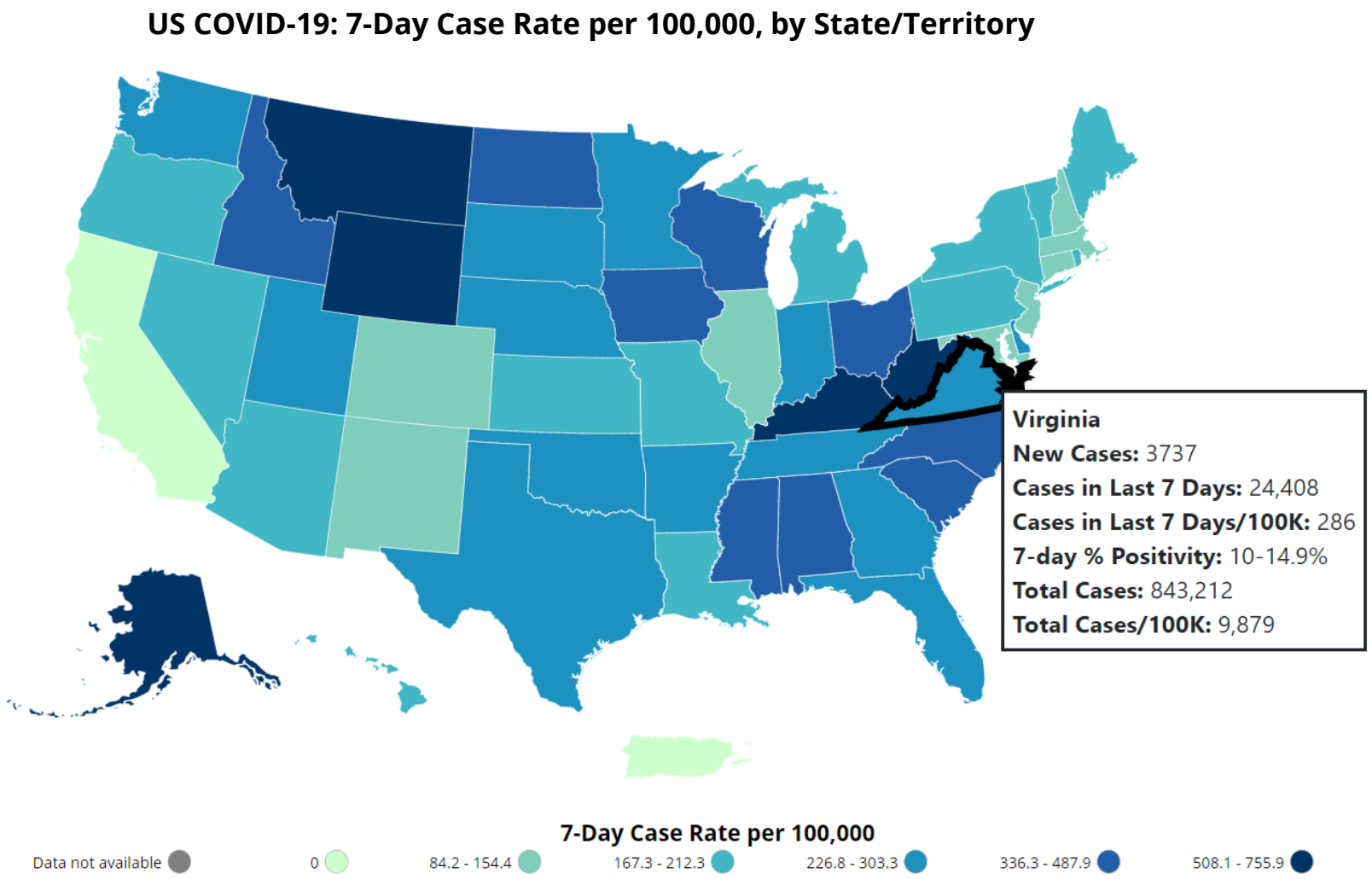
Virginia COVID-19 Surveillance Data Update

September 23, 2021

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

National: Weekly COVID-19 Case Rate

Updated 09/23



	Cases in the Last 7 Days Per 100k Population
Virginia	286 (-3.9%)
U.S.	269.2 (-12.4%)
Alaska	800 (+15.3%)
West Virginia	702.7 (-2.2%)
Wyoming	620.1 (-9.6%)

Our Neighbors

Rates Higher than Virginia

West Virginia, **702.7** (-2.2%)
Kentucky, **610.8** (+21.5%)
North Carolina, **405.7** (+4.2%)
Tennessee, **287.7** (-60.8%)

Rates Lower than Virginia:

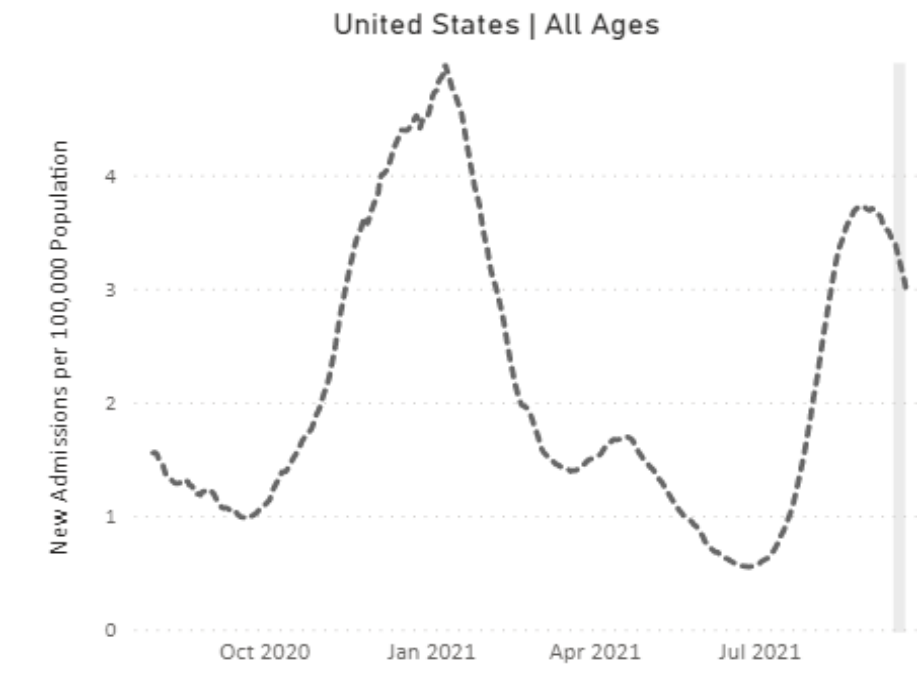
District of Columbia, **209.9** (+9.7%)
Maryland, **139.4** (+.6%)

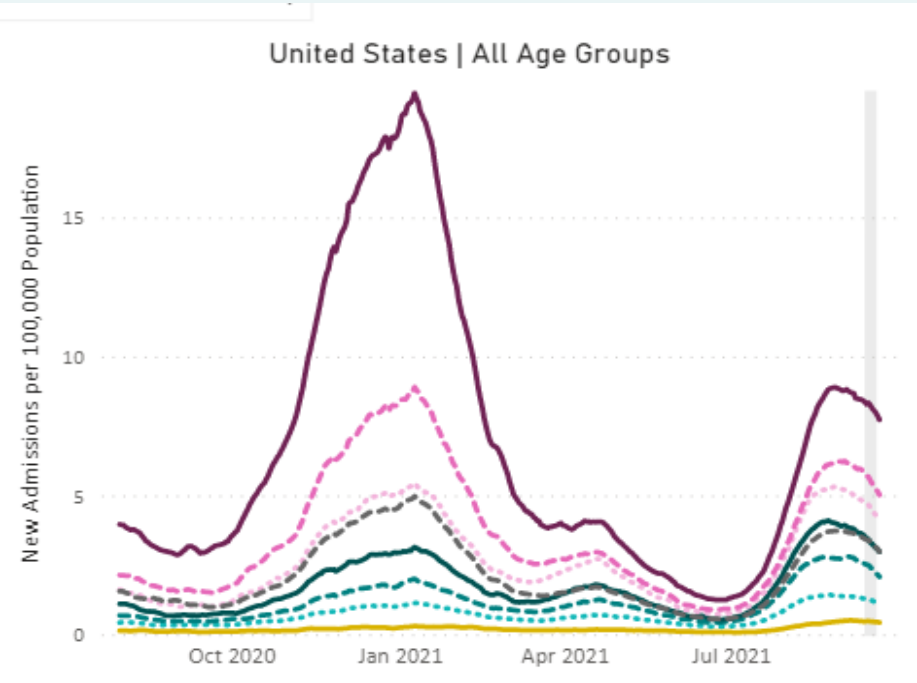
Source: CDC COVID Data Tracker Please note rate change comparisons are from the previous week's data.

