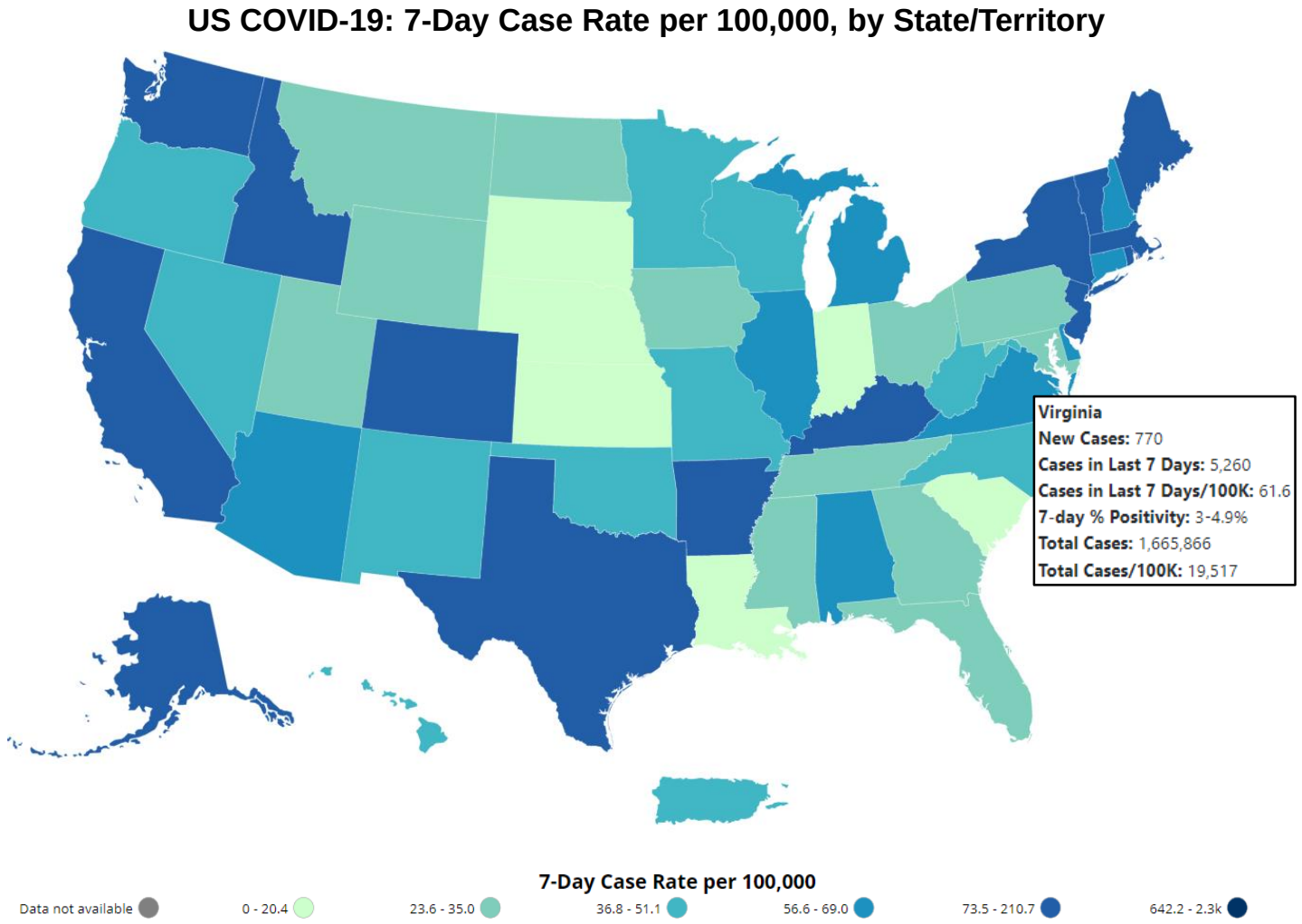
Virginia
COVID-19 Surveillance Data Update

March 30, 2022

VIRGINIA'S HEALTH IS IN OUR HANDS.
Do your part, stop the spread.

National: Weekly COVID-19 Case Rate

Updated 3/28/22



	Cases in the Last 7 Days Per 100k Population
Virginia	61.6 (-18.6%)
U.S.	58.2 (1.9%)
Alaska	198.9 (-0.55%)
Vermont	151.9 (6.2%)
Kentucky	129.3 (-7.6%)

Our Neighbors

Rates Higher than Virginia

Kentucky, **129.3** (-7.6%)
District of Columbia, **80.8** (7.7%)

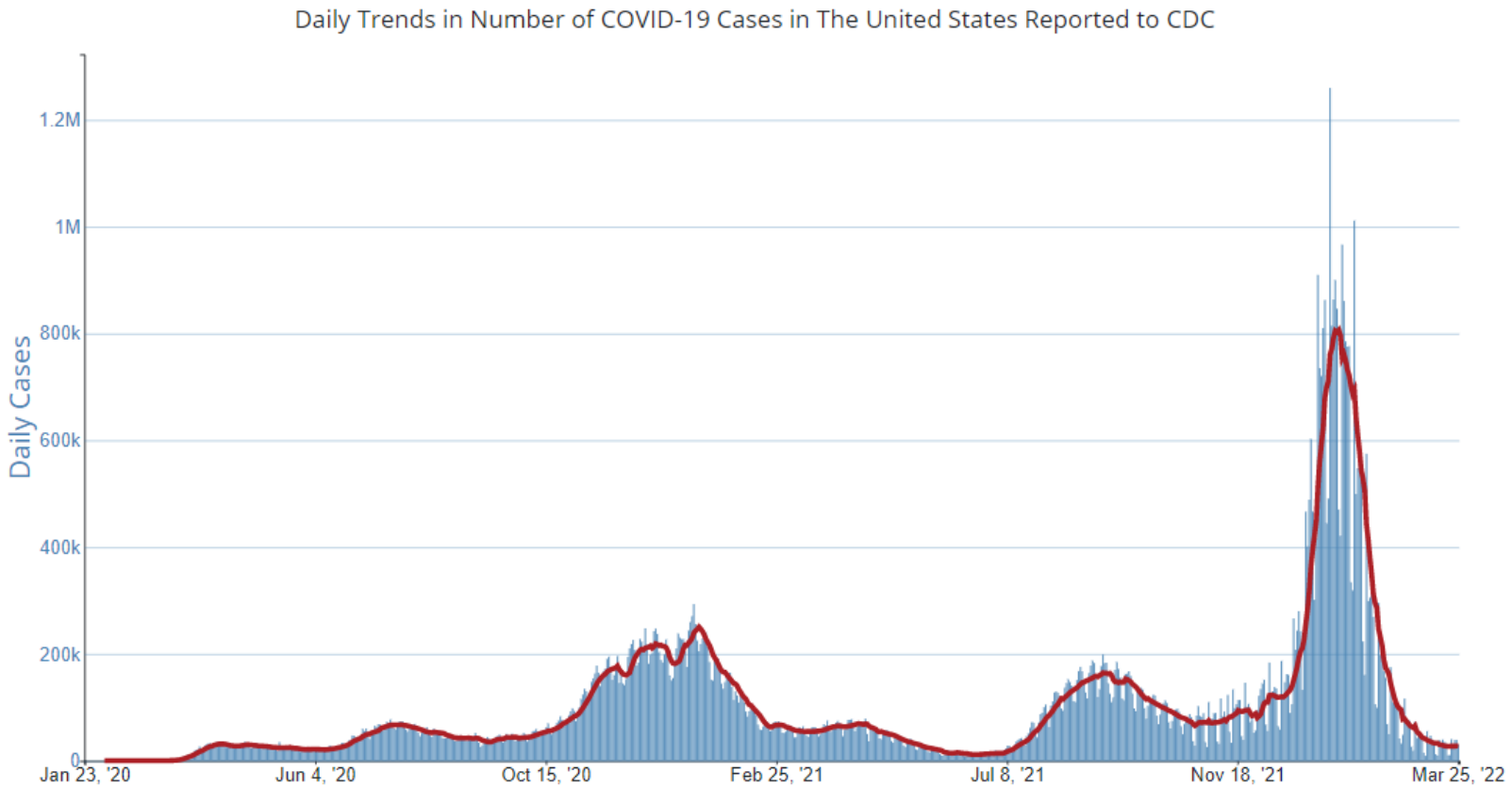
Rates Lower than Virginia:

North Carolina, **50.9** (51.9%)
Tennessee, **26.7** (-14.4%)
Maryland, **32.4** (-6.9%)
West Virginia, **45.8** (-45.5%)

Source CDC COVID Data Tracker Please note rate change comparisons are from the previous week's data.

