

October 9, 2020

## KEY TAKEAWAYS

- Models are designed to project what **could** happen based on current trends but do not forecast what **will** happen. Behavioral responses drive changes in current trends.
- The reproduction rate continues to remain below 1.0 statewide and in each of the six health planning regions.
- Weekly incidence in Virginia (9.8/100K) is again below that of the national average (16/100K).
- No health district is in a surge trajectory for the first time since the UVA modeling team began identifying surge projections.
- Current projections suggest a downward trend in cases in the coming weeks. However, even a slight changes in behavior could alter the course of the pandemic as seasonal changes occur and Virginians spend more time indoors.

**178,597**  
 Cases Expected by Thanksgiving

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**0.853**  
 Reproduction Rate

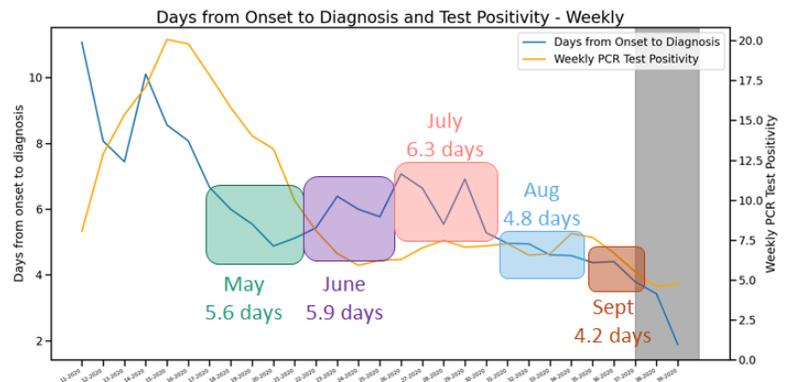
*Based on onset date  
 7 days ending Sept 26*

## KEY FIGURES

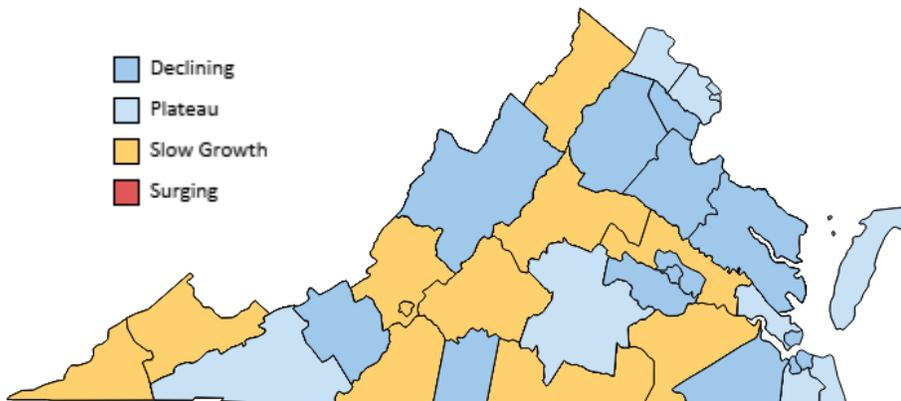
### Reproduction Rate

Region	R <sub>e</sub> Sept 26	Weekly Change
<b>State-wide</b>	<b>0.853</b>	<b>-0.015</b>
Central	0.829	0.106
Eastern	0.790	-0.298
Far SW	0.999	-0.185
Near SW	0.899	0.041
Northern	0.832	0.008
Northwest	0.909	0.096

### Case Detection



### Growth Trajectories: 0 Health Districts in Surge



## THE MODEL

The UVA COVID-19 Model and the 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 (S)usceptible, (E)xposed, (I)nfected, (R)ecovered epidemiologic model designed to evaluate policy options and provide projections of future cases based on the current course of the pandemic.

*COVID-19 is a novel virus causing an unprecedented global pandemic and response. The model improves as we learn more about it.*

## THE PROJECTIONS

The UVA team continues to improve the model weekly. The UVA model now uses an "adaptive fitting" methodology, where the model precisely traces past and current trends and uses that information to predict future cases. These new projections are based on recent trends the model learns through its precise fitting of each individual county's cases.

