February 17, 2023

KEY TAKEAWAYS

- Weekly case rates have declined consistently for the last six weeks. As of February 14, the seven-day average of daily cases is 12.22 per 100,000. This represents a 40% reduction over the last month.
- No counties or cities in Virginia are reporting high COVID19 community levels. This is the first such report since November 2022. Fifty-two locales, representing 2.37 million Virginians, are reporting medium community levels. High-risk individuals in these areas should continue to wear a mask in indoor public places.
- Statewide hospitalization trends continue their steady decline. The seven-day moving average of new admissions is now 558. This is down 44% in the last month. However, some signs of growth are being observed at the regional level. Neighboring states like Tennessee, are also showing hospitalization rate growth.
- CDC estimates of variant proportions are unremarkable. XBB.1.5 accounts for over 85% of new cases. BQ.1 and BQ.1.1 have been largely displaced and now account for less than 10% of new cases. No significant growth has been observed in any other variants including CH.1.1.
- Some surveillance metrics hint at the possibility of new growth. But models suggest that a major surge is unlikely (see page three). An increase in cases may be possible, but hospital system load is not expected to swell in the short term.

1,445,690
Total Bivalent Booster Doses Administered by Feb. 16, 2023

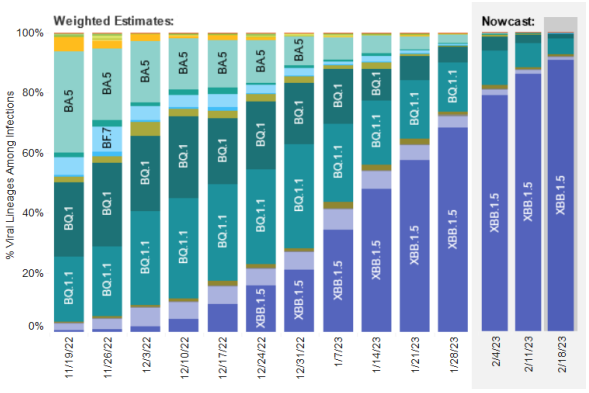
16.9% / 41.6%
Of eligible Virginians / Seniors have received a Bivalent Booster as of Feb. 16, 2023

34.9% / 62.9%
Of Virginians / Seniors have received an annual Flu shot as of February 16, 2023

Zero / 52
Virginia Localities at High / Medium Community Levels as of February 16, 2023

