

January 20, 2023

## KEY TAKEAWAYS

- Weekly case rates have declined for two weeks in a row. The seven-day moving average of new cases was 17.55 / 100k on Jan-17. This is down 37% in a fortnight.
- Only sixteen counties and cities are reporting high COVID19 community levels. This is down from 65 locales last week. The CDC recommends residents of these areas wear masks when in indoor public places. Another 64 areas report medium community levels. High-risk individuals should consider masking in these areas.
- Hospital occupancy remains elevated but is declining slowly. The 7-day moving average is now 899. This is down 15% in two weeks. ICU and ventilator patient numbers are also down slightly. Influenza hospitalization rates have also declined significantly, though flu seasons sometimes have a second wave.
- The CDC estimates that the novel XBB.1.5 subvariant is now dominant in Virginia. It represents approximately 60% of all new cases. We expect this growth trend to continue, as XBB.1.5 displaces its peers.
- Models forecast a decline in flu with slight rise in COVID19. Overall, it is expected that patient load at Virginia's hospitals will be stable for the rest of the month.
- Please consider getting a bivalent COVID19 booster and flu shot if you haven't already. Also please continue to practice good prevention.

**1,396,142**

Total Bivalent Booster Doses Administered by Jan. 19, 2023

**16.4% / 40.6%**

Of eligible Virginians / Seniors have received a Bivalent Booster as of January 19, 2022

**33.7% / 61.7%**

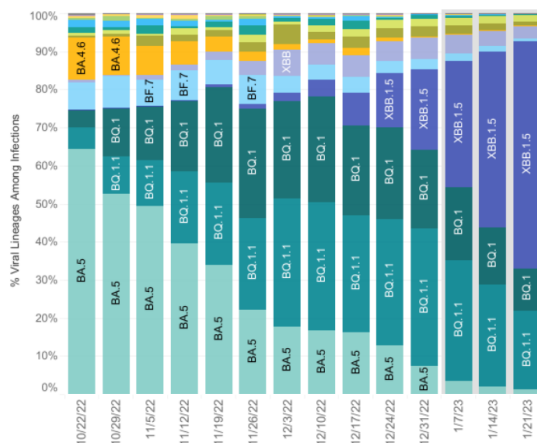
Of Virginians / Seniors have received an annual Flu shot as of January 19, 2022