National: COVID-19 Hospital Admission Rate by Age

Updated 09/23

New Admissions of Patients with Confirmed COVID-19 per 100k Population by Age Group





Age Group — 0 - 17 Years ····· 18 - 29 Years - - - 30 - 39 Years — 40 - 49 Years ····· 50 - 59 Years - - - 60 - 69 Years — 70+ Years - - - All Ages

2,979,210
Total Admissions

9882
Current 7-day Average of New Admissions

-12.5%
% Change in 7-day Average

Source: CDC COVID Data Tracker

Virginia: Weekly Case Rate

Updated 09/20

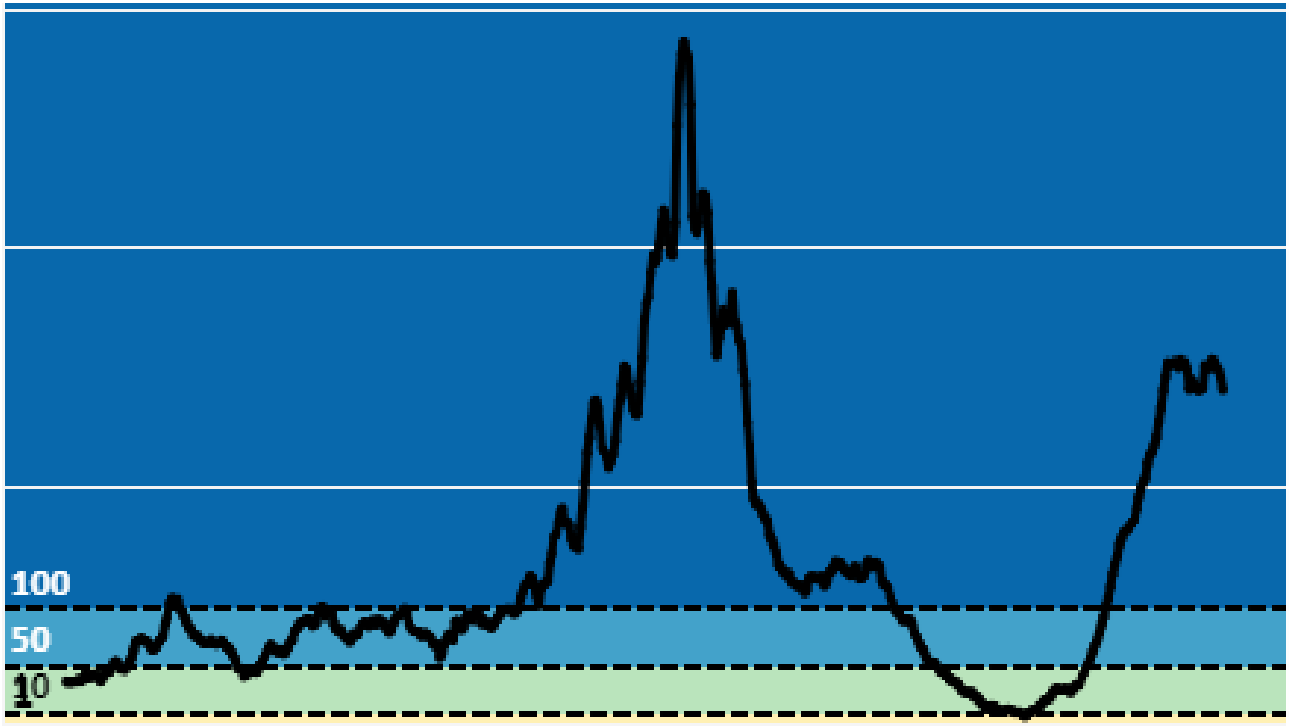
CASES

BURDEN

Total number of new cases per 100,000 persons within the last 7 days*

281.3

TIME SERIES

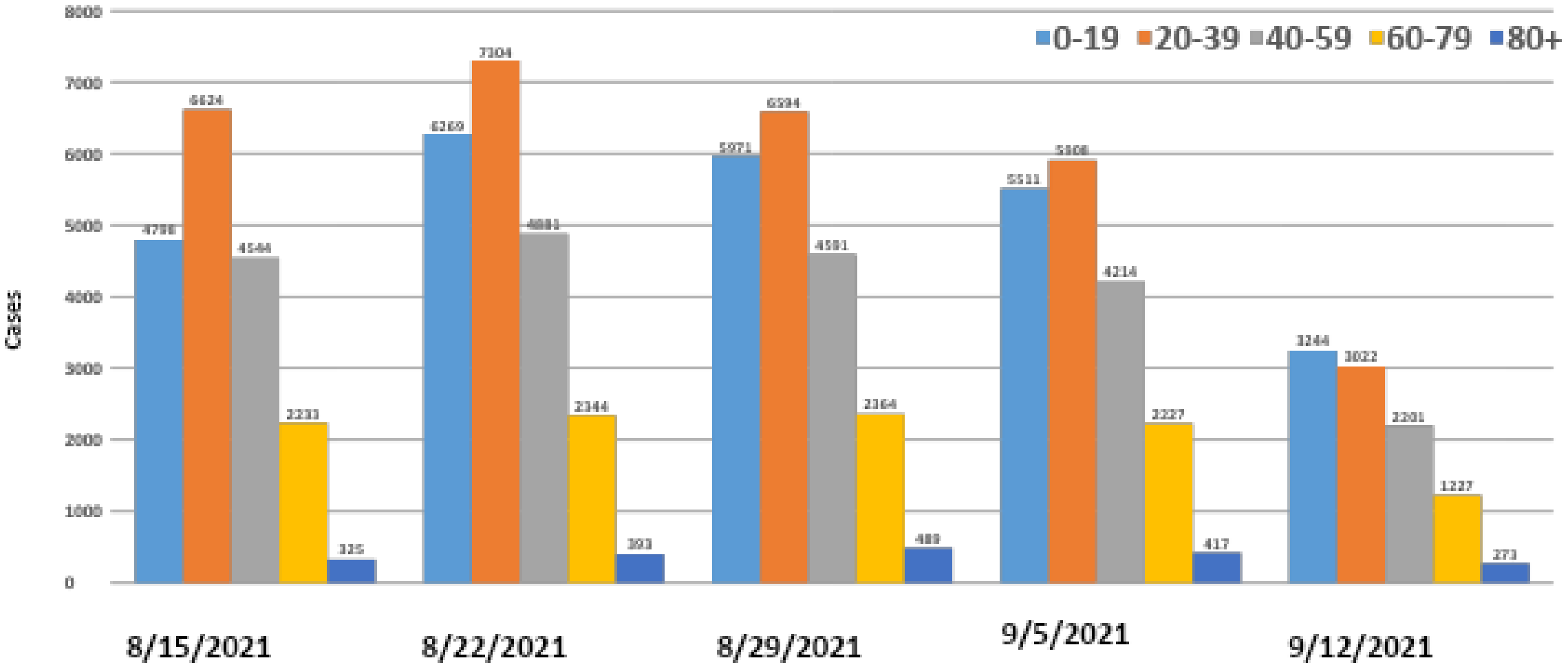


TREND

Cases have been decreasing for **12 days**. This does not exceed the threshold of 14 days, so cases are considered to be **fluctuating**.