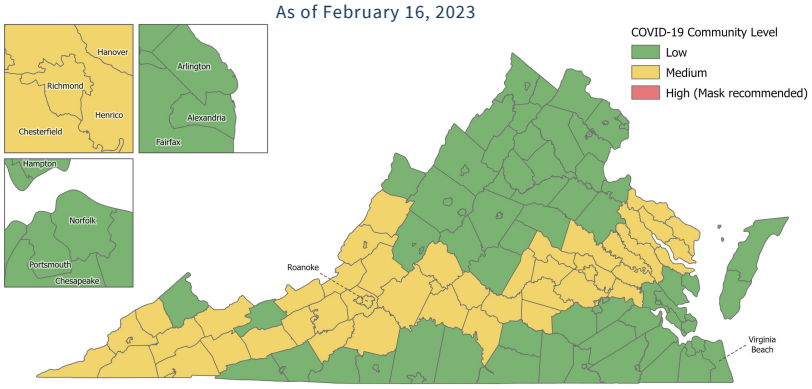
KEY FIGURES

Variant Mix – HHS Region 3



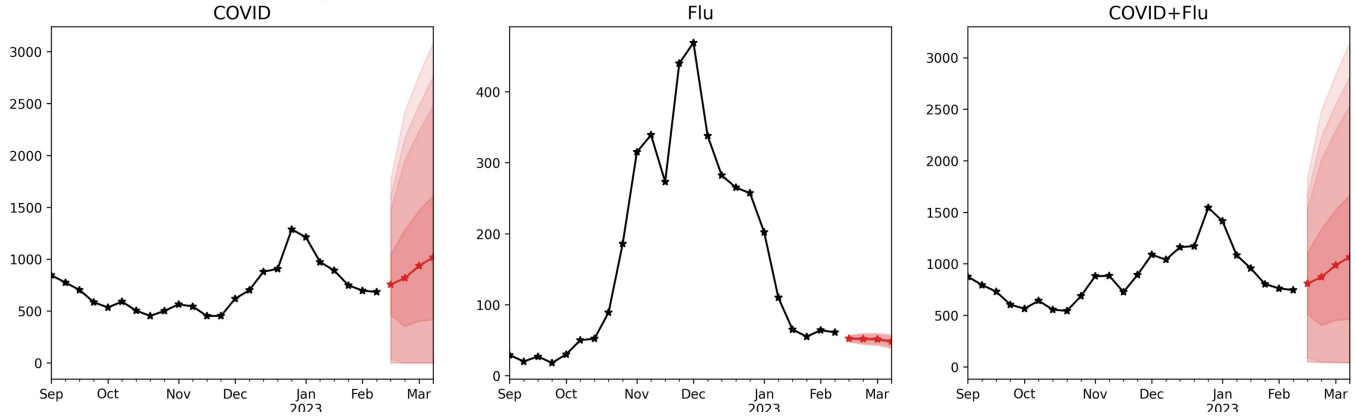
CDC Community Levels

As of February 16, 2023



Click Map for Full Size Image

UVA Model of Weekly Statewide Hospital Admissions

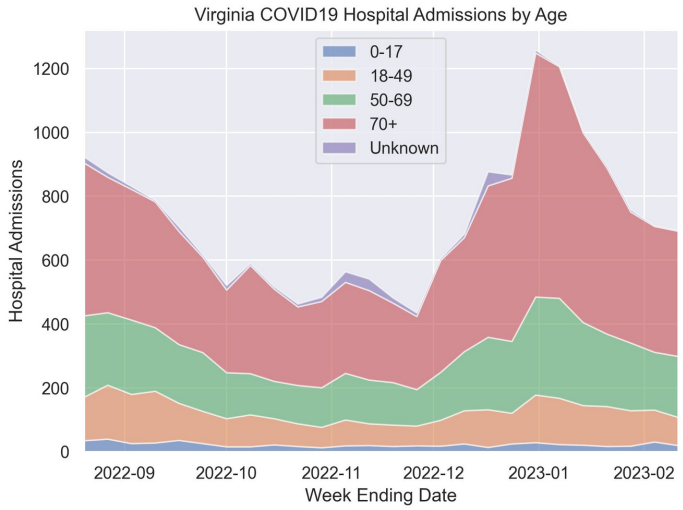


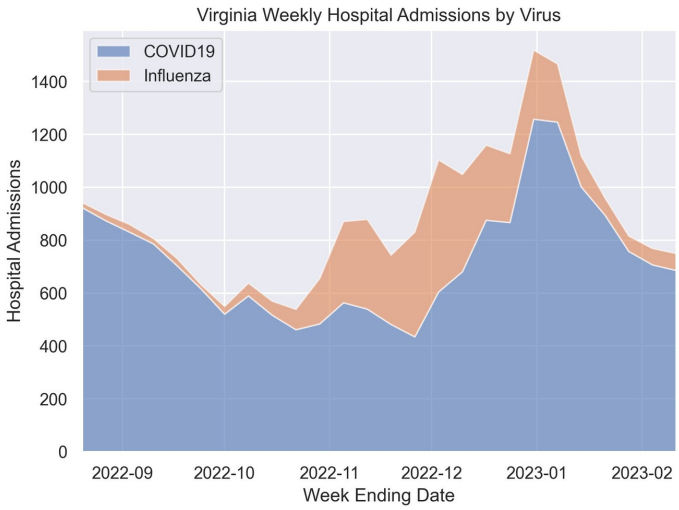
COVID19 MODELING WEEKLY UPDATE

VDH VIRGINIA DEPARTMENT OF HEALTH

UNIVERSITY of VIRGINIA BIOCOMPLEXITY INSTITUTE

Hospital Admissions





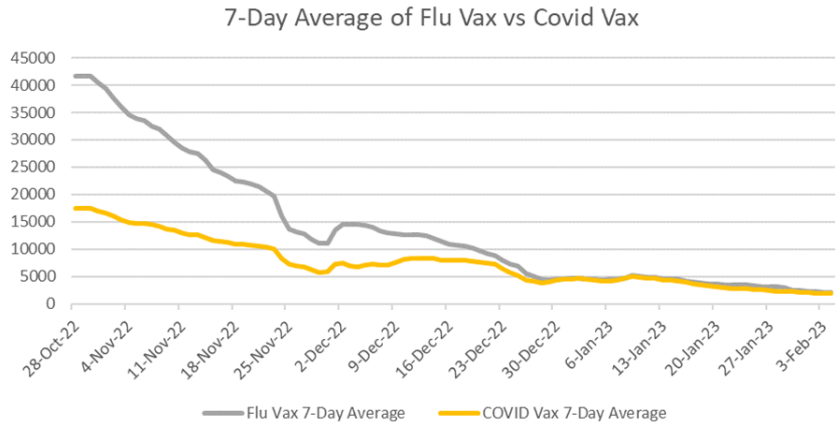
- Respiratory hospitalizations have declined for six weeks. They are down 51% since December. But this trend is slowing.
- Those "Over 70" are the most likely to be hospitalized. Among children, those "Under 5" were most often hospitalized.
- Influenza hospitalizations have plateaued since mid-January. Last week flu represented just 9% of hospitalizations.

Reproduction Rate
