

April 9th, 2021

KEY TAKEAWAYS

- Overall, cases continue to plateau in Virginia. With the exception of Mount Rogers, Virginia's local health districts are equally divided into declining, plateauing, and slow growth trajectories.
- Mount Rogers Health District is experiencing a surge in cases. Hotspots are centered around Ivanhoe, including Max Meadows, Wytheville, Sugar Grove, and Austinville.
- The B.1.1.7 variant is likely the dominant strain in Virginia. This variant spreads more rapidly, and increases disease severity by 60%, including among younger aged cohorts.
- While variants are a concern, vaccine hesitancy is the largest long-term risk to containing the impact of the pandemic.

18 per 100k
 Average Daily Cases
 Week Ending April 4, 2021

65 per 100k
 Potential Peak Average Daily Cases, Week Ending July 11, 2021 with B117 Variant & Pandemic Fatigue

13 per 100k
 2020 Summer Peak
 Week Ending Aug 2, 2020

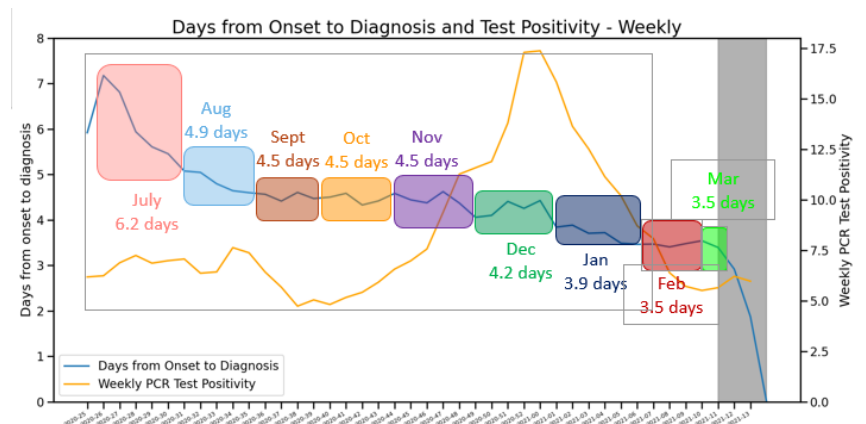
68 per 100k
 Highest Peak Average Daily Cases
 Week Ending Jan 24, 2021

KEY FIGURES

Reproduction Rate (Based on Confirmation Date)

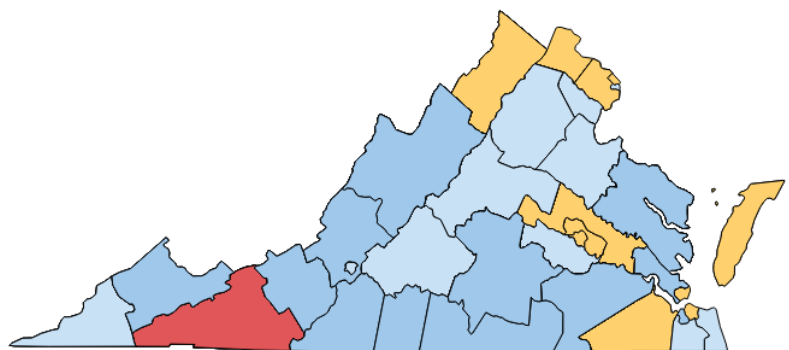
Region	R _e Apr 5	Weekly Change
State-wide	0.943	-0.050
Central	0.984	-0.053
Eastern	0.920	-0.094
Far SW	1.015	-0.107
Near SW	0.871	-0.013
Northern	0.977	-0.034
Northwest	0.875	-0.050

Case Detection



Growth Trajectories: 1 Health District in Surge

Status	# Districts (prev week)
Declining	12 (11)
Plateau	11 (11)
Slow Growth	11 (13)
In Surge	1 (0)



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)nfectious, (R)ecovered epidemiologic model designed to evaluate policy options and provide projections of future cases based on the current course of the pandemic.