Virginia: Number of Cases by Age Group for Weeks August 15 – September 12

Updated 09/20



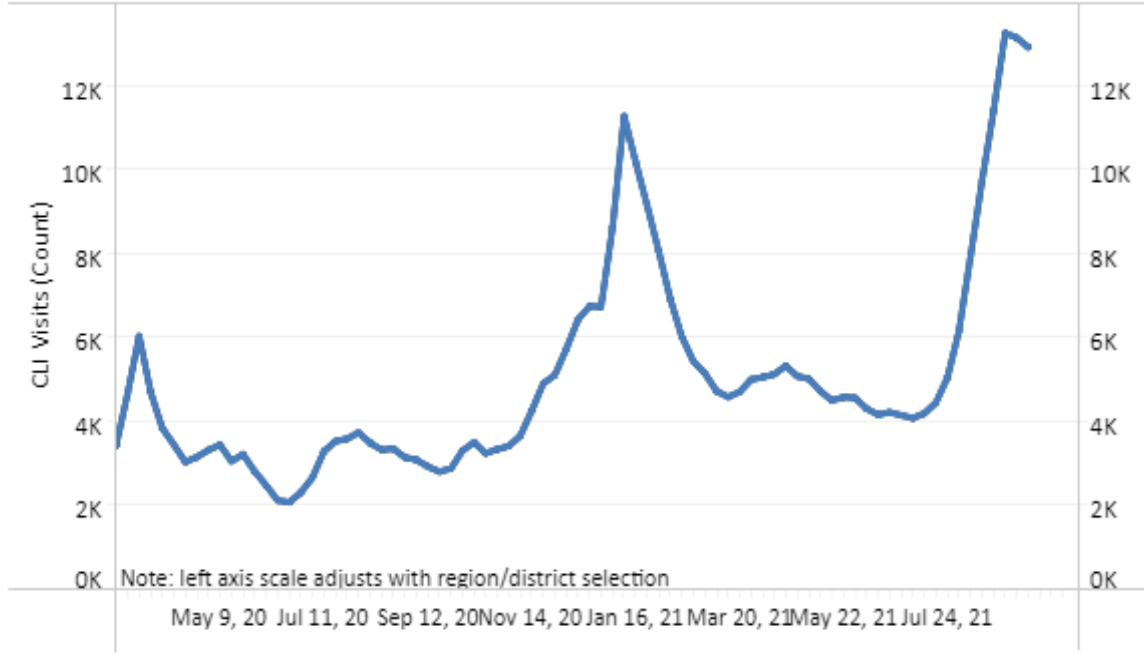
*Provisional data - excludes cases in which age group not yet assigned.

Source: [Weekly Health District Case Data – Coronavirus (virginia.gov)]

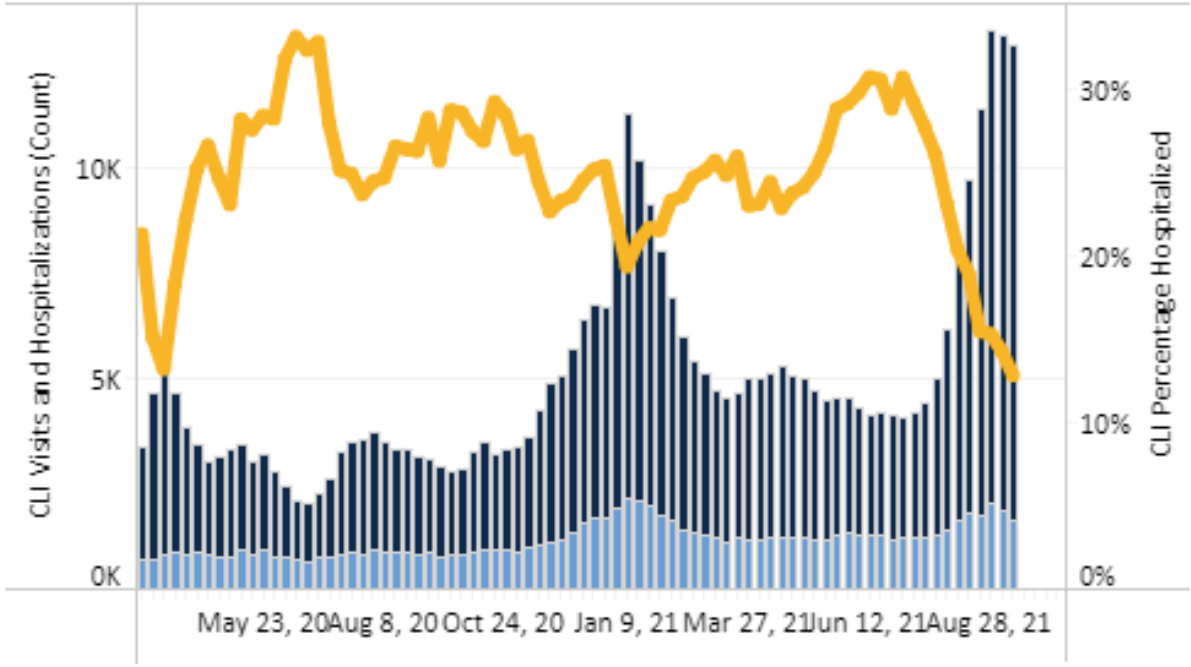
Virginia: ED Visits for COVID-Like Illness (CLI)