National: Cases, Hospitalizations, and Deaths

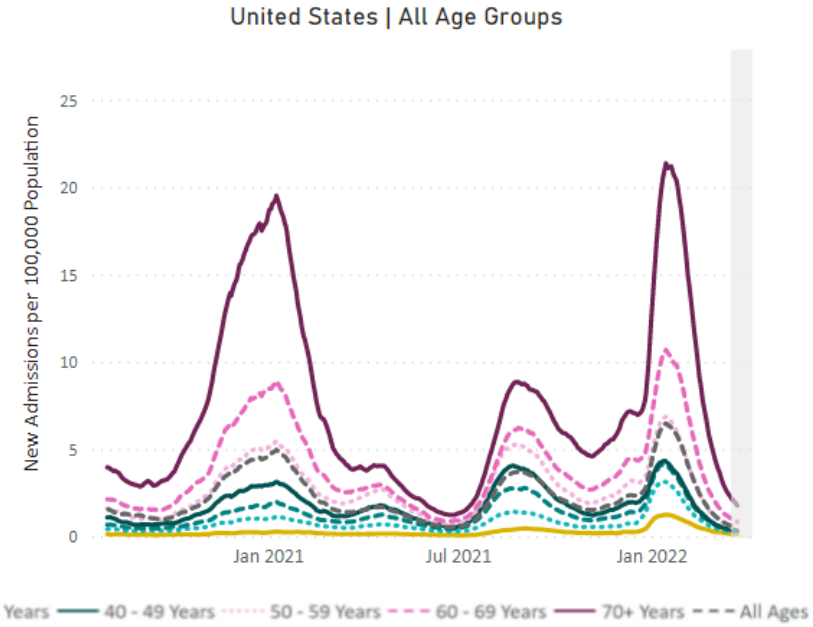
Updated 3/28/22



Compared to last week, **cases** decreased to **27,594** (7-day MA) per day (-1.2%)

Hospitalizations decreased to **1,611** (7-day MA) per day (-22.7%)

Deaths decreased to **705** (7-day MA) per day (-27.9%)

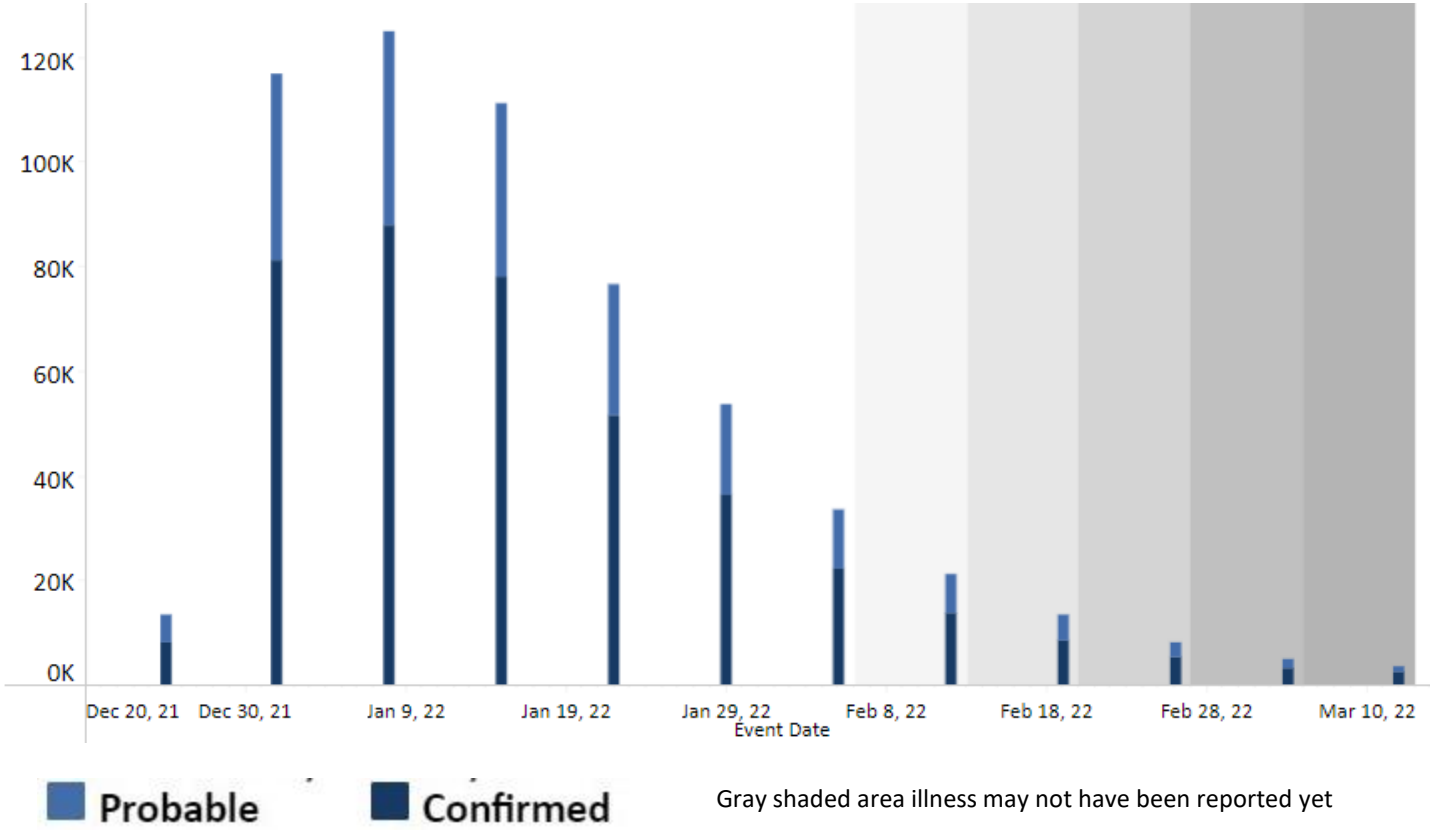


Source: CDC COVID Data Tracker

Virginia: Cases, Hospitalizations, and Deaths

Updated 3/28/22

Cases by Date of Symptom Onset, Past 13 weeks



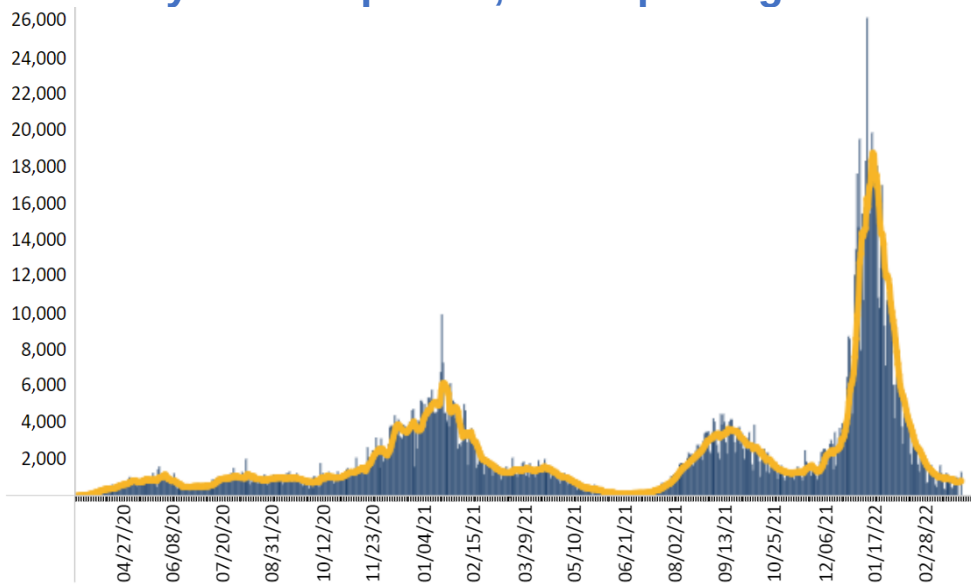
Gray shaded area illness may not have been reported yet