**16 / 62**

Virginia Localities at High / Medium Community Levels as of January 19, 2023

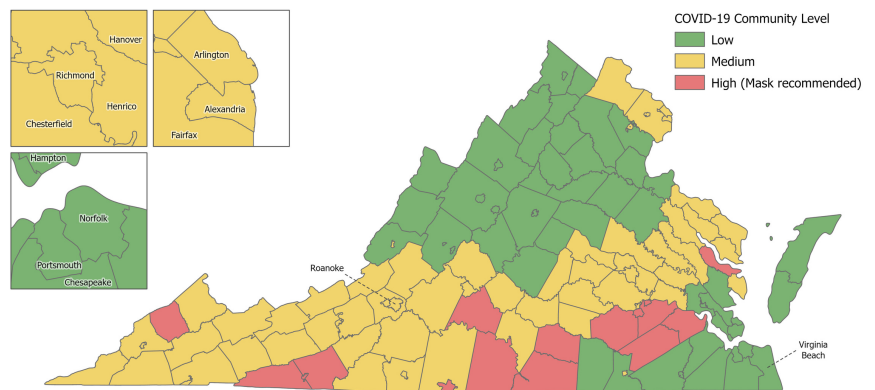
## KEY FIGURES

### Variant Mix - HHS Region 3



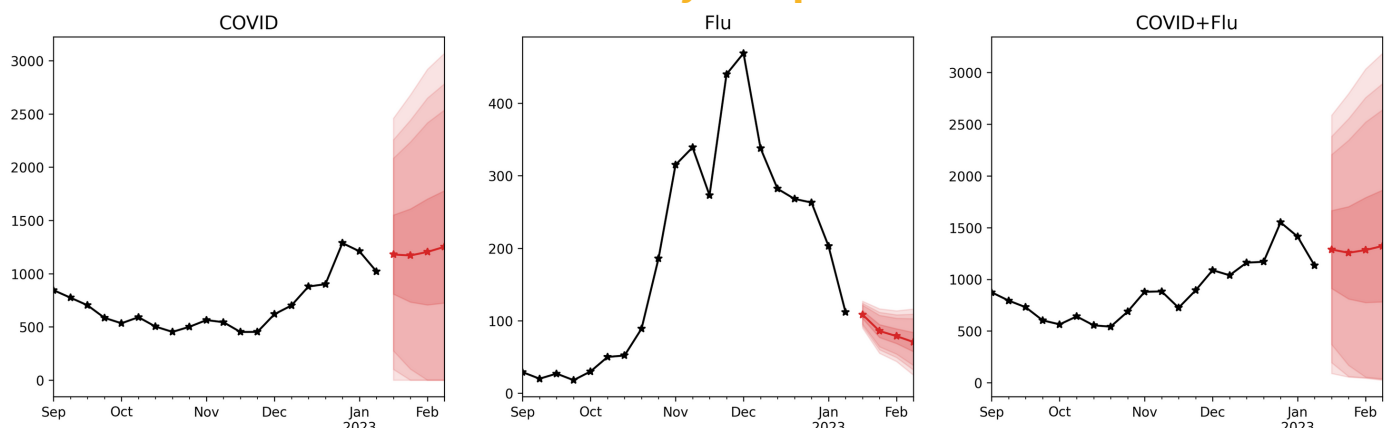
### CDC Community Levels

As of January 19, 2023

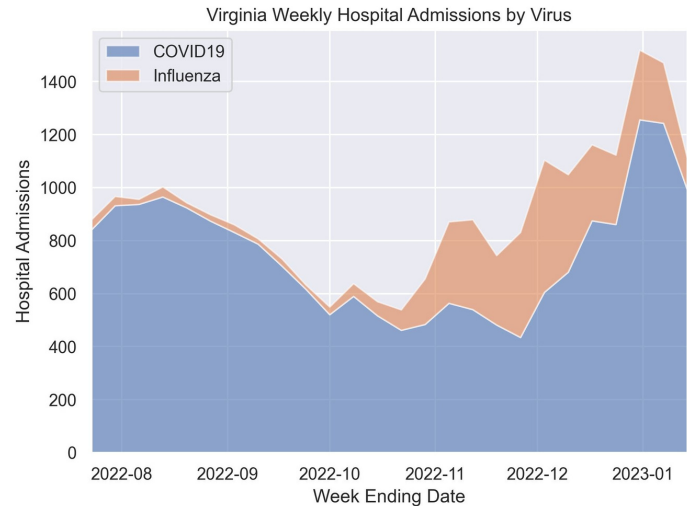
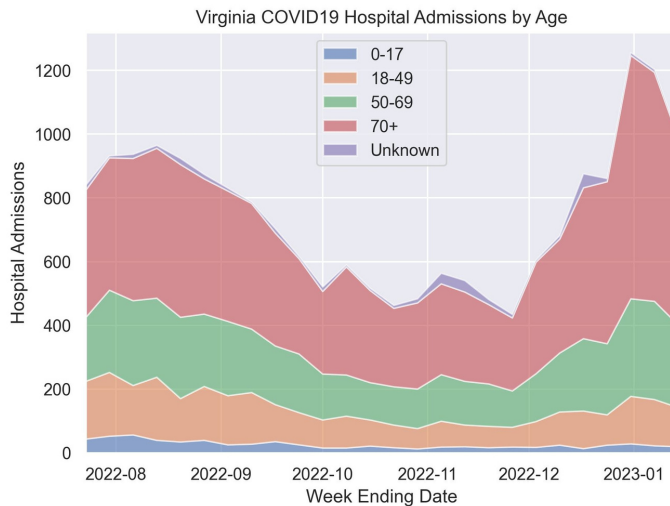