Updated 09/21

Weekly CLI Visits (Counts) - Virginia



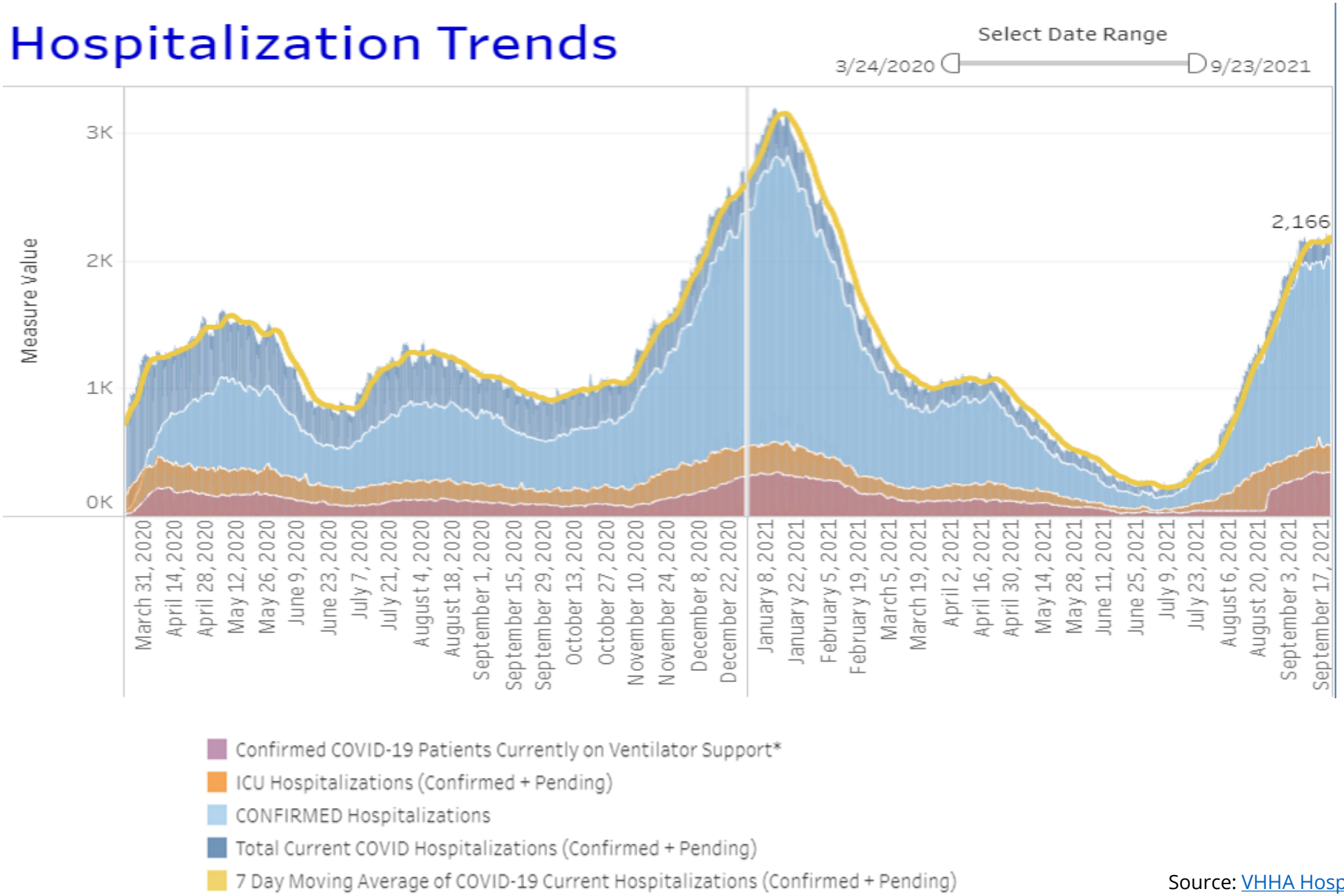
Weekly CLI Visits and Percentage Hospitalized - Virginia



Source: VDH ESSENCE data as of 9/11/2021

Virginia: COVID-19 Hospitalizations

Updated 09/23



2,166
Current 7-day Average Current Hospitalizations

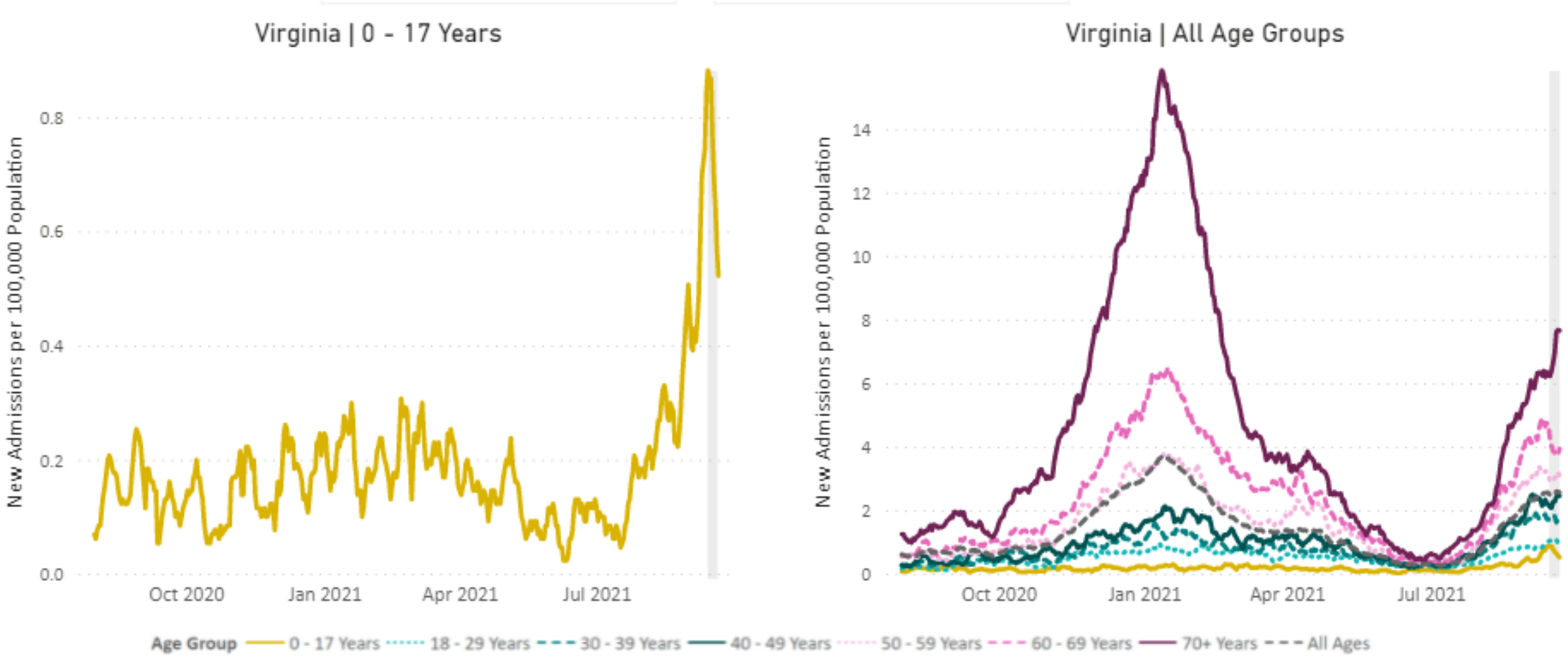
+1.1%
% Change in 7-day Average

-31.2%
% Change from peak 7-day Average (Jan 2021)

Source: [VHHA Hospitalizations – Coronavirus (virginia.gov)]

Virginia: COVID-19 Hospital Admission Rate

Updated 09/23



Source: CDC COVID Data Tracker

Virginia: Regional Metric Summary

Updated 09/22

Metrics date: 9/22/2021

	Central	Eastern	Far Southwest	Near Southwest	Northern	Northwest
New cases per 100k within the last 7 days	281.3 ↓	286.8 ↓	583.9 ↓	450.1 ↑	131.4 ↓	381.9 ↓
% Positivity 7-day moving average	9.2% ↓	14.3% ↓	15% ↓	12.3% ↓	4.8% ↑	11.7% ○
COVID-like ED visits rate per 100k	29.9 ↑	23.7 ↑	29.8 ↑	30.0 ↑	8.9 ↑	20.3 ↑