Compared to last week, **cases decreased** to 833 (7-day MA) from 942 per day (-11.5%)

Hospitalizations decreased to 333 per day (7-day MA) (-22.5%)

Deaths decreased to 19.1 (-28.4%) (Date of Death)

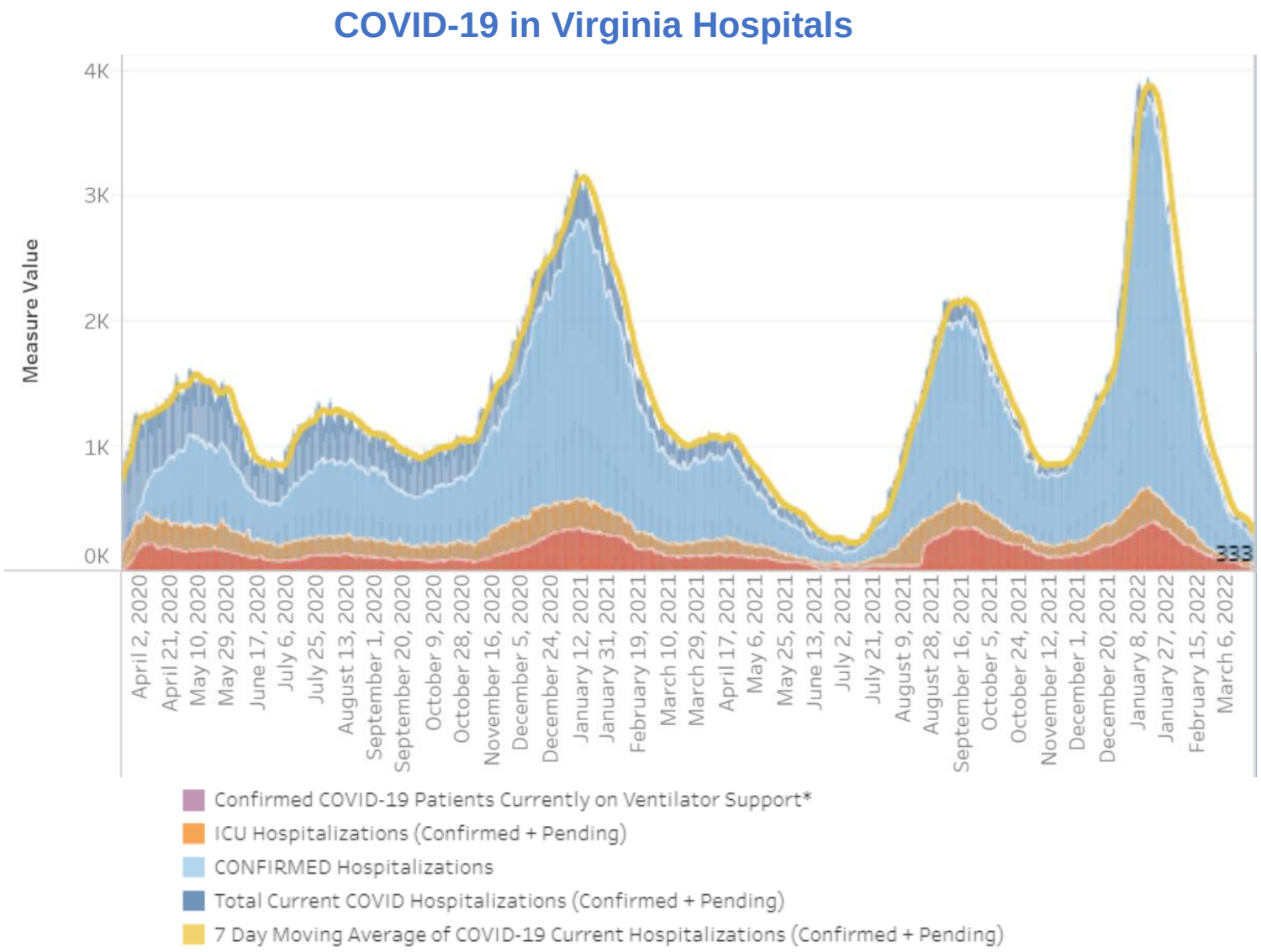
Cases by Date Reported, All Reporting Timeline



Source: Cases – Coronavirus (virginia.gov), Cases and Deaths - Coronavirus (virginia.gov), VHHA Hospitalizations – Coronavirus (virginia.gov), Data represent a 7-day moving average.

Virginia Hospitalization Trends

Updated 3/28/22



- Compared to last week hospitalizations **decreased to 333** (7-day MA) from 430 (-22.5%)
- Compared to last week ICU hospitalizations **decreased to 53** from 88 (-39.7%)
- **25 patients** are currently on ventilator support (-39%)

Source: VHHA Hospitalizations - Coronavirus (virginia.gov)

COVID-19 Burden in Virginia LTCFs

Questions can be directed to: hai@vdh.virginia.gov

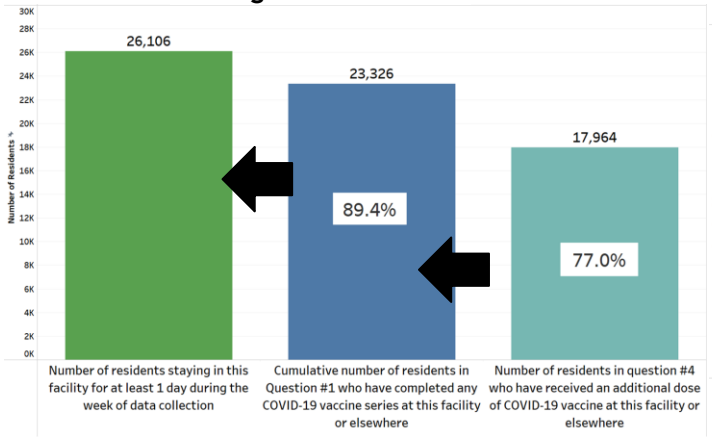
Updated 3/28/2022

Key Trends

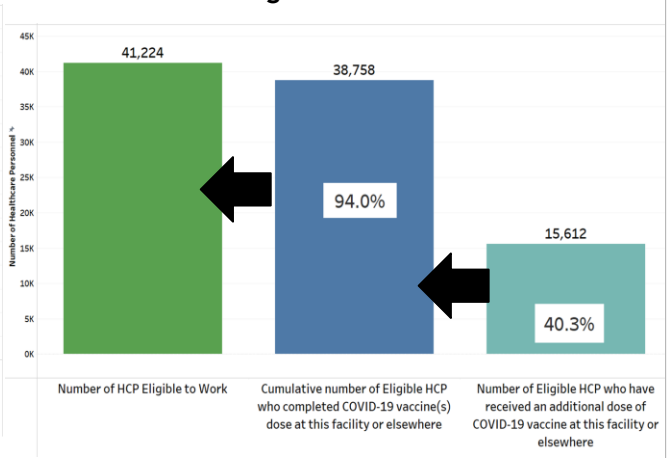
- There were 16 LTCF COVID-19 outbreaks reported in the past 30 days: 2 in Eastern, 3 in Central, 5 in Northwest, 2 in Northern, and 4 in Southwest *(see figure top right)*.
- The number of reported staff and resident cases in nursing homes continued to decline during the most recent reporting week *(see figure bottom right)*.
  - For the reporting week ending March 27, 2022, 17 resident and 14 staff cases were reported to NHSN. Data for this reporting week are preliminary.
- For reporting week ending March 20, 2022, data reported by 281 nursing homes showed 89% of residents were fully vaccinated; data reported by 281 nursing homes showed 94% of staff were fully vaccinated (*see figures bottom left*).
  - Of the nursing home residents eligible to receive an additional dose or booster, **77% of residents have received an additional dose or booster** of COVID-19 vaccine.
  - Of the nursing home healthcare personnel eligible to receive an additional dose or booster, **40% of staff have received an additional dose or booster** of COVID-19 vaccine.

