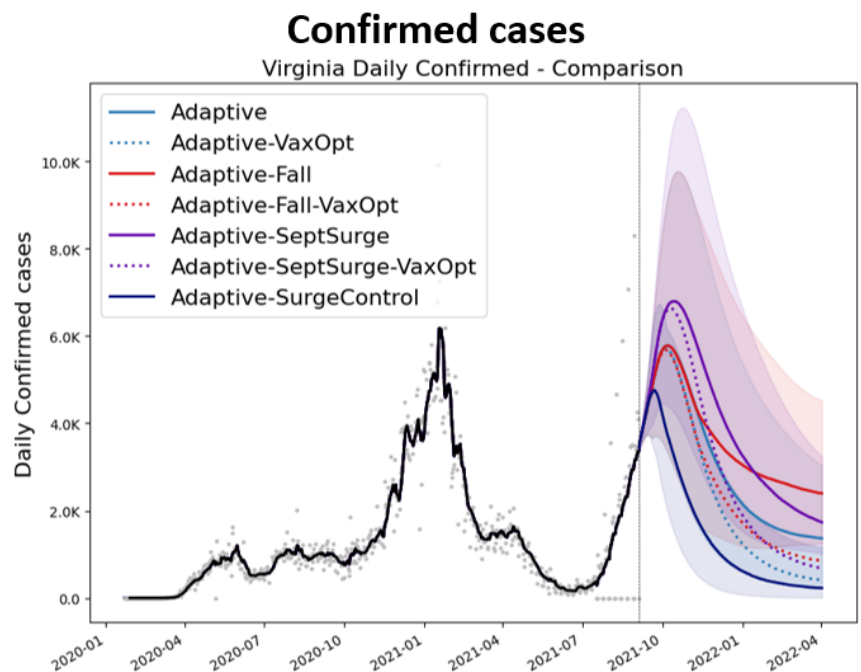
THE SCENARIOS

The model uses scenarios to explore the path the pandemic is likely to take under similar scenarios. The **Adaptive** scenario takes the current course of the pandemic at the county level, including the impact of the Delta variant and vaccines, and projects it forward. The **Surge Control** scenario show the impact of ramping up prevention and mitigation efforts culminating in a 25% reduction in transmission rates. The **September Surge** scenario replicates the surge Virginia experienced when schools reopened last year, boosted by the impact of the Delta variant. The **Fall Surge** does the same, but replicates the 2020 holiday season, including winter weather. These scenarios are augmented by **Optimistic Vaccine** scenarios which model substantial increase in vaccinations among adults, and eligibility of children age 5-11 in November.

MODEL RESULTS

With the Delta variant dominant, models continue to project that cases will surge through the fall, reaching levels not seen since February in the next few weeks.

Cases may peak at levels near previous January levels. A school-related "September surge" could push cases above January peaks. Vaccination rates are still below herd immunity levels giving the virus plenty of room to run. To lessen the projected peak, we must give vaccines time to have an impact. Increased mask usage and other prevention measures are already having an impact on the course of the pandemic. Do your part to stop the spread. Please continue to **practice good prevention** including masking, and **get vaccinated** as soon as eligible.

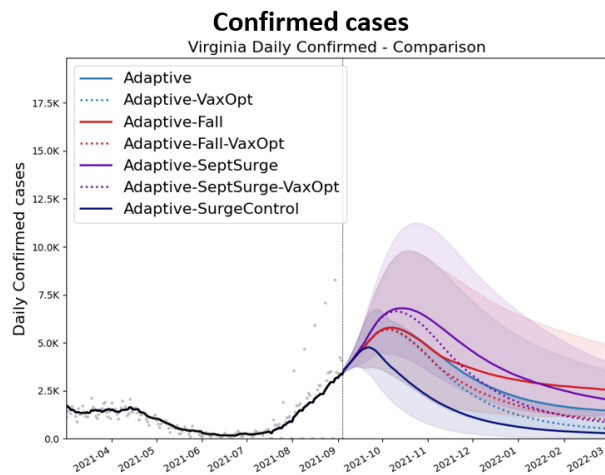


SURGE SCENARIOS

The modeling team at the UVA Biocomplexity Institute introduced a new scenario this week, simulating a September surge, and refined Fall scenarios introduced last week. Combined with the Adaptive scenario simulating COVID-19's current course, these scenarios paint a compelling portrait of the many ways the pandemic could play out in Virginia and the different ways each region of Virginia could experience it.

Both the September and Fall surge scenarios reflect increases in transmission rates experienced during 2020. In the September surge scenario transmission rates in each county return to the median level that existed from September to November 2020, boosted by 60% to represent the increased virility of the Delta variant. This simulates the uptick in cases Virginia experienced over that time frame, which happened to correspond with students' return to the classroom and to university campuses. The Fall surge scenario does the same, but uses median transmission rates experienced from October 2020 to February 2021, reflecting the increased transmission seen over the holidays. In the September scenario, increases occur immediately, while in the Fall scenario they begin in November. Each are augmented by Optimistic Vaccine scenarios, which include a significant increase in vaccination rates, mainly in the near-term.

What the Scenarios Tell Us



It is not surprising that the September surge scenario leads to an almost immediate increase in cases, even above the current Delta surge. In this scenario, cases peak in mid-October well above last-January's peaks. A September surge is projected to generate 127,00 more cases than the current course in 2021.

The Fall scenario, by contrast, is not expected to create a higher peak. Rather, cases remain elevated longer, stretching well into 2022. A Fall surge is projected to generate 29,000 additional cases in 2021 and 123,00 through April, when the model projections end.

Both scenarios show a more sustained surge than the current course, highlighting the importance of vaccines. The Optimistic Vaccine scenarios show that increased vaccinations could reduce the total number of cases by up to 200,000.

Regional Differences

These scenarios play out in the context of an existing Delta surge, which is having a differential impact on different regions of Virginia. In areas with low vaccination rates, Delta is already running rampant. The impact of increased transmission rates in these areas are muted. Rather, these scenarios are expected to have a larger impact on areas where higher vaccination rates have mitigated Delta's impact thus far. Northern Virginia has the highest vaccination rate. Over 65% of Northern Virginians have had at least one vaccine dose. However, this leaves plenty of room for Delta to spread should transmission rates increase. Vigilance - including masking indoors in public and vaccination - is still necessary in all of Virginia's regions.

Projections by Region - Fall Surge