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

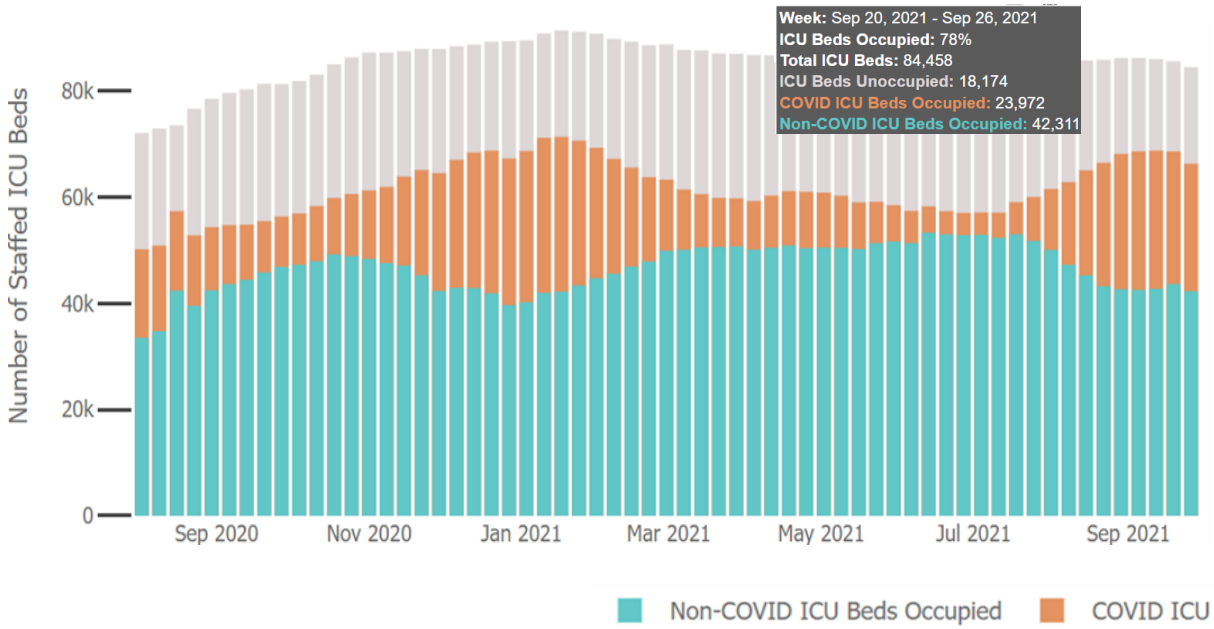
Symbol	Trend
↑	Increasing
↓	Decreasing
○	Fluctuating

Source: Region Metrics – Coronavirus
Data represents a 7-day moving average, trends compared to 1 week ago

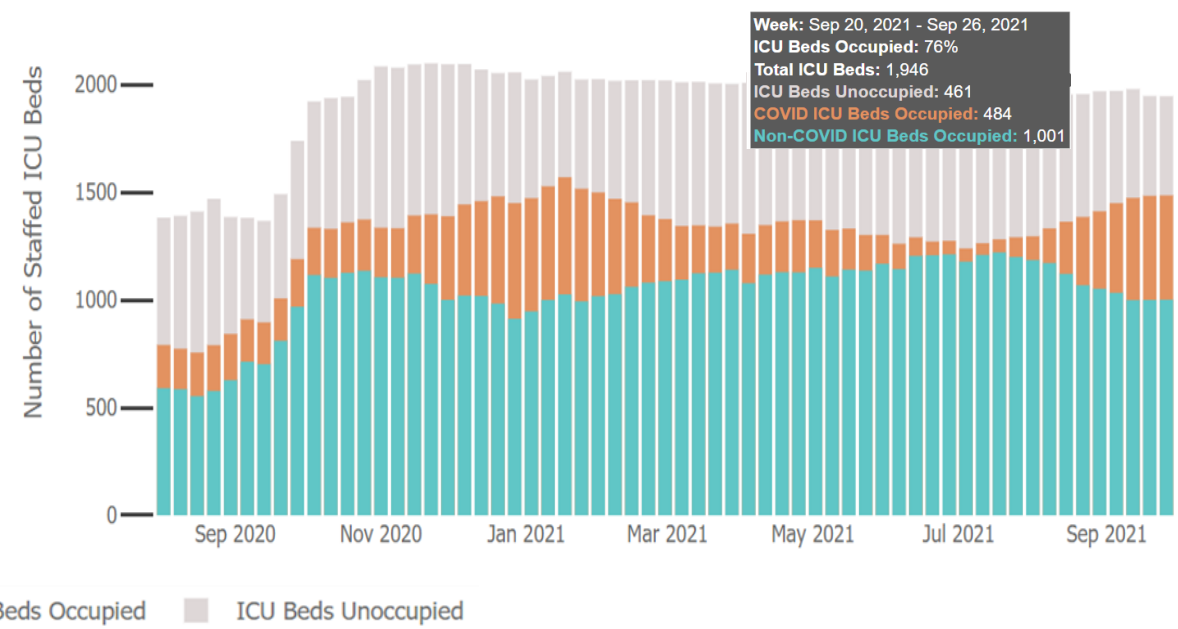
ICU Beds Occupied by COVID Patients

Updated: 09/22/2021

United States



Virginia



Non-COVID ICU Beds Occupied COVID ICU Beds Occupied ICU Beds Unoccupied

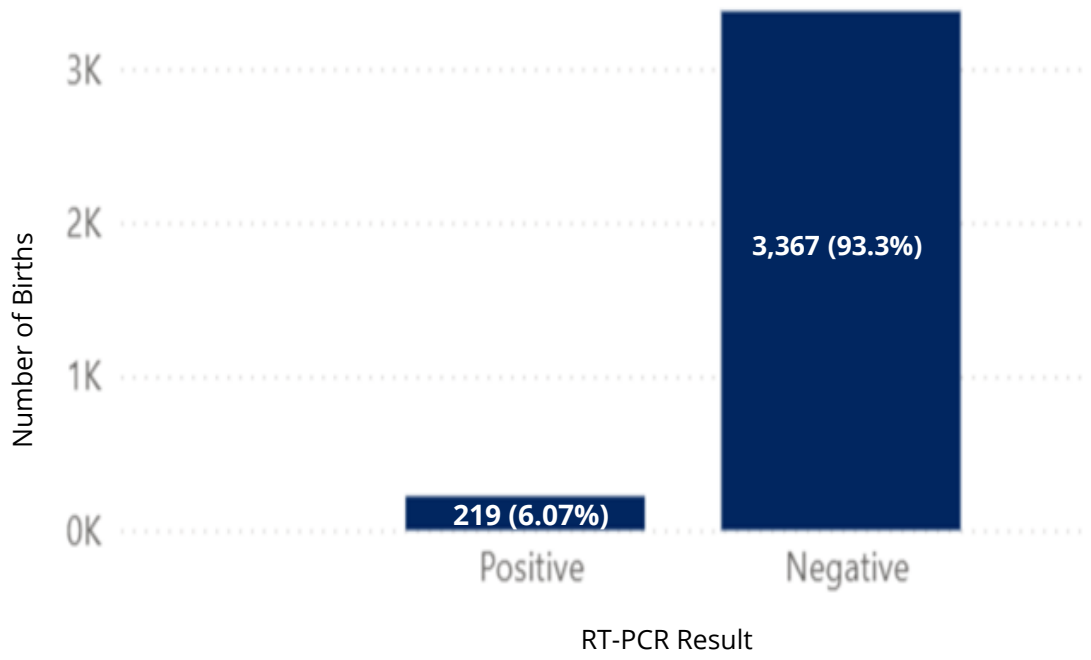
	United States	Virginia
Total Inpatient Beds	724,609	17,491
Percent Occupied with COVID Patients	89,334 (12.3%)	2,101 (12%)
Total ICU Beds	84,458	1,946
Percent Occupied with COVID Patients	23,972 (28.3%)	484 (24.8%)

Source: Weekly Hospitalization Trends - Johns Hopkins Coronavirus Resource Center (jhu.edu)

Data on COVID-19 during Pregnancy: Birth and Infant Outcomes

Updated: 09/14

Laboratory Testing Results for SARS-CoV-2 among Infants Born to Women with COVID-19