COVID-19 Booster Vaccination in Virginia Nursing Homes

Nursing Home Residents

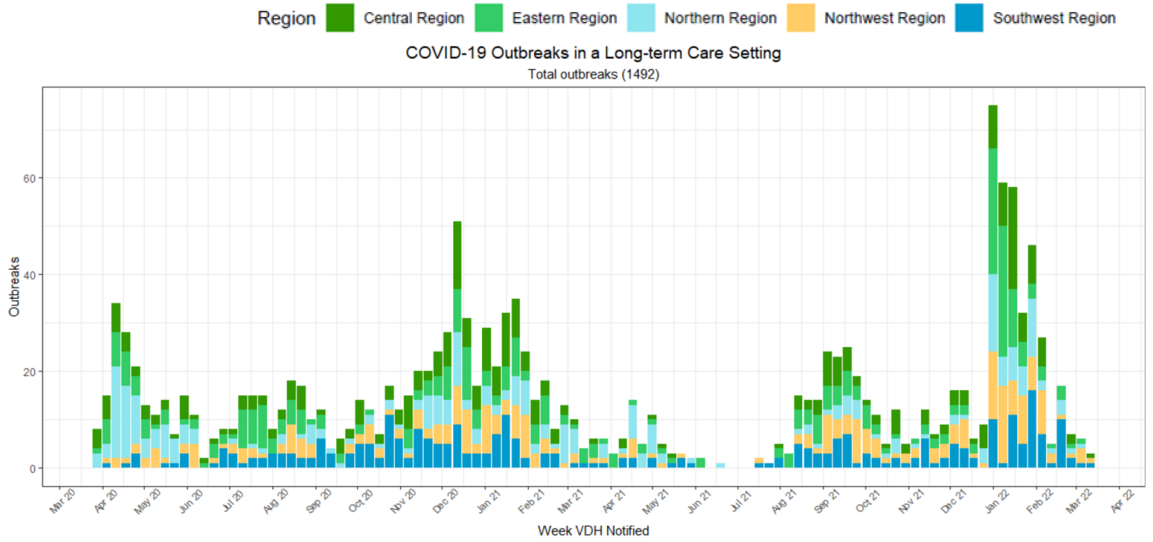


Nursing Home Staff



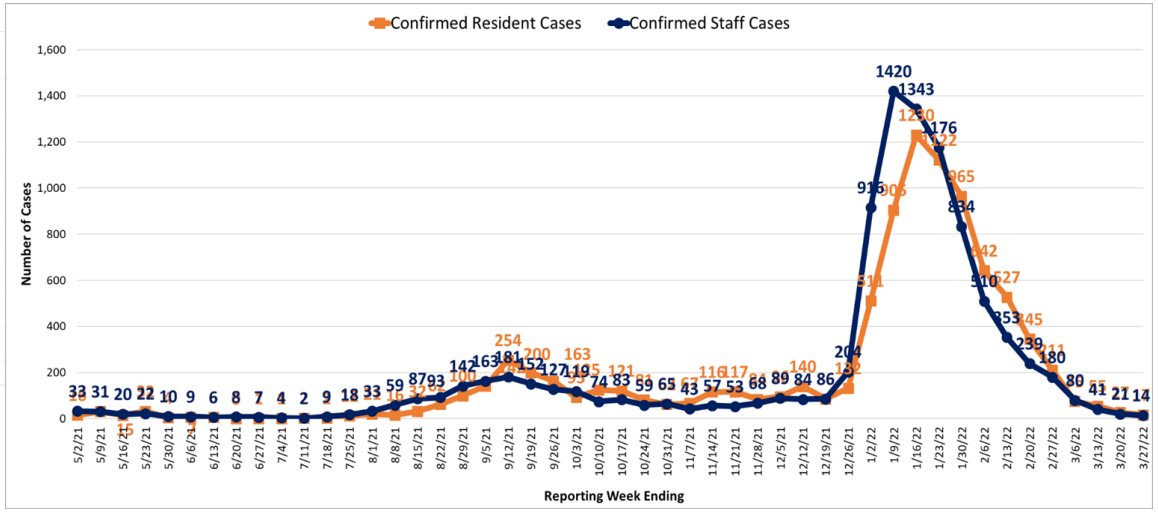
Data were reported by 286 Virginia nursing homes into the National Healthcare Safety Network (NHSN) as of 3/28/2022 and are subject to change, including booster eligibility per updated vaccine guidance. In Virginia, 281 nursing homes reported resident vaccination data for reporting week ending 3/20/2022; 281 nursing homes reported staff vaccination data for reporting week ending 3/20/2022. For staff type definitions, refer to NHSN Table of Instructions.

Number and Region of LTCF COVID-19 Outbreaks by Date VDH Notified



Outbreaks reported from nursing homes, assisted living facilities, and multicare facilities to VDH with a confirmed or suspected etiologic agent of SARS-CoV-2. Data are from the Virginia Outbreak Surveillance System as of 3/27/2022; data are retrospectively updated and subject to change.

Nursing Home Resident and Staff COVID-19 Cases



Data are from NHSN as of 3/28/2022 and are subject to change. For reporting information, please refer to the NHSN data collection forms: residents, staff.

Virginia: Regional Metric Summary

Updated 3/28/22

Metrics date: 3/28/2022

	Central	Eastern	Far Southwest	Near Southwest	Northern	Northwest
New cases per 100k within the last 7 days	59.5 ↓	19.0 ↓	34.3 ↓	37.9 ↓	53.8 ↓	39.3 ↓
% Positivity 7-day moving average	2.6% ↓	2.2% ↓	4.9% ↓	3.1% ↓	3.7% ↓	3.5% ↓
COVID-like ED visits rate per 100k	8.3 ↓	6.1 ↓	9.8 ↓	9.1 ↓	3.6 ↓	4.7 ↓

Burden	Level 0	Level 1	Level 2	Level 3	Level 4
New Cases	<10	10-49		50-100	>100
% Positivity	<3	3-5	5-8	8-10	>10
CLI ED Visits	<4		4-5.9		≥6

Symbol	Trend
↑	Increasing
↓	Decreasing
○	Fluctuating

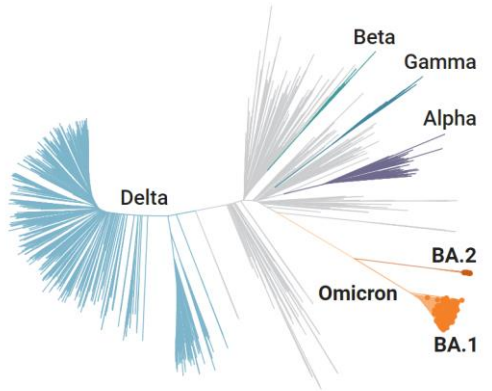
Region Metrics – Coronavirus

Omicron Sublineage BA.2

Updated 3/30/22

- BA.2 is increasing in the U.S., and as of 3/26/22 accounts for 54.9% of cases
- Estimated to be 50-60% more transmissible than parent
- Closely monitoring European countries where BA.2 has become the dominant variant
  - Increased cases for 2 consecutive weeks after declining for 6 weeks
  - Factors include increased infectivity associated with BA.2, waning immunity from vaccination or prior infection, and relaxation of mitigation measures

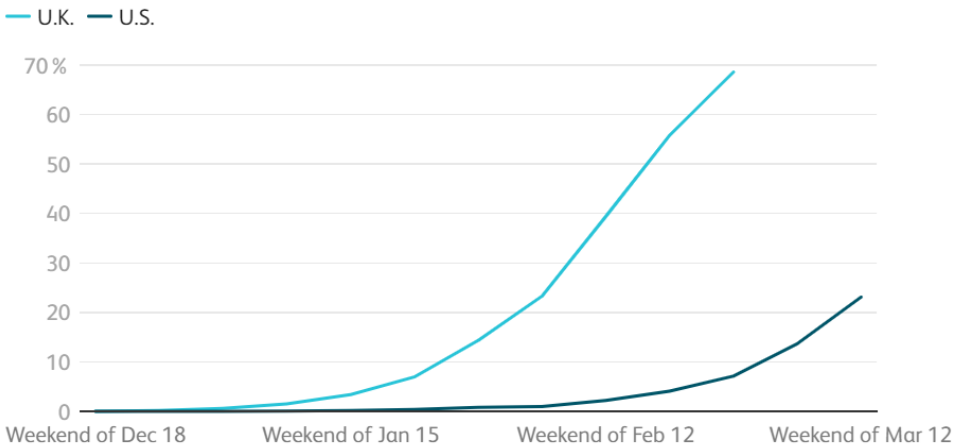
SARS-CoV-2 Evolutionary Tree



GISAID/NEXTSTRAIN/NCO, ADAPTED BY K. FRANKLIN/*SCIENCE*

BA.2 makes up a far higher share of COVID-19 cases in the U.K. than in the U.S.