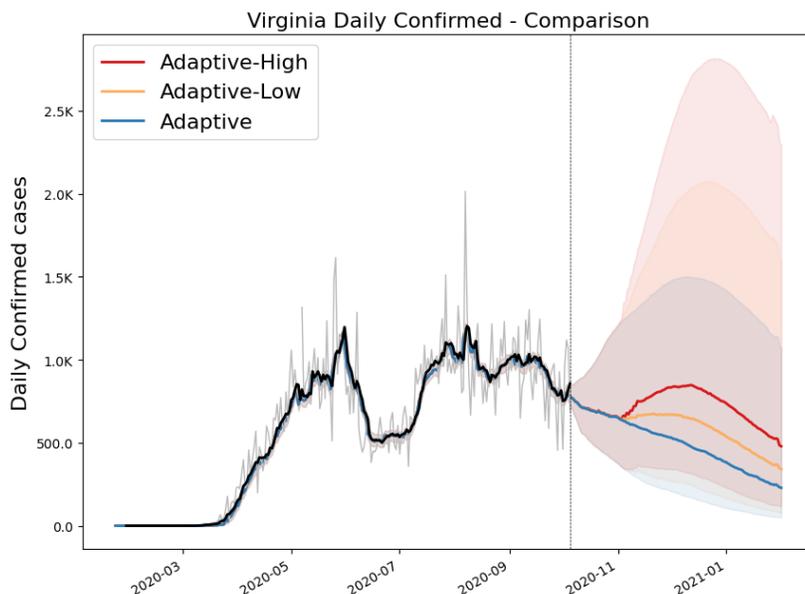
The new model also includes two "what-if" scenarios to predict what we might see if cases increase in response to seasonal effects, such as schools re-opening and changing weather patterns. These "what-if" scenarios assume a 10-20% increase in transmissibility beginning with the onset of flu season. The model will be updated regularly to incorporate new information.

**Low impact of seasonal effects:** 10% increase in transmission starting November 1, 2020

**High impact of seasonal effects:** 20% increase in transmission starting November 1, 2020

## MODEL RESULTS

With the adaptive modeling approach, the current course predicts that confirmed cases peaked during the week ending **August 9th** with **7,581 weekly cases**. If we continue on this trajectory, we would expect 178,597 total confirmed cases by Thanksgiving. Statewide, new cases appear to be declining. However, the most recent data suggest a possible increase in cases over the past couple of days. The modeling team will monitor this trend closely. If the short-term upswing continues, next week's model results will forecast how an increase in cases over the coming days could impact future projections. Under the current trajectory, even with a 20% increase in transmission beginning next month, the model projects that we have already seen weekly cases peak statewide. Risks, such as the onset of fall weather, continue to cloud the horizon however. Virginia residents should continue with social distancing and infection control, and follow [Forward Virginia](#) guidelines.