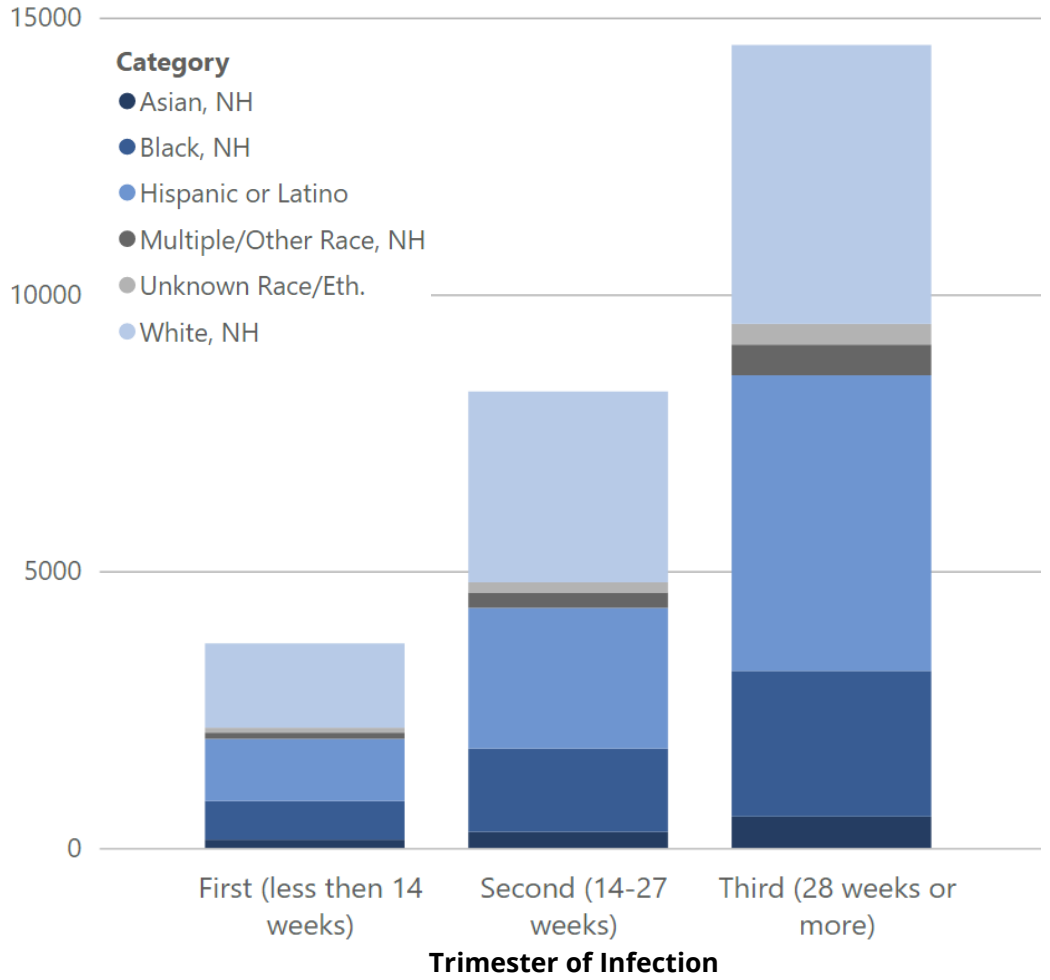


Laboratory Testing Information was available for 3,607 (13.1%)* infants.

*All positive SARS-CoV-2 results are reported, but negative results may not be reported or monitored in all jurisdictions.

Pregnant Women with COVID-19 by Trimester of Infection

54.9% of births (14,083 out of 25,649) were infected during the third trimester of pregnancy.



Information on timing of infection was available for 26,447 (97.0%) women

Source: CDC COVID Data Tracker

Recent Studies on Pregnancy & COVID-19

Updated 09/20

The Differences in Clinical Presentation, Management, and Prognosis of Laboratory-Confirmed COVID-19 between Pregnant and Non-Pregnant Women

- Pregnant women are more likely to be asymptomatic
- Compared with non-pregnant women, pregnant women have a higher likelihood for ICU admission and to require invasive ventilation

Endogenous control of inflammation characterizes pregnant women with asymptomatic or paucisymptomatic SARS-CoV-2 infection

- Pregnant women diagnosed with COVID-19 infections are often asymptomatic or paucisymptomatic (having mild to no symptoms)
- COVID-19 is known for eliciting a “cytokine storm” in the body which leads to the inflammatory response seen with the disease, which can cause extensive tissue damage, organ failure, and even death
- Pregnant women’s bodies are less capable of controlling inflammation due the increased production of anti-inflammatory molecules protecting the fetus from an immune attack

Preliminary Findings of mRNA Covid-19 Vaccine Safety in Pregnant Persons: June 17, 2021

- In pregnant women who received an mRNA vaccine the most frequently reported side effect was injection site pain which was high compared to non-pregnant women; however, headache, myalgia, chills, and fever were reported less frequently
- Adverse neonatal outcomes were similar to incidents reported in pregnant women prior to COVID-19. 13.9% pregnancy losses, 86.1% live births, 3.2% neonate small for gestational age, 9.4% preterm births, and potential for spontaneous abortion
- Overall, these results are only preliminary and further longitudinal studies will need to be conducted for better results

Recent Studies on Vaccines and Boosters

Updated 09/22

Comparative Effectiveness of Moderna, Pfizer-BioNTech, and Janssen (Johnson & Johnson) Vaccines in Preventing COVID-19 Hospitalizations Among Adults Without Immunocompromising Conditions

- Vaccine effectiveness was highest for the Moderna vaccine (93%) compared to Pfizer mRNA vaccine (88%) against hospitalization due to COVID-19 infection
- Both mRNA vaccines had higher efficacy than the Johnson and Johnson vaccine (71%) against hospitalization due to a COVID-19 infection
- In antibody analysis, individuals with the Moderna vaccine had the greatest level of antigen protection and were at lower risk of COVID-19 infection

COVID vaccine immunity is waning — how much does that matter?

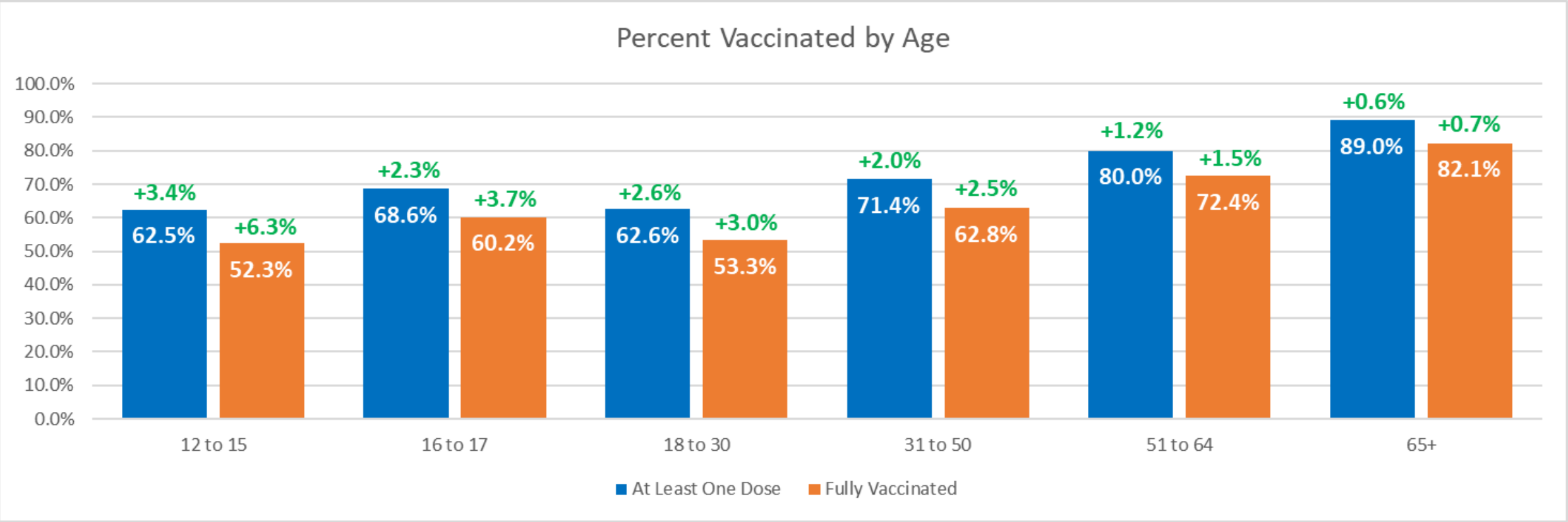
- COVID-19 vaccine efficacy wanes, neutralizing antibodies increase after vaccination but taper off over time
- In addition to an antibody response, vaccination also elicits a cellular immune response, which is longer lasting, that increases the cells' ability to deploy natural antibodies in the event of exposure and allows for the immune system to jump into action to fight against COVID-19 infection
- However, the longer duration since vaccination or infection one is the level of immune protection decreases so a booster shot maybe needed to safeguard from COVID-19 infection