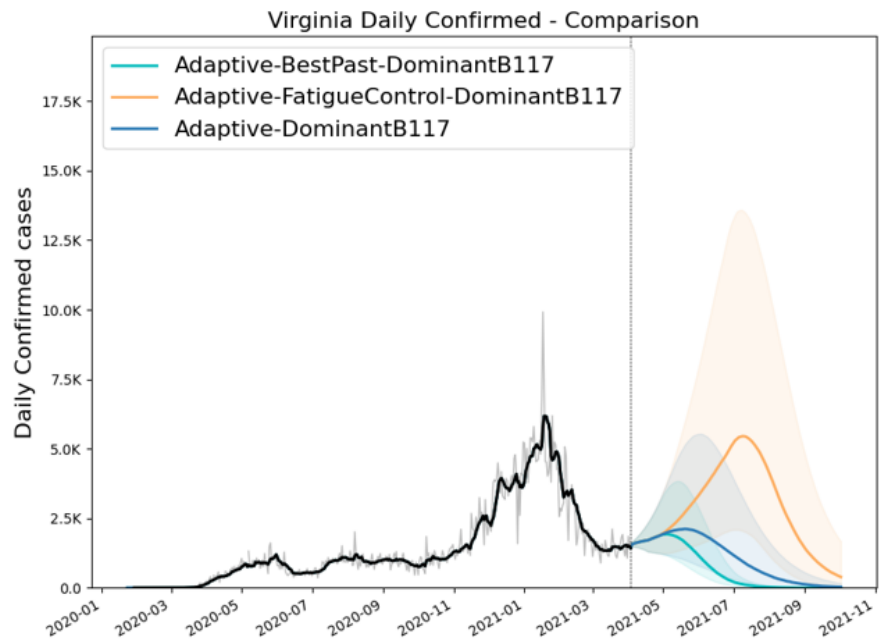
COVID-19 is a novel virus causing a global pandemic and response. The model improves as we learn more about it.

THE PROJECTIONS

The UVA team continues to improve the model weekly. The UVA model uses an "adaptive fitting" methodology, where the model traces past and current trends and uses that information to predict future cases at the local level. The model incorporates projections on the impact of vaccines, which will improve over time. Since the B.1.1.7 Variant has become dominant, model includes increased transmission and severity associated with this Variant of Concern. The model also includes "what-if" or planning scenarios. The "Fatigued Control" scenario identifies the highest transmission rates seen between June and September 2020 and projects those forward. The "Best Past" scenario does the opposite, identifying the lowest transmission rates seen in summer 2020, projecting them forward.

MODEL RESULTS

With the B.1.1.7 variant becoming predominant, the model shows a slight rise in new weekly cases along the current course, but warns of a surge in cases that could occur if Virginians relax precautions. Under the current course, model scenarios show that cases peaked at **68 average daily cases** per 100,000 residents during the week ending **January 24th**. However, under the Fatigued Control - Dominant B.1.1.7 scenario, if Virginians relax their behavior as Variants of Concern take hold, cases will reach a new peak with **65 average daily cases** per 100,000 the week ending **July 11th**. To lessen the projected peak, we must give vaccines time to have an impact, especially as the B.1.1.7 variant becomes the predominant strain in Virginia. **Do your part to stop the spread. Continue to practice good prevention and get vaccinated when eligible.**



VACCINES: THE KEY TO ENDING THE PANDEMIC

The vaccine rollout in Virginia has been encouraging. Healthcare heroes, working from dawn to well-past dusk, administered almost 78,000 doses of vaccine per day during the week ending on Sunday April 4, protecting over half a million Virginian's from COVID-19 last week. Over 1 in 3 Virginians have received at least one dose of vaccine. On April 1st, Governor Northam announced that all Virginians age 16 and older will be eligible to receive the vaccine by April 18th. Several local health districts have already expanded eligibility to this Phase 2 population.

