

October 30, 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 statewide reproduction rate dipped below 1.0 for the first time since September, but regional results are mixed. Far Southwest Va has remained above 1.0 since mid-September.
- Weekly incidence in Virginia (12/100K) remains stable. Nationally, incidence continues to surge (27/100K), particularly in the Midwest states.
- Kentucky and Tennessee are both experiencing high and growing incidence, which may be affecting Southwest Va.
- National and state trends are concerning as we enter the holiday season, heralding colder weather and increased travel.

203,473
 Cases Expected by Thanksgiving

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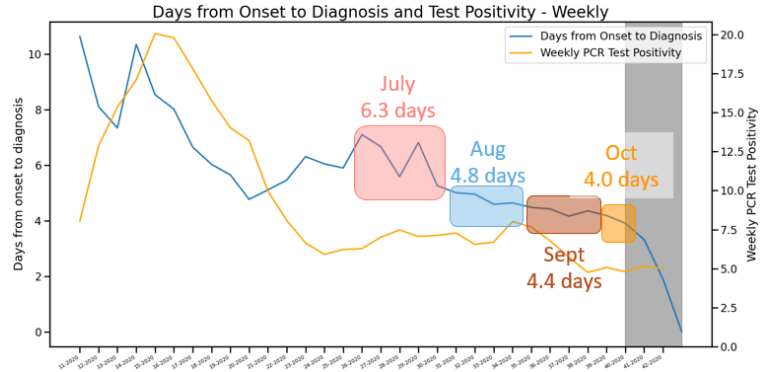
0.968
 Reproduction Rate
 Based on onset date
 7 days ending Oct 17

KEY FIGURES

Reproduction Rate

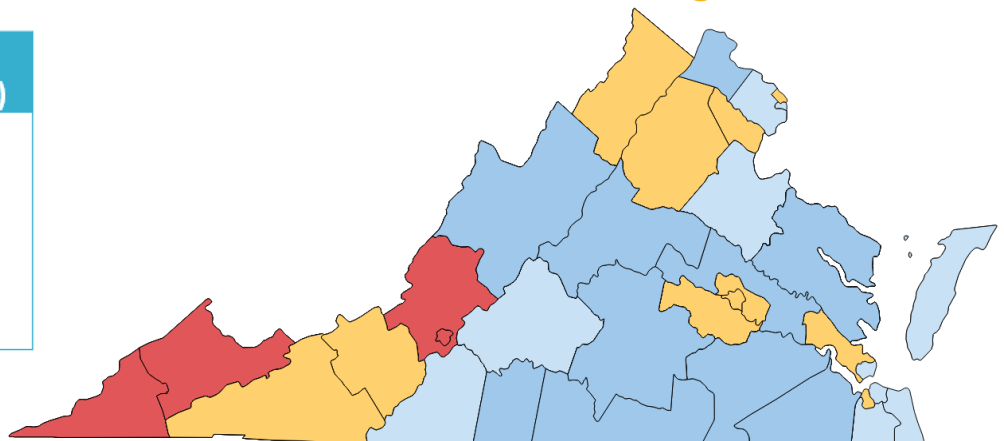
Region	R _e Oct 17	Weekly Change
State-wide	0.968	-0.069
Central	0.912	-0.131
Eastern	1.042	0.114
Far SW	1.230	0.063
Near SW	0.976	-0.264
Northern	0.970	-0.061
Northwest	0.917	0.085

Case Detection



Growth Trajectories: 5 Health Districts in Surge

Status	# Districts (last week)
Declining	10 (4)
Plateau	10 (7)
Slow Growth	11 (17)
In Surge	4 (7)



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

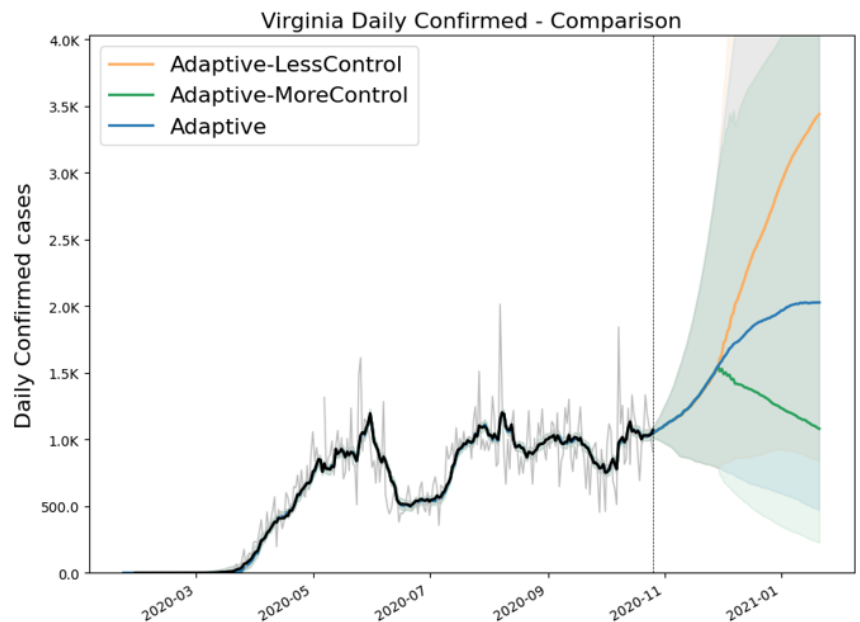
The UVA team continues to improve the model weekly. The UVA model now uses an "adaptive fitting" methodology, where the model precisely traces past and current trends and uses that information to predict future cases. These new projections are based on recent trends the model learns through its precise 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 **January 17 with over 14,000 weekly cases**. If we continue on this trajectory, we would expect 203,473 total confirmed cases by Thanksgiving. This reflects recent stabilization of new cases in Virginia. However, there are a number of risks on that could influence case growth over the next several weeks, including fall weather, the holiday season, and a national surge in cases. If these result in a jump in case growth, cases may peak in January with over 23,000 new cases per week. However, if Virginians respond by improving prevention efforts such as hand washing, social distancing, wearing masks, and avoiding indoor gatherings, cases could peak in early December, and just over 10,000 cases per week. Virginia's health is in our hands. Follow guidance in the [Forward Virginia](#) plan to help control COVID.