Click Map for Full Size Image

### UVA Model of Weekly Hospital Admissions



## Hospital Admissions



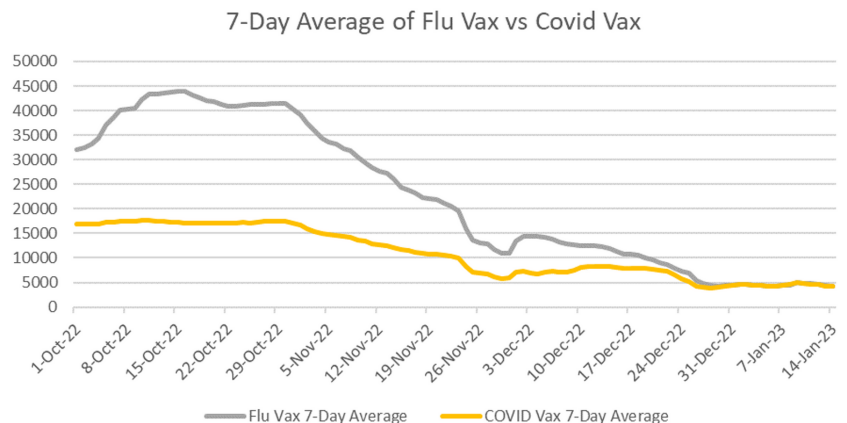
- Hospital admissions for COVID19 have declined for the second week in a row.
- The majority (59%) of new admissions for COVID19 are among patients older than 70 years of age.
- Flu hospitalizations have declined significantly. They now represent about 11% of total respiratory illness admissions.

## Reproduction Rate (Based on Confirmation Date)

| Region           | $R_e$<br>Jan 17th | Weekly<br>Change |
|------------------|-------------------|------------------|
| <b>Statewide</b> | <b>0.715</b>      | <b>-0.206</b>    |
| Central          | 0.704             | -0.224           |
| Eastern          | 0.671             | -0.269           |
| Far SW           | 0.835             | -0.135           |
| Near SW          | 0.765             | -0.132           |
| Northern         | 0.783             | -0.144           |
| Northwest        | 0.741             | -0.225           |

## Vaccine Administrations

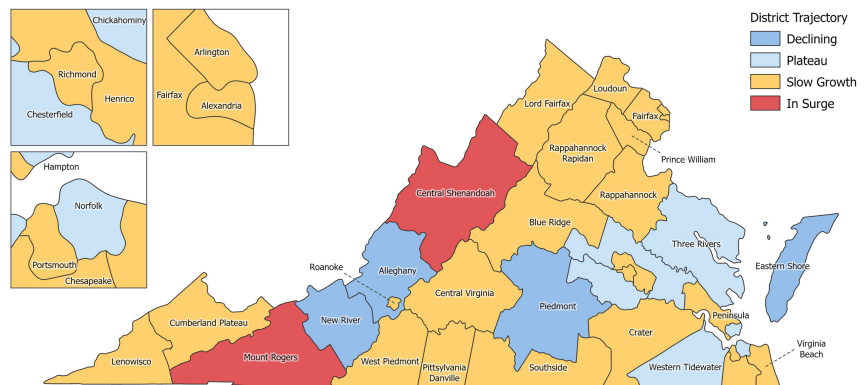
Note: This week's vaccination estimates are preliminary and subject to change.



- The effective reproduction number ( $R_e$ ) is now below 0.85 statewide and for all regions. All regions saw a decline this week.
- Vaccine administrations for both COVID19 (boosters) and flu have stagnated since the New Year.