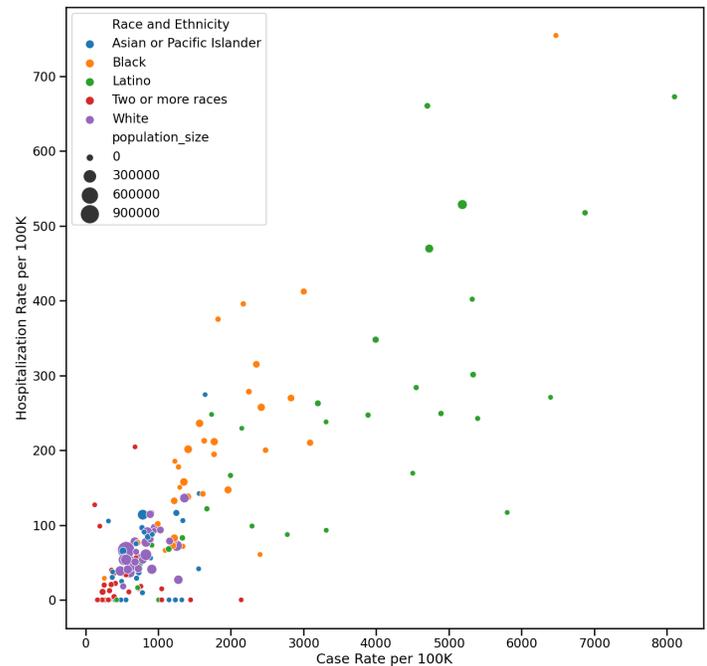
## COVID-19 BY RACE AND ETHNICITY IN VIRGINIA

The Virginia Department of Health continuously monitors trends in COVID-19 among key demographics to identify possible disparities. Trends are updated daily and reported on the [Demographics Daily Dashboard](#). Throughout the pandemic, data have demonstrated statewide disparities by race and ethnicity, with Black and Latinx populations suffering a disproportionate burden of disease. This week we take a closer look into the variation in cases by race and ethnicity among health districts in Virginia.

### Cases and hospitalizations

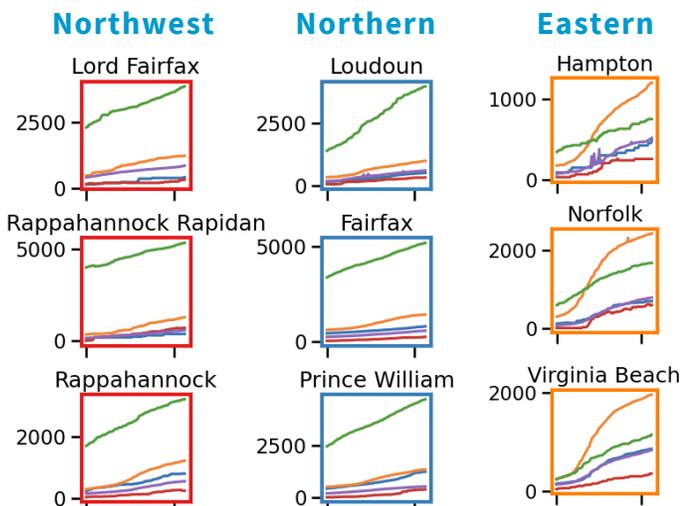
Among all races, hospitalization rates increase as case rates increase (see the figure on the right). However, pay close attention to the colors in the figure and you'll see a stark differences by race and ethnicity. Each dot in the figure represents a health district. Larger dots represent a larger population. The green dots show that, statewide, the highest case rates and highest hospitalization rates occur among the Latinx population. Orange dots show slightly elevated case rates and hospitalization rates among Black Virginians, while the cluster of purple dots indicate lower rates among the White population.

Although Latinx and Black Virginians experience higher case rates, COVID-19 emergency department (ED) visits are not more likely to result in hospitalization among these populations. The COVID-19 [Emergency Department Visits Dashboard](#) highlights trends in ED visits that result in hospitalization by health region. The dashboard shows that ED visits are highest among Latinx and Black populations, but hospital admissions are highest among the White population.



### A closer look by district

While the presence of racial disparities remain consistent across the state, distinct patterns have emerged in certain regions. Throughout most of the state, case rates are notably higher among the Latinx population, as seen by the green lines in the Northern and Northwest health districts to the left. Most health districts statewide mirror this pattern. However, in the Eastern Region, the highest rates tend to occur among the Black population (orange lines). Reasons for this trend are merely speculative, but it is important to continuously monitor trends by key demographics such as race and ethnicity to determine how to best allocate resources.



### RESEARCH HIGHLIGHTS FROM RAND CORPORATION

- A [study by Majumder and Rose](#) describes the potential utility of using claims data to track the spread of COVID-19
- [Anand et al.](#) studied the prevalence of COVID-19 antibodies in dialysis patients and found that 9.1% of patients sampled from Virginia tested positive for COVID-19 antibodies, which is about 5 times the confirmed case rate