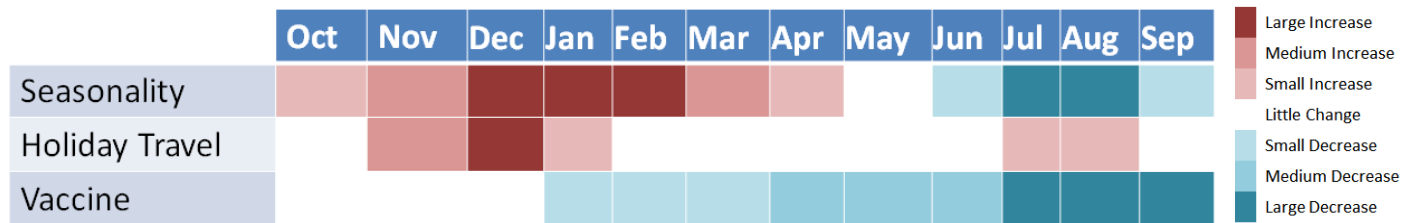


A TALE OF TWO SEASONS?

For public health officials, fall means cold and flu season. As a respiratory disease with some similar characteristics, COVID-19 can be added to that list as well. Though we have been dealing with COVID-19 for some time, cold and flu season is just beginning. Compared to most other states, Virginia has managed to keep COVID-19 under relative control. However, risks are growing. As we enter what we hope is the home stretch of this pandemic, how we fare will depend on how we respond, both to our early success and the challenges ahead. It is a long season, and the only way to maintain Virginia's record of success is to be vigilant and determined as we confront this disease.

Risks to Forecasts

Right now, new case growth in Virginia has stabilized in most regions and the model forecasts reflect that. If we stay on the current course, cases will not peak until January. However, even on the current course slow growth in much of the state, along with a surge in Southwest Virginia, project to weekly cases in January almost twice what we saw in the previous peak in August. However, there are several risks to even this projection. In the forecasting world, risks to forecasts refer to anything external cause could make the forecast change dramatically, for good or bad. In the case of COVID, our partners at RAND corporation have identified three major risks, and the times they are likely to have the most impact. Pandemic fatigue—the risk that people become less vigilant, is a fourth growing risk. For the next several months, the risks for a worsening COVID-19 season outweigh the one pointing to improvement.



New Scenarios

To account for these risks, the team at the UVA modeling team have incorporated two new scenarios. The first examines the risk of a worsening pandemic. The Adaptive-Less Control scenario includes a 15% increase in case growth rate beginning Nov. 26, reflecting the risk that winter weather, the holiday season, and pandemic fatigue could lead to less control of COVID-19. The good news is that basic prevention measures such as hand washing, social distancing, wearing masks, and avoiding indoor gatherings are effective at tamping down growth rates. The Adaptive-More Control scenario, which includes a 15% decrease in case growth rate beginning Nov. 26 reflects the possibility that Virginians respond to these risk by increasing their vigilance and determination to follow the guidance in the [Forward Virginia](#) plan.

Holiday Risks

Halloween kicks off the holiday season every year, but it seems especially fitting this year. Nationally, cases are surging, mainly affecting the Upper Midwest. Closer to home, Tennessee and Kentucky are also seeing large increases in new case growth, which may be contributing to surges in Southwest Virginia. In a recent interview, State Health Commissioner Dr. Norman Oliver noted that outbreaks in Southwest Virginia are related to small family and community gatherings—just the type of gatherings we look forward to during the holidays. As the weather gets colder, the gatherings may move inside, increasing the risk of spreading the disease. In far Southwest Virginia, the Adaptive-Less Control scenario shows that Southwest Virginia is at risk of exceeding hospital capacity in December or January. To avoid this, we need to exercise more control, and make sure that in addition to being festive, our holiday celebrations are safe as well.