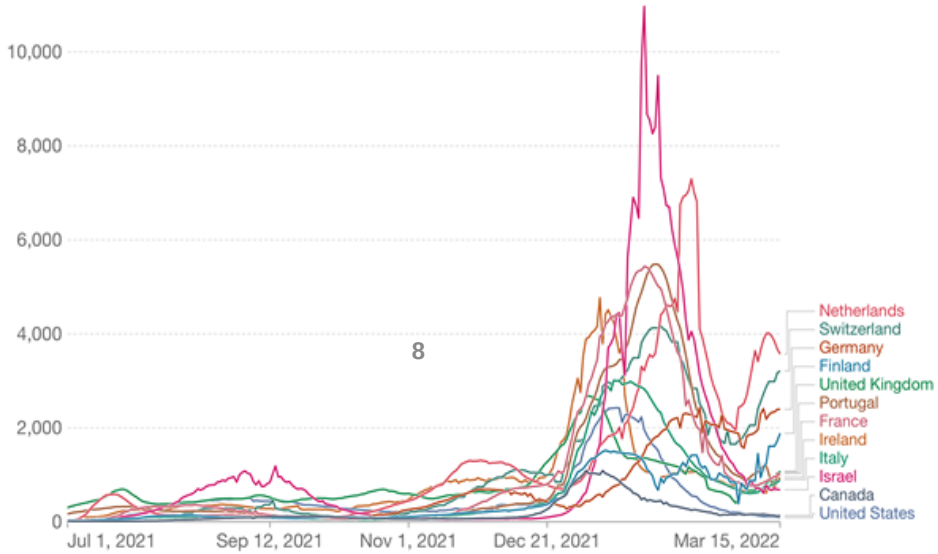
The new Omicron subvariant is spreading in the U.S., but not nearly as much as in the U.K.



Daily new confirmed COVID-19 cases per million people

7-day rolling average. Due to limited testing, the number of confirmed cases is lower than the true number of infections.

Our World in Data



Source: CDC COVID Data Tracker; Sudden rise of more transmissible form of Omicron catches scientists by surprise | Science | AAAS; Coronavirus (COVID-19) Cases - Our World in Data; Transmission of SARS-CoV-2 Omicron VOC subvariants BA.1 and BA.2: Evidence from Danish Households | medRxiv

Vaccine Effectiveness Against Omicron BA.2

Updated 3/25/22

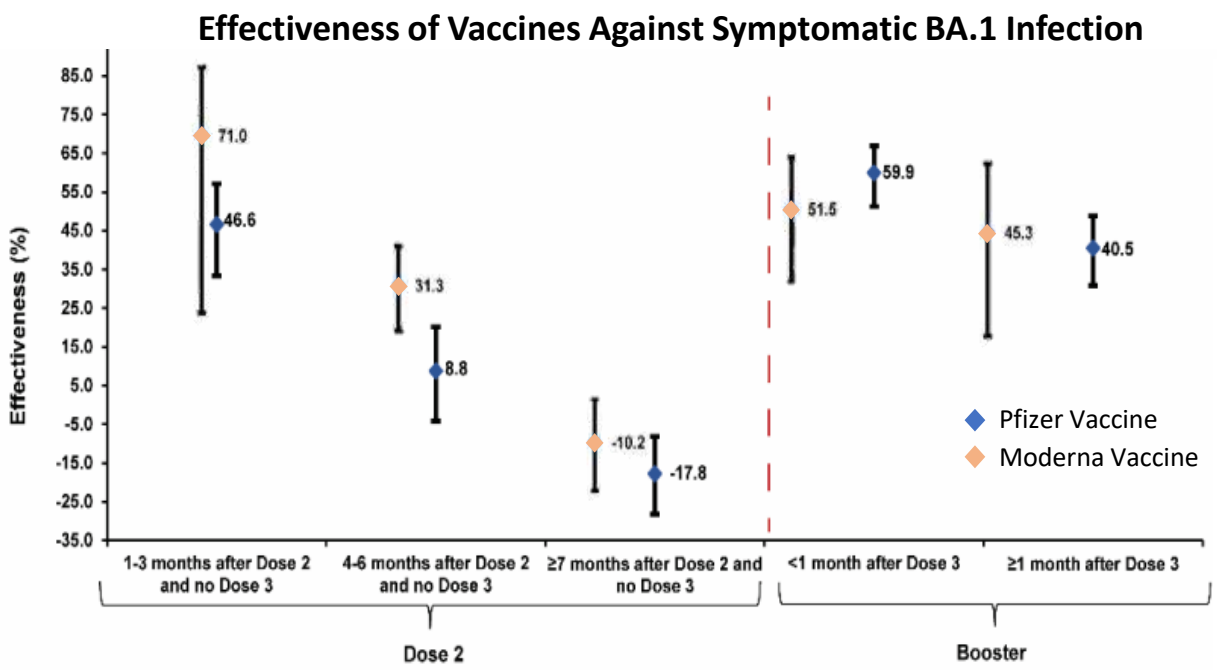
Duration of mRNA vaccine protection against SARS-CoV-2 Omicron BA.1 and BA.2 subvariants in Qatar: March 13, 2022, **Preprint Journal Article**

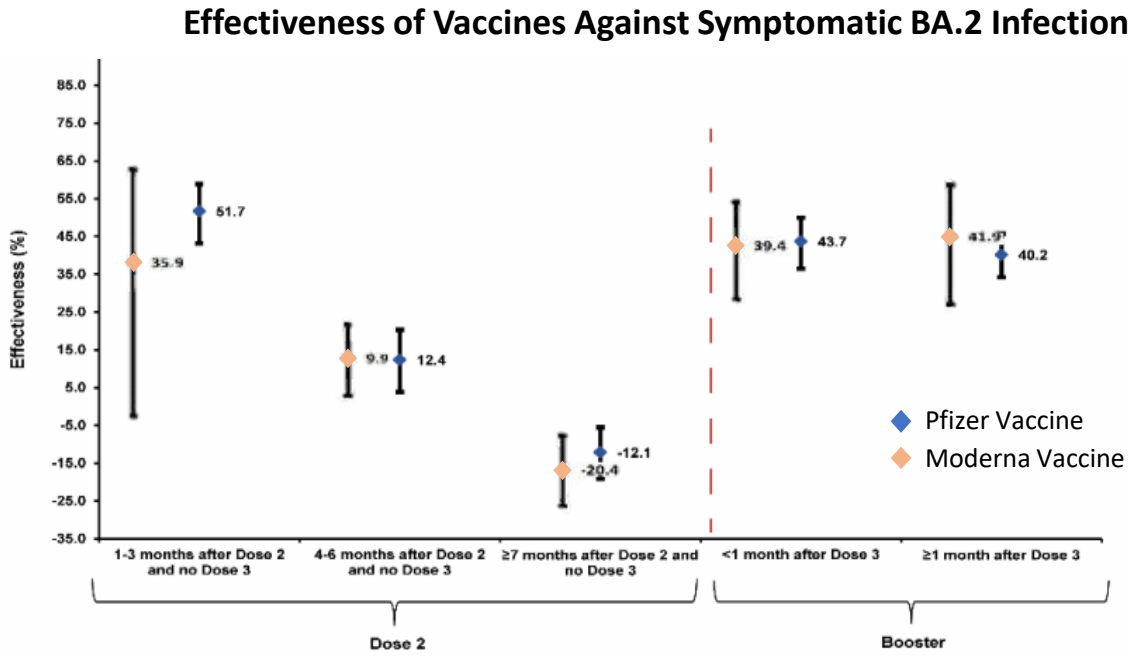
Summary:

- A matched case-control study of 138,182 individuals in Qatar to determine the effectiveness of mRNA COVID-19 vaccines after a second dose and third booster dose against BA.1 and BA.2 infections.

