October 23, 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.
- While statewide growth has stabilized, reproduction rate remains above 1.0 statewide and in most regions.
- Weekly incidence in Virginia (12/100K) has stabilized. Nationally, incidence continues to surge (23/100K), particularly in the Midwest states.
- 7 Health Districts are in surge trajectories, and the number in slow growth trajectories increased significantly.
- National and state trends are concerning as we enter the holiday season, heralding colder weather and increased travel.

215,606

Cases Expected by Thanksgiving

1.037

Reproduction Rate

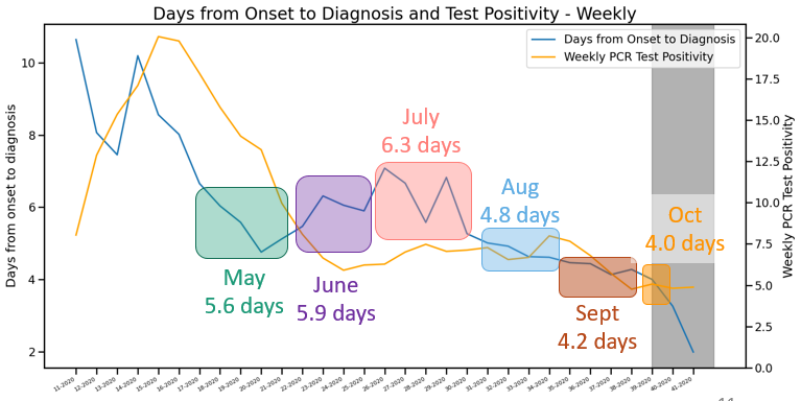
Based on onset date
7 days ending Oct 10

KEY FIGURES

Reproduction Rate

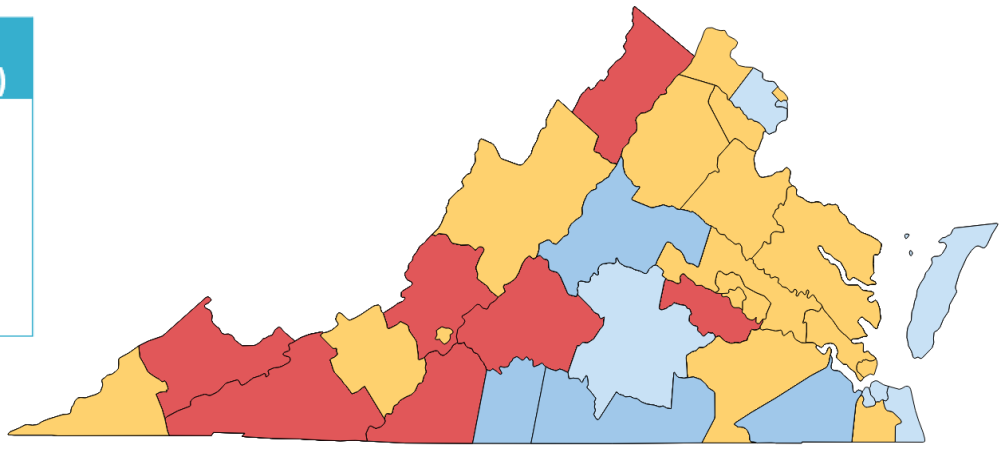
Region	R_e Oct 10	Weekly Change
State-wide	**1.037**	**0.006**
Central	1.043	-0.024
Eastern	0.928	-0.088
Far SW	1.167	0.012
Near SW	1.240	0.209
Northern	1.031	0.070
Northwest	0.832	-0.260

Case Detection



Growth Trajectories: 5 Health Districts in Surge

Status	# Districts (last week)
Declining	4 (4)
Plateau	7 (13)
Slow Growth	17 (13)
In Surge	7 (5)



UNIVERSITY of VIRGINIA
BIOCOMPLEXITY INSTITUTE

UVA COVID-19 MODEL WEEKLY UPDATE

VDH VIRGINIA DEPARTMENT OF HEALTH

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.

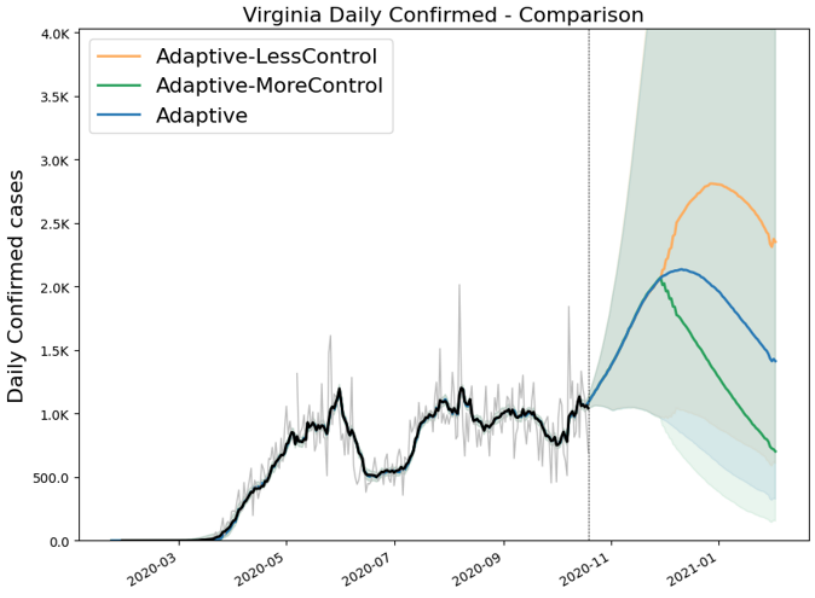
THE PROJECTIONS

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 forecast how case growth may respond to seasonal effects, such as changing weather patterns and holiday travel. These "what-if" scenarios are:

Less control of seasonal effects: 15% increase in transmission starting November 26, 2020
More control of seasonal effects: 15% decrease in transmission starting November 26, 2020

MODEL RESULTS

With the adaptive modeling approach, the current course predicts that confirmed cases will peak during the week ending **December 13 with 14,911 weekly cases.** If we continue on this trajectory, we would expect 215,606 total confirmed cases by Thanksgiving. Statewide, new case growth has increased in the past few weeks with reproduction rates above 1.0 in most regions. Likewise, most districts have moved into growth trajectories, including 7 in surge trajectories - a concerning trend as we head into the holiday season. If the holiday season and the onset of cold weather result in a jump in case growth, cases may peak in January with almost 20,000 new cases per week. However, if Virginians respond to the increase in case growth by improving prevention efforts such as hand washing, social distancing, and wearing masks, cases could peak earlier and at a lower level. Virginia's health is in our hands. Follow guidance in the Forward Virginia plan to help control COVID.



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