(Based on Confirmation Date)

Region	R_e Feb 14th	Fortnightly Change
Statewide	**0.937**	**0.081**
Central	0.913	0.028
Eastern	0.986	0.126
Far SW	0.932	0.052
Near SW	0.994	0.115
Northern	0.925	0.092
Northwest	0.927	0.062

Vaccine Administrations

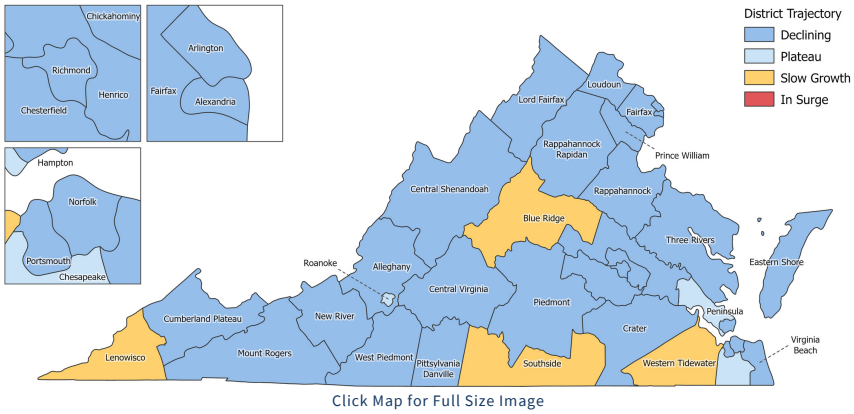
Note: This week's vaccination estimates are preliminary and subject to change.



- The reproduction number is below one in all regions as well as statewide. But rates are growing slowly towards one.
- Vaccine administrations for COVID19 and flu have declined sharply. Bivalent boosters dominate COVID19 vaccinations.

Growth Trajectories: No Health Districts in Surge

Status	# Districts (prev week)
Declining	28 (25)
Plateau	3 (6)
Slow Growth	4 (3)
In Surge	0 (1)



Click Map for Full Size Image

- Only four districts report growth trajectories, and none are in surge this week. Most regions are in sustained decline.