Key Findings:

- Pfizer COVID-19 vaccine effectiveness (VE) against symptomatic BA.1 infection after the second dose was highest in the first three months after vaccination (46.6% 95% CI: 33.4-57.2%), with a continual decline in the following months. In the first month after the booster dose, effectiveness rebounded to 59.9% (95% CI: 51.2-67.0%) but then declined to 40.5% (95% CI: 30.8-48.8%) in the second month and thereafter.
- **VE against symptomatic BA.2 infection was similar to that against BA.1 infection.** In the first three months after the second dose, Pfizer VE was 51.7% (95% CI: 43.2-58.9%), with a steady decline thereafter. In the first month after the booster dose, effectiveness was 43.7% (95% CI: 36.5%-50.0%). **Effectiveness against severe disease and death was 70.4% (95% CI: 45%-84%) up to 6 months after the second dose and 90.9% (95% CI: 78.6%-96.1%) after the booster.**
- Similar patterns of protection were seen for the Moderna vaccine.





Differentiating Hospitalizations *for* vs. *with* COVID-19

Updated 3/25/22

Distinguishing Admissions Specifically for COVID-19 from Incidental SARS-CoV-2 Admissions: A National EHR Research Consortium Study:
February 15, 2022, **Preprint Journal Article**

Summary:

- A retrospective cohort study of 1,123 SARS-CoV-2 PCR positive patients hospitalized at four US healthcare systems between 3/2020-8/2021. A **chart review** of all patients was manually conducted to classify those admitted-with-COVID (incidental) vs. those admitted for COVID-19.
- An **algorithm** was developed to find patterns in EHR (electronic health records) data and **select the best phenotypes for differentiating incidental admissions**. EHR-based phenotyping can identify patient populations of interest based on proxies from EHR observations. Phenotyping filter uses data on charting patterns rather than only lab results to classify patients

Key Findings:

- Across the four sites, chart review determined that **68% of patients were admitted for COVID-19, 26% of patients were admitted with incidental SARS-CoV-2, and 6% were uncertain.** A lower proportion of hospitalizations specifically for COVID-19 were observed in the summer months when disease prevalence was lower.
- **The EHR phenotyping filter applied across all sites had 71-94% specificity (ability to remove incidental cases) and 69-81% sensitivity (ability to select for COVID admissions).**

Limitations:

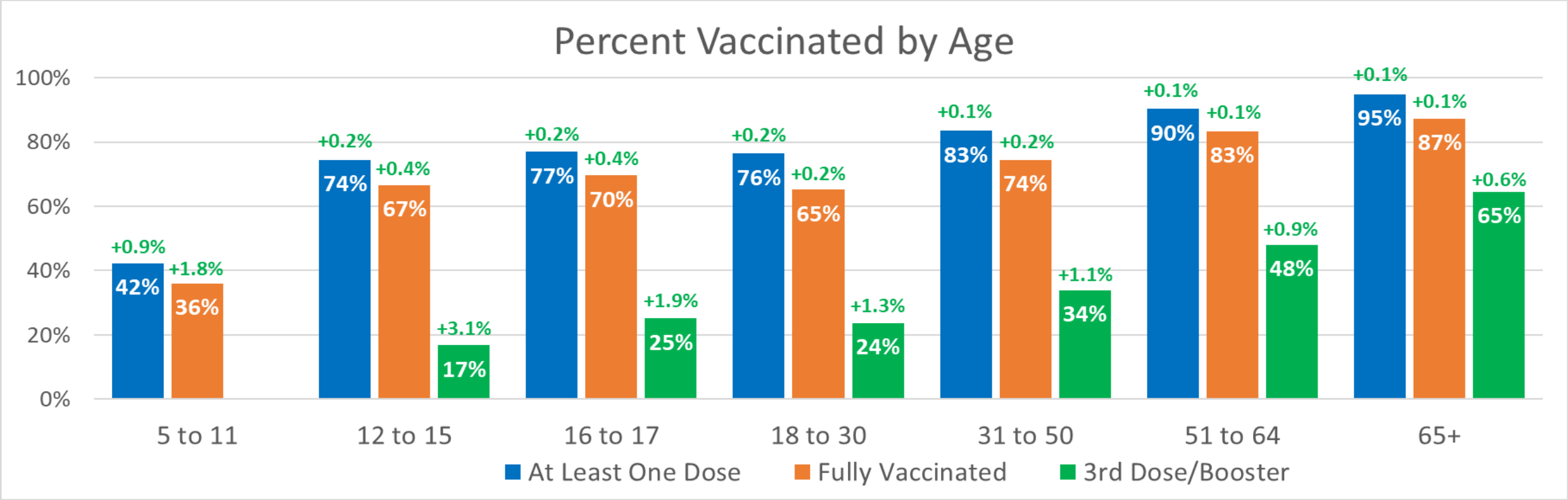
- Development of the phenotypes still required some manual work.
- Process did not create a phenotype applicable to all sites; results were manually aggregated across sites.
- EHR data doesn't directly represent the state of the patient; some observations are not recorded, and some entries are made for non-clinical reasons.

Chart-Review Criteria and Proportion of Patients Admitted Under Each Criteria

Chart Review Classification	Chart Review Criteria		Overall Percentage
Admitted Specifically for COVID-19 Symptoms on admission were attributable to COVID-19; patients were admitted for COVID-19-related care.	• Respiratory insufficiency • Blood clot to vital organs • Hemodynamic changes	• Other common viral symptoms such as cough, fever, etc. • Admitted for non-COVID-19 issue, but developed one of the above criteria while hospitalized	68%
Admitted Incidentally with COVID-19 Admission history unlikely related to COVID-19; patient not specifically admitted for COVID-19-related care	• Trauma • Procedure or operation requiring hospitalization • Term labor	• Alternative causes including drug overdose, cancer progression, non-respiratory severe infection, etc.	26%
Uncertain Symptoms on admission may have been related to COVID-19; considered COVID-19 exacerbation during hospitalization.	• Preterm labor • Liver dysfunction • Graft failure	• Immune system dysfunction • Alternative causes including sickle cell crisis, failure to thrive, altered mental status	6%

Virginia: Vaccination by Age Groups

Updated 3/28/22



Virginia Vaccination by Age

- ✓ **72.7%** **(+0.5%)** of the Total Population is Fully Vaccinated
- ✓ **39.7%** **(-0.5%)** of the Total Population is "Up-to-Date" with their Vaccinations
- ✓ **56.2%** **(+0.1%)** of the Eligible Population and **33.8%** **(+1.7%)** of Total Population Vaccinated with 3rd Dose/Booster
- ✓ **92.2%** **(+0.2%)** of the Adult (18+) Population and **57.8%** **(+0.8%)** of 5 to 17 year olds Vaccinated with at Least One Dose
- Green percent represents percent increase from two weeks prior

