VIRGINIA'S HEALTH IS IN YOUR HANDS. Do your part, stay at home.

UVA COVID-19 MODEL WEEKLY UPDATE

VDH VIRGINIA DEPARTMENT OF HEALTH

July 3, 2020

KEY TAKEAWAYS

- Cases in Virginia remain stable, even as other areas of the country begin to experience a surge
- However, the decline has slowed and signs of growth have emerged as some health districts have increased activity
- Continued emphasis on test and trace strategies, early detection, and social distancing remain essential
- Much uncertainty surrounds the risk of a second wave as Virginia enters Phase 3 of the Forward Virginia plan
- Statewide, the transmission rate increased over the past week but remains below 1.0
- Updated modeling efforts account for the best fitting growth scenario in each health district

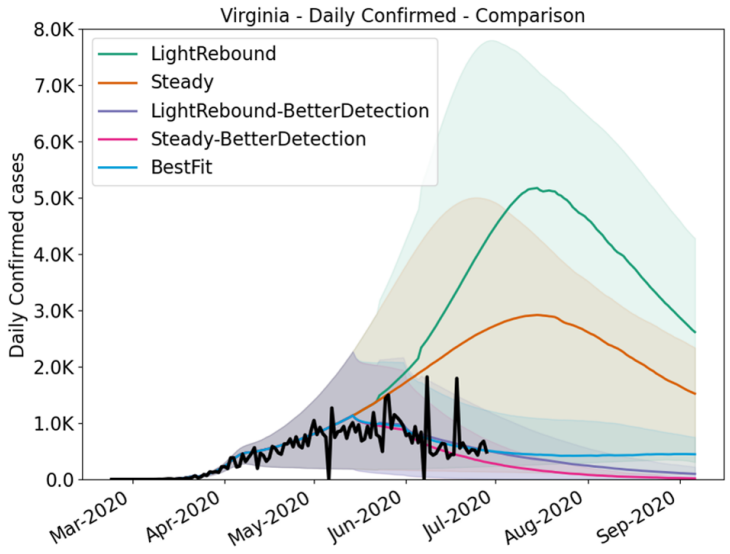
327,186

Cases Avoided since May 15

0.937

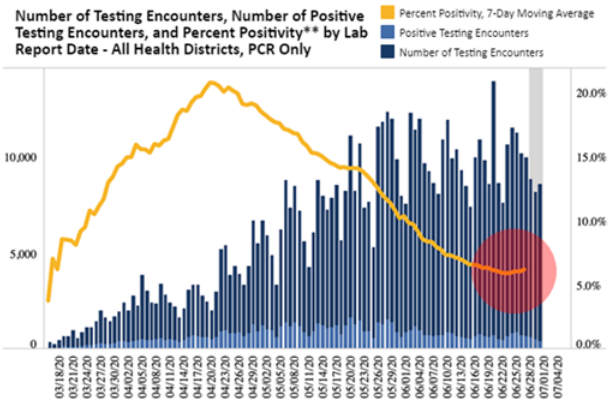
Reproduction Rate

Based on onset date
7 days ending June 20



Cooperation by many Virginians with social distancing restrictions, as well as Virginia's diligent test and trace efforts, are paying off. The majority of health districts are tracking with the "Better Detection" scenarios, indicating a lower infectious period in these regions. Such efforts have helped Virginia avoid an increase in cases that has plagued other states in the nation. This progress allowed Virginia to enter Phase III of the Forward Virginia plan on July 1st, about six weeks after entering Phase I. However, 10 health districts continue to track with the steady and light rebound scenarios, bringing the statewide case estimates in the "Best Fit" scenario above that of the "Better Detection" scenarios.

While the transmission rate in Virginia remains below 1.0, it is following an upward trend. Recent data show a flattening in test positivity and a stabilization in the number of days from symptom onset to diagnosis. These metrics have all improved since mid-March to mid-April, but improvement has recently plateaued. Evidence from other states suggests a surge occurs about 4-6 weeks after relaxing mitigation measures. Even while recent trends are optimistic, Virginians must remain diligent as we enter Phase III to avoid a resurgence in cases.



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THE MODEL

The UVA COVID-19 Model was developed 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 specifically designed to evaluate policy options. That is to say, it is NOT designed to precisely predict future numbers. It is designed to tell us that, given what we know, IF we do "x", THEN we can expect "y". It does this by modeling scenarios.

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THE SCENARIOS

This week's model run examines seven scenarios tracking the phased reopening approach which began May 15th for most of Virginia, and two weeks later for Northern Virginia, Richmond City and Accomack County.

Steady: Lifting public health restrictions has no effect on transmission rates due to increased mask use, hand washing, and other effective mitigation strategies.

Light Rebound: Once community mitigation measures are lifted, interactions return to 17% of pre-pandemic levels, with a moderate increase in transmission.

Full Rebound: Once public health restrictions are lifted, interactions return to 100% of pre-pandemic levels, with transmission returning to its pre-March 15 rate.

Better Detection: Steady and light rebound scenarios are paired with a scenario in which new cases are identified and isolated more quickly through a combination of increased testing and contact tracing.

Best Fit: Each health district is assigned a single scenario from the above five that tracks best with its observed cases. The best fit scenario is paired with a **best fit - surge** scenario that examines anticipated cases if Virginia were to experience a surge 5 week after entering Phase III of the Forward Virginia plan.

MODEL RESULTS

The model estimates that Virginia's cautious approach to reopening prevented **327,186** confirmed cases in Virginia since May 15 under a "Steady - Better Detection" scenario. Unlike some other states in the nation, Virginia has not experienced a recent surge in cases. However, relaxing restrictions too quickly or too much could lead to an increase in cases and a second peak. Under the "Best Fit - Surge" scenario, even with the upswing in cases 5 weeks after Virginia enters Phase III, Virginia can avoid exceeding hospital capacity if health districts continue to track with the "Better Detection" scenarios. Reduced transmission in the better detection scenarios depends on efforts by all Virginians to adhere to public health guidelines and proper social distancing.