## Growth Trajectories: Two Health Districts in Surge

| Status      | # Districts<br>(prev week) |
|-------------|----------------------------|
| Declining   | 4 (10)                     |
| Plateau     | 6 (8)                      |
| Slow Growth | 23 (13)                    |
| In Surge    | 2 (4)                      |



Click Map for Full Size Image

- Though 25 of the 35 districts are still showing growth, only two are surging (down from four last week).

## THE FUTURE OF MODELING IN VIRGINIA

Regular readers of this report may have noticed a change at the start of the year. The biweekly scenario projections have been temporarily paused. These projections were most useful when some external factor threatened to drastically alter the mechanics of the epidemic. This could be things like a change in weather that drives up transmissibility, holiday gatherings that increase mixing, or the arrival of a new variant. However, we have entered a new phase in the COVID-19 pandemic. Most Virginians are back to normal routines. Factors like holiday gatherings and travel are less of a change. Though new Omicron subvariants bring changes, these have been muted compared to previous Variants of Concern. Finally, widespread vaccination and previous infection has given most Virginians some protection from COVID-19, particularly against severe disease, decreasing the impact on Virginia's hospitals.

COVID-19 remains a significant threat - it killed 140 Virginians in the first two full weeks of December. Many more are hospitalized or simply sickened, and the impact of long COVID is still being studied. For many Virginians with weakened immune system, the threat remains as strong as ever. But, for better or worse, COVID-19 is now part of our overall health landscape. Widely available vaccination remains our best defense to the risks it poses.

Like all causes of illness and death, Virginia will continue to monitor and protect Virginians from COVID-19. In particular, COVID-19 represents a jump in the risk from respiratory diseases and, when compounded with respiratory viruses like RSV and flu, can still stress Virginia's health system and workforce. The Virginia Department of Health is continuing to work with the University of Virginia Biocomplexity Institute to provide foresight and analysis of these diseases. More broadly, we are leveraging this partnership to increase Virginia's capacity anticipate and to respond infectious disease outbreaks, including pandemics like COVID-19 and Monkeypox. A few of these efforts are outlined below.

### Short-term Forecasts

You may have noticed a new feature in this report over the past few weeks: short-term forecasts of COVID-19 and flu hospitalizations on Page 1. These have always been a feature of UVA-BI's work but we have decided to emphasize them more in the new environment. While scenario projections helped us engage with potential long-term futures that *could* come to pass, these short-term forecasts show what we *expect* will happen in the coming weeks. While no one can predict the future with certainty, short-term forecasts tend to be more accurate, and are more useful when we don't expect major changes to the underlying mechanics. As noted above, UVA-BI is prepared to bring scenario projections back as needed.

### Early Warning

The COVID-19 pandemic has exposed weaknesses in case data measuring and forecasting the course of a disease. Early in the pandemic, when there was a shortage of tests, lags of two weeks from infection to case reporting were common. Many people with asymptomatic or mild cases did not get tested at all. With the advent of at-home tests, even positive cases often go unreported.

Fortunately, a number of tools have come online to assist, while some prepandemic tools are getting expanded use. Wastewater surveillance, emergency department visits, genomic sequencing, and even online searches, can augment case data to provide earlier warning and improve forecasts. The UVA-BI team is working with VDH to assess these tools and understand how they can work in tandem to provide early warning and improve forecasts.

### Foresight

Long-term scenario projections remain an important tool for policy analysis, planning, and engaging with potential futures. UVA-BI has improved these projections throughout the pandemic, and continues to leverage the wealth of data created to improve projections. Additionally, VDH is continuing its partnership with the Metaculus forecasting platform. This platform collects human forecasts in a systematic way to provide foresight on questions that don't lend themselves to quantitative modeling such as human behavior or rare events. The UVA-BI team is also using these forecasts to improve scenario projection by incorporating Metaculus forecasts on variant characteristics, vaccine uptake, policy changes (e.g., mask mandates) and other factors. Ultimately, this will help us foresee which scenario is likely to play out. Together, these efforts represent a significant and growing increase in our capacity to anticipate and forecast future outbreaks.