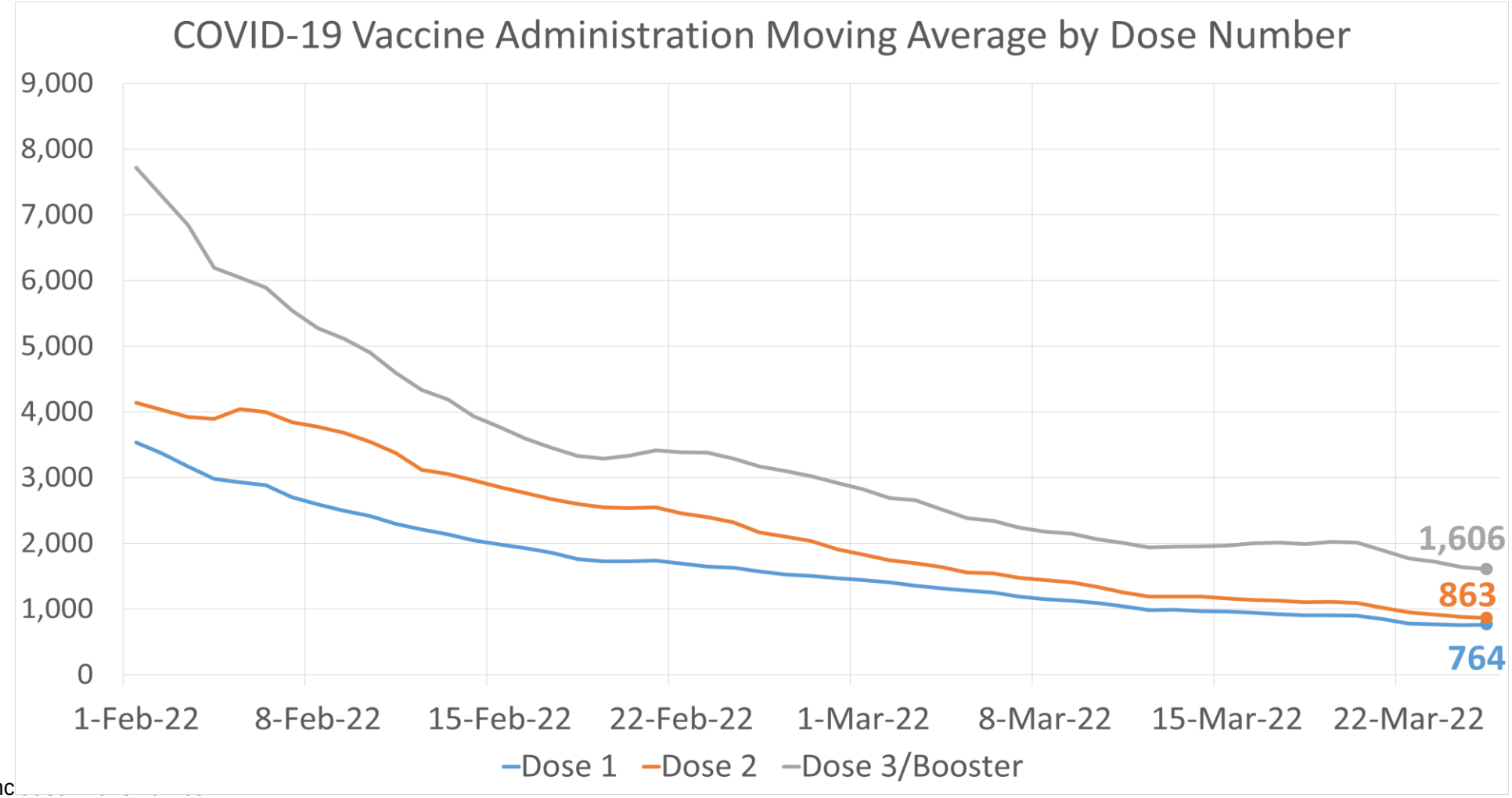
Source: COVID-19 in Virginia: Vaccine Summary, Keep Virginia Safe Tournament | Metaculus

Virginia: Vaccine Demand by Dose Number

Updated 3/28/22

First Dose, Second Dose, and Booster Administrations Have Decreased

- Over the past 4 weeks, Total Dose Administrations have decreased by nearly 50%
- Vaccinations across each dose number continues to decline after an increase in vaccination last week in 3rd dose / Booster shots

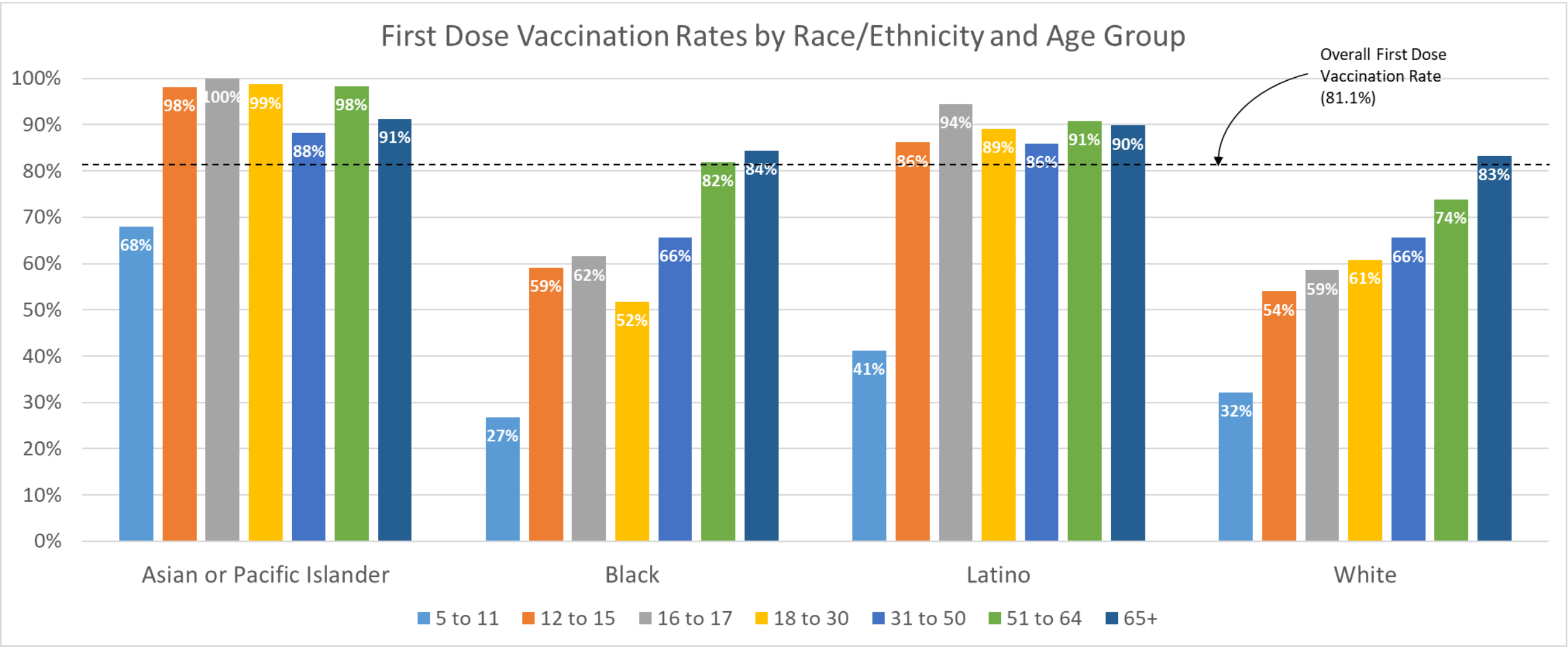


Federal doses not inc

Source: COVID-19 Vaccine Summary – Coronavirus (virginia.gov)