Signs of a Slowdown

While the move to Phase 2 is a sign of progress, it comes with some caveats. Virginia has been very effective in vaccinating eligible Phase 1a, 1b, and now, 1c populations. Still, 1 in 4 Virginians age 70 and over have yet to receive their first dose despite being eligible as part of Phase 1b since January. Uptake among this group has also slowed in recent weeks. Some localities have expanded eligibility as available appointments for Phase 1 populations have become more difficult to fill.

Access barriers likely play a role. Among other strategies, Virginia is expanding the number community vaccination and mobile clinics to make getting a vaccine easier. However, vaccine hesitancy is also an important factor. While surveys indicate that the greater majority of Americans, including Virginians, want to receive a vaccine, a sizeable minority are reluctant to do so.

The Consequences of Vaccine Hesitancy

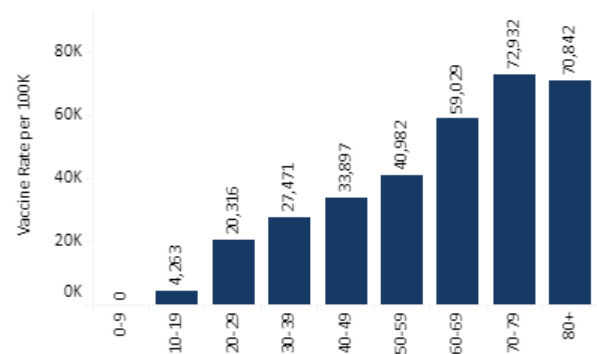
There has been much discussion about herd immunity and its ability to end the pandemic. However, herd immunity is not a panacea. Herd immunity merely means that the number of cases will *tend to* trend downward. Theoretically, this will eventually lead to eradication. However, diseases such as polio and measles are all subject to herd immunity, in some cases for several decades. Nevertheless, large local outbreaks still ravage unvaccinated populations. Unlike polio and measles, COVID-19 is widespread globally and in Virginia. Even with herd immunity, unvaccinated individuals, families, and communities will need to maintain prevention measures to avoid infection.

Another risk of vaccine hesitancy is the risk of vaccine-resistant variants. In an environment where few people are vaccinated, variants with higher transmission rates are more fit: they outcompete other strains. However, as more people are vaccinated, vaccine-resistant variants may become more fit. Unvaccinated individuals give the virus an opportunity to persist increasing the risk of vaccine-resistant variants emerging.

The Benefits of Vaccines

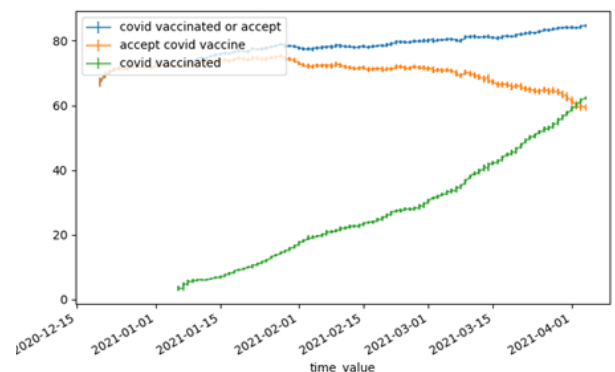
For those who do get vaccinated, however, there is good news: all vaccines are effective at preventing severe disease, hospitalizations, and deaths from COVID-19 - even from strains that are vaccine resistant. COVID-19 may persist, but once everyone who wants a vaccine has one, vaccinated individuals will be able to treat COVID-19 like the flu or other seasonal diseases. It may make you sick, and some seasons may be worse than others. You may need a booster shot every year. But you can safely return to normal life. Do your part to end the pandemic. Practice good prevention and, most importantly, get vaccinated when eligible.

Vaccination Rate per 100,000 Population
 By Age Group



More than 1 in 4 Virginians age 70 or older have yet to receive a first dose of COVID-19 vaccine despite being eligible since January. Uptake among this group has slowed down in recent weeks. A combination of factors, including access barriers and vaccine hesitancy, are likely affecting uptake.

Vaccine Acceptance in Virginia



A large majority of Virginians intend to get vaccinated for COVID-19. However, even a small minority refusing the vaccine could extend the pandemic, putting their families and communities at risk.