COVID-vaccine booster shot shows promise in Israeli study

- Israel started administering booster shots to individuals ages 60 and older have found that those who received a booster dose compared to those who have only received 2 doses are:
  - 19.5 times less likely to have severe COVID-19
  - 11.5-fold reduction in COVID-19 infection

Virginia: Vaccination by Age Groups

Updated 09/22



Virginia Vaccination by Age

- **78.5%** **(+2.2%)** of the Adult (18+) Population Vaccinated with at Least One Dose
- **69.0%** **(+3.1%)** of the Eligible (12+) Population Fully Vaccinated
- **89.0%** **(+0.8%)** of Virginians 65+ and **64.5%** **(+3.9%)** of 12 to 17 year olds have received at least one dose
- **59.0%** **(+3.0%)** of the Total Population has been Fully Vaccinated
- **87,605** Third Doses Administered since August 14th

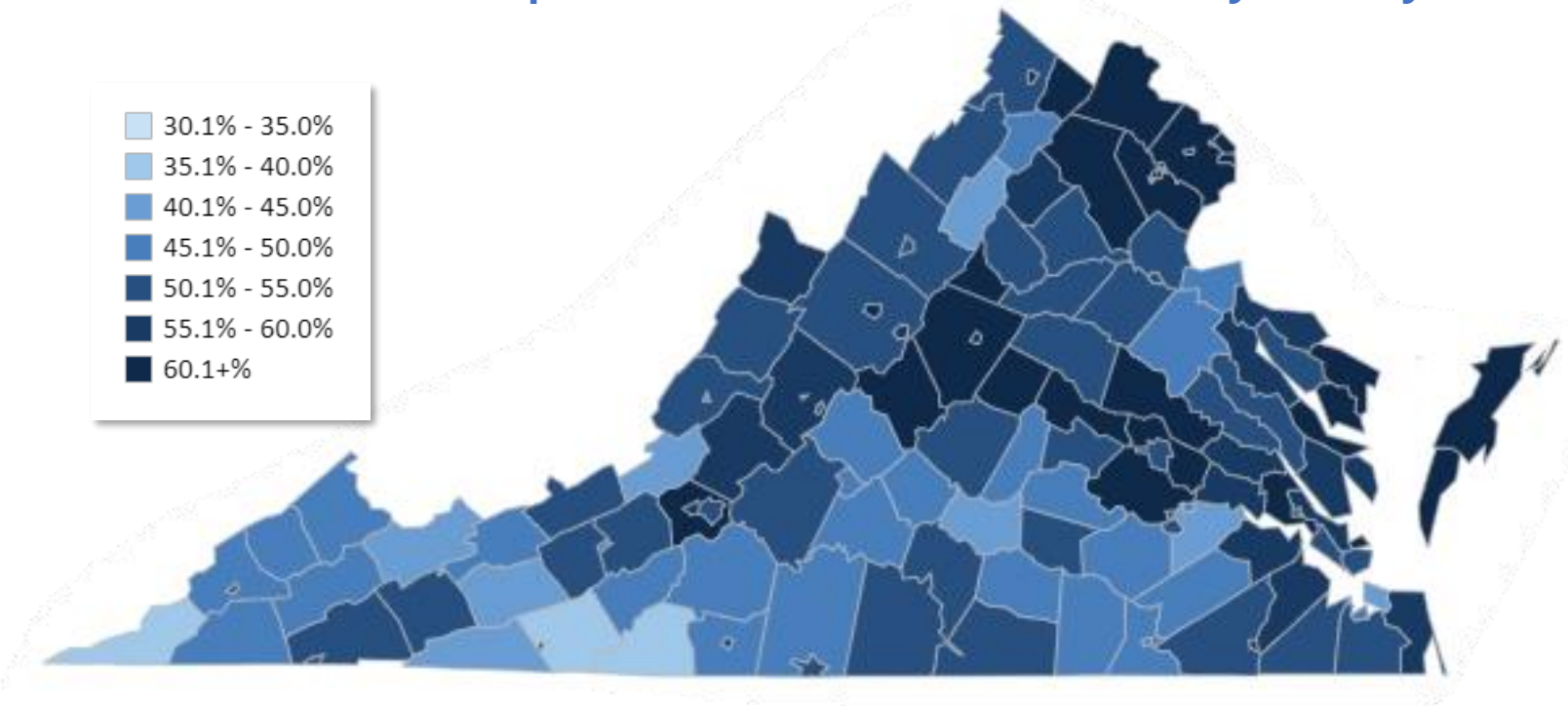
Green percent represents percent increase from two weeks prior

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

Virginia: Vaccination across the Commonwealth by Geography

Updated 09/22

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



2013 SRHP Isserman Classification	12 to 15	16 to 17	18 to 30	31 to 50	51 to 64	65+	Grand Total
Mixed Rural	45.1%	53.7%	50.0%	56.7%	68.4%	82.2%	**62.8%**
Mixed Urban	62.8%	71.5%	65.6%	66.5%	78.0%	89.9%	**72.8%**
Rural	36.6%	44.2%	43.9%	50.5%	64.7%	78.2%	**58.9%**
Urban	65.3%	74.0%	57.2%	68.5%	77.9%	86.2%	**70.6%**
Grand Total	**57.6%**	**66.0%**	**55.6%**	**64.0%**	**74.0%**	**84.3%**	**67.8%**

Federal doses not included in this number
Source: [COVID-19 Vaccine Summary – Coronavirus (virginia.gov)]

First Dose Vaccination Rate by Region for Total Population

Region Name	1st Dose Vaccination	% Change 2 Weeks
Central	57.7%	+1.7%
Eastern	54.0%	+2.3%
Northern	67.1%	+1%
Northwest	55.7%	+1.6%
Southwest	49.9%	+2%