NEW NEAR-TERM SCENARIOS

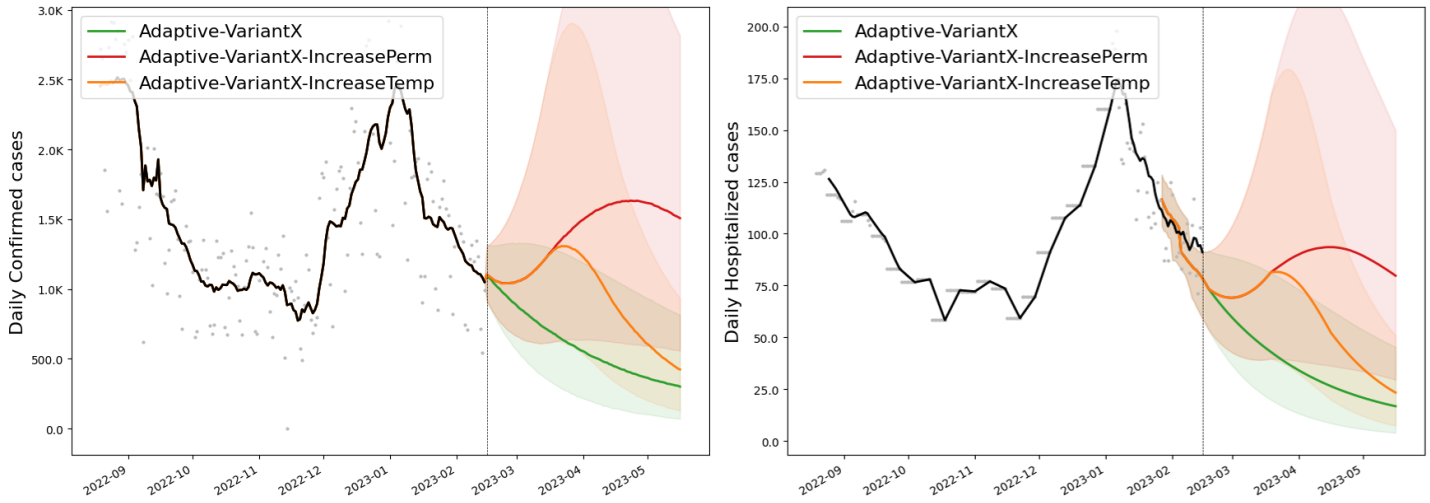
The epidemic trajectory of COVID19 in Virginia has been relatively stable for the last few months. In fact, the Variant-X scenario from late November predicted the peak hospitalizations in mid-January to within 5%. The predicted peak was also off by only a few days. For over a month, cases have been declining, the weather has been warming, and no new variants arose to challenge XBB.1.5. As such, the modeling scenarios have been on hold, as we expected the pandemic to continue as before.

This week, we are seeing the first signs that something may be changing. The hospitalization trajectories of several neighboring states seem to have plateaued, with Kentucky and Maryland showing the first signs of growth. Tennessee is even further along and now in a sustained slow growth phase. Virginia is still reporting a statewide decline in hospitalizations. But several health districts are individually showing signs of new growth. At the same time, the overall number of Virginian patients in the ICU and on ventilator support is increasing slowly. Both metrics are up 15% in a week, though overall rates are still quite low. Finally, several European nations, which generally lead the United States in COVID19-waves, are showing increases in hospitalizations. Belgium, England, and Germany experienced hospitalization peaks in mid-December and had been in decline since then. But all three countries now report significant growth in cases and hospitalizations.

That said, not all metrics are discouraging. Most wastewater surveillance sites in the Commonwealth are showing declining viral loads. Moreover, urgent care and emergency room visits for COVID-like illness are at the lowest levels seen in seven months. Test positivity is also at a very low level in Virginia.

There is no good reason to expect another major surge yet. Neither weather nor new variants offer any major concern at the moment. It is possible that these growth signals are a result of waning immunity in the public. To explore the potential impact of a new growth phase, we are again calling on the scenario-based county-level SEIR model used last year. Here we present three hypothetical scenarios. **Adaptive-VariantX** assumes that Virginia will continue the current course, with XBB.1.5 dominating its peers, and no major changes to the epidemic trajectory. The new **IncreasePerm** scenario assumes that transmission rates will increase by 30% over the next four weeks and remain constant thereafter. The new **IncreaseTemp** scenario assumes that transmission rates will see the same increase, but then gradually taper back to current levels four weeks later.

Model Results



The "current course" **Adaptive-VariantX** scenario projects a continued decline in both cases and hospitalizations. It expects rates to drop below those of 2022 by mid-March and continue to decline after that. The **IncreasePerm** scenario shows the possibility of a minor surge. Cases are not expected to exceed the December 2022 peak, and hospitalizations are not expected to rise much above current levels. However, case rates could remain higher than current levels until June. The **IncreaseTemp** scenario forecasts a very minor surge that quickly tapers off. Case rates should not get any higher than they were in January. Hospitalizations would not exceed today's rates, though they would remain moderately high until April.

The next few weeks will reveal which of these scenarios is most likely. Until then, we advise routine precautions. Please continue to practice good prevention. Keep an eye on the CDC community levels and consider masking when recommended. Consider getting a bivalent COVID19 booster if you have not already done so. It is also not too late to get a flu shot, as Virginian labs are detecting more Influenza B cases than they were in January.