Virginia: Vaccination by Race/Ethnicity and Age

Updated 3/28/22

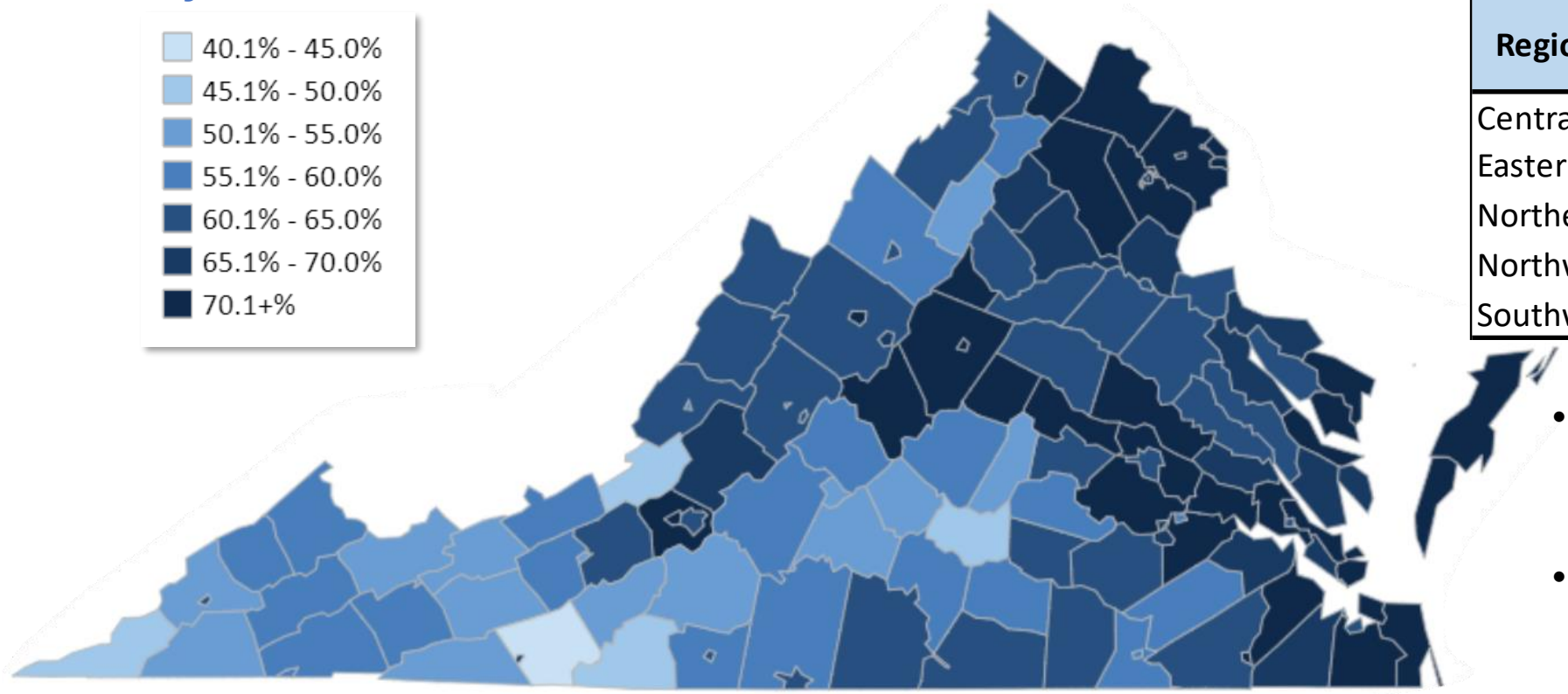


Source: [COVID-19 Vaccine Summary – Coronavirus (virginia.gov)]

Virginia: Vaccination across the Commonwealth by Geography

Updated 3/28/22

Percent of the Total Population with at Least One Dose by Locality



First Dose Vaccination Rate by Region for Total Population

Region Name	1st Dose Vaccination	Up-to-Date
Central	69.4%	38.0%
Eastern	73.7%	33.8%
Northern	84.0%	46.6%
Northwest	66.4%	36.0%
Southwest	58.1%	30.1%

2013 SRHP Isserman Classification	5 to 11	12 to 17	16 to 17	18 to 30	31 to 50	51 to 64	65+	Grand Total
Mixed Urban	46%	74%	78%	75%	74%	85%	93%	77%
Urban	43%	77%	82%	69%	79%	87%	91%	77%
Mixed Rural	29%	54%	60%	60%	65%	75%	85%	66%
Rural	20%	45%	51%	53%	58%	72%	82%	62%
Grand Total	**38%**	**68%**	**73%**	**66%**	**73%**	**82%**	**88%**	**73%**

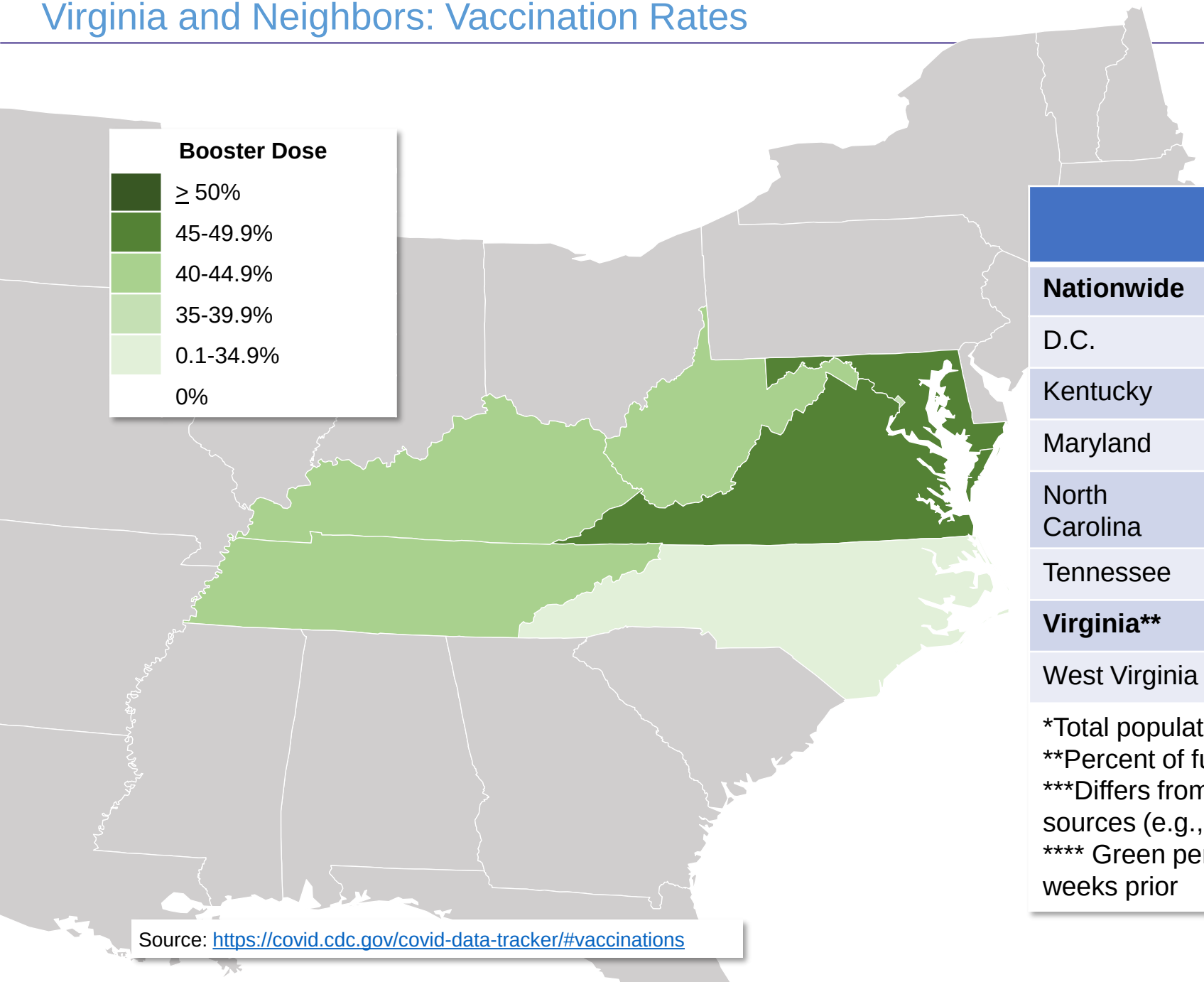
- 5 out of 133 Localities have a first dose vaccination rate below 50%
- 39 out of 133 Localities have a first dose vaccination rate above 70%
- There is a disparity across Urban and Rural areas by Age Groups, with Rural Adolescents the Lowest Vaccinated group

Federal doses not included in this number

Source: [COVID-19 Vaccine Summary – Coronavirus (virginia.gov)]

Virginia and Neighbors: Vaccination Rates

Updated 3/28/22



	At Least One Dose*	Fully Vaccinated*	Booster Dose**
Nationwide	**76.9% (+0.3%)**	**65.5% (+0.3%)**	**44.7% (+0.9%)**
D.C.	95.0% (+0.0%)	72.8% (+1.1%)	36.2% (+2.3%)
Kentucky	65.7% (+0.3%)	57.0% (+0.5%)	43.5% (+0.7%)
Maryland	85.6% (+0.5%)	74.7% (+0.4%)	49.8% (+1.0%)
North Carolina	83.0% (+0.4%)	59.8% (+0.3%)	25.9% (+1.2%)
Tennessee	61.7% (+0.3%)	54.0% (+0.4%)	43.0% (+0.7%)
Virginia**	**85.0% (+0.4%)**	**72.5% (+0.3%)**	**46.5% (+0.9%)**
West Virginia	64.5% (+0.2%)	57.1% (+0.2%)	44.9% (+0.7%)

*Total population, includes out-of-state vaccinations
**Percent of fully vaccinated people with a booster dose
***Differs from previous slide because all vaccination sources (e.g., federal) are included
**** Green percent represents percent increase from three weeks prior

Source: https://covid.cdc.gov/covid-data-tracker/#vaccinations