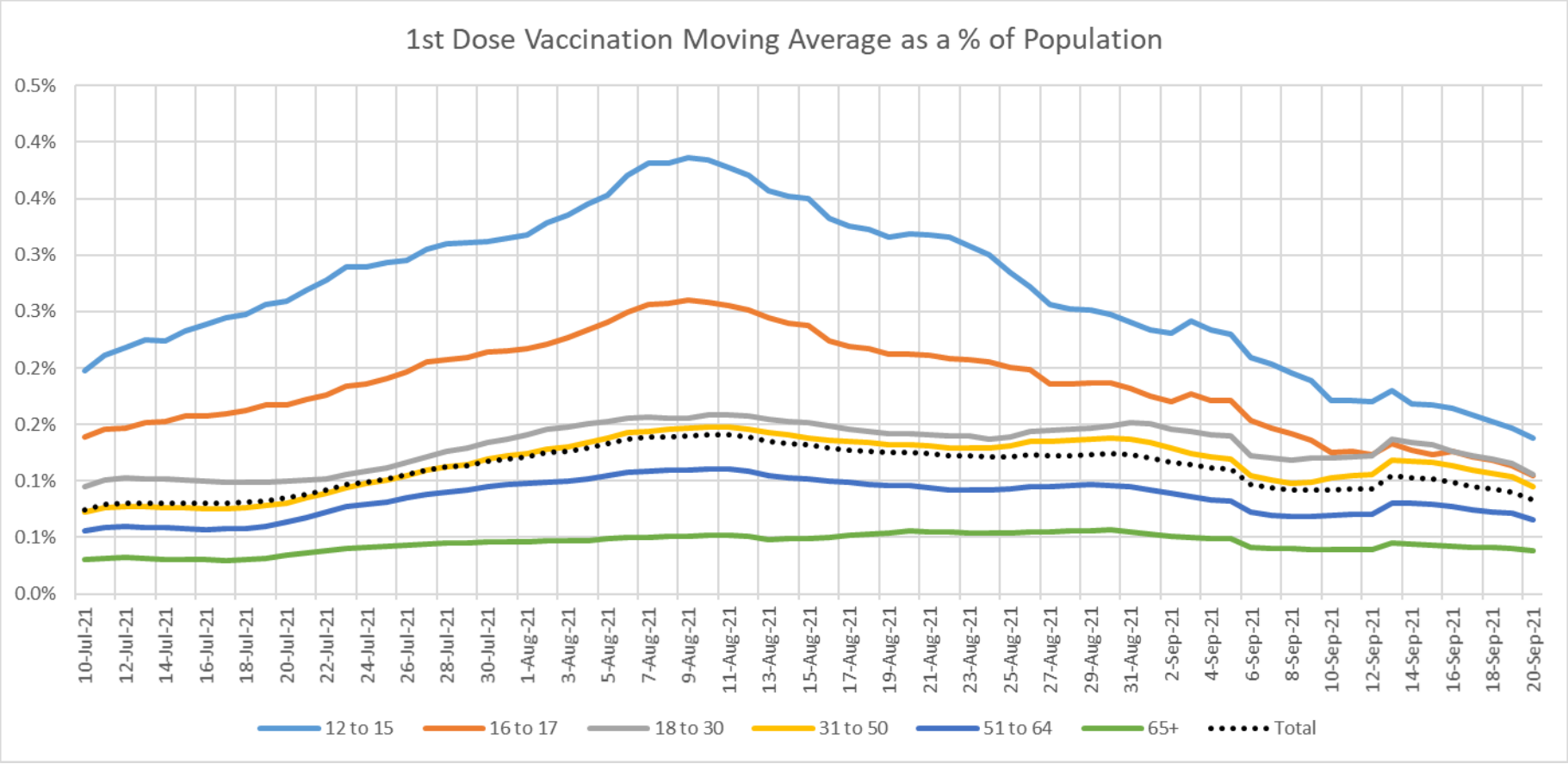
- Localities have a first dose vaccination rate below 40%
- 30 (+5 over 2 weeks) out of 133 Localities have a first dose vaccination rate above 60%
- There is a disparity across Urban and Rural areas by Age Groups, with Rural Adolescents the Lowest Vaccinated group

Virginia: Increased Vaccine Demand

Updated 09/22

Vaccinations per day have been declining since early August

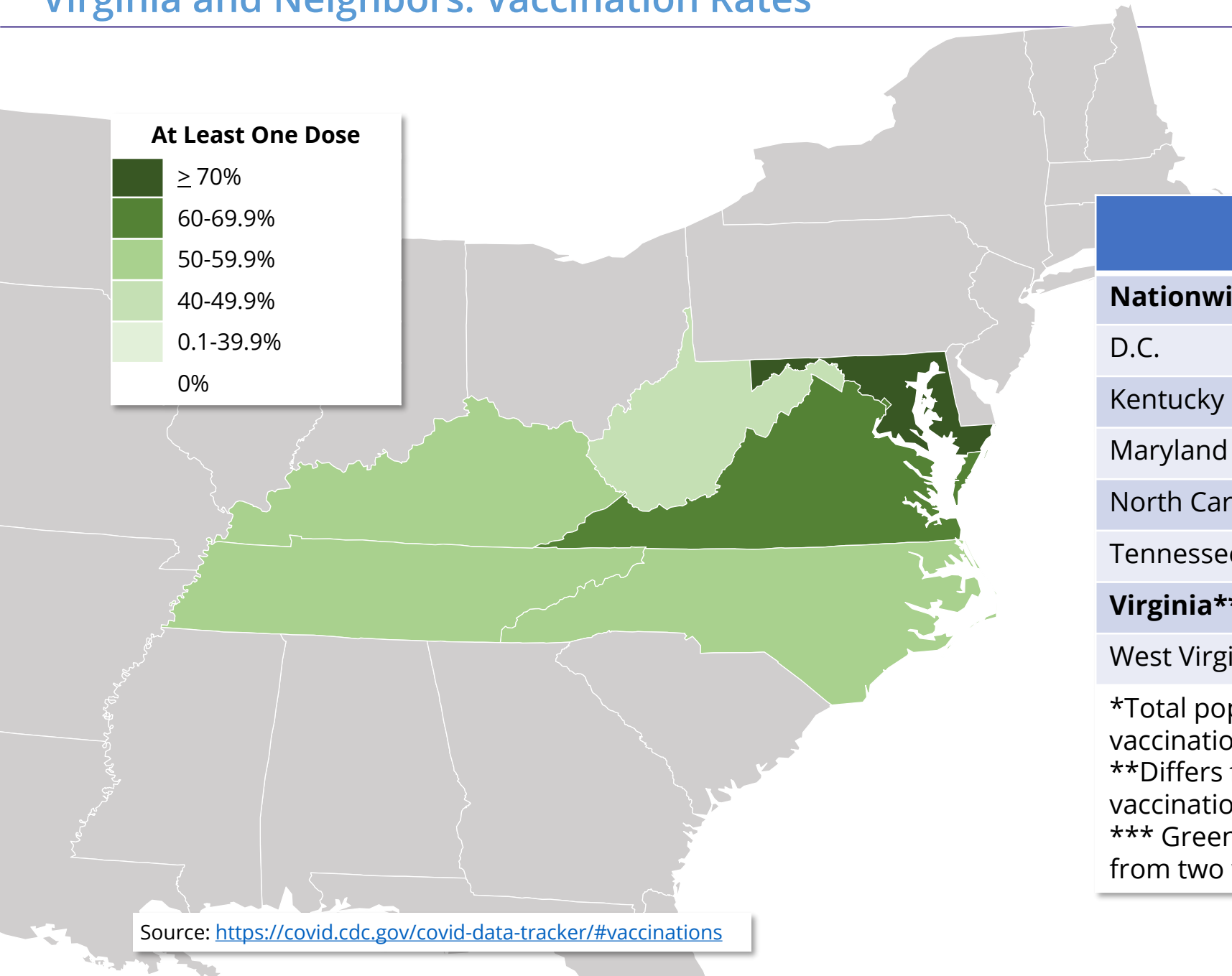
- First Doses rates are declining and are at the lowest levels since early July, although the pace of decline is slowing somewhat
- 12 to 15 and 16 to 17 are seeing the largest decreases in first dose vaccination rates



Federal doses not included in this number
Source: [COVID-19 Vaccine Summary – Coronavirus (virginia.gov)]

Virginia and Neighbors: Vaccination Rates

Updated 09/22



	At Least One Dose*	Fully Vaccinated*
Nationwide	**63.9% (+2.6%)**	**54.8% (+3.4%)**
D.C.	69.7% (+2.3%)	59.3% (+2.6%)
Kentucky	59.8% (+3.5%)	51.2% (+4.3%)
Maryland	70.0% (+2.0%)	63.4% (+2.4%)
North Carolina	58.5% (+3.7%)	48.8% (+4.1%)
Tennessee	52.1% (+3.8%)	44.5% (+5.0%)
Virginia**	**67.7% (+2.9%)**	**59.8% (+3.6%)**
West Virginia	47.9% (+1.3%)	40.2% (+1.0%)

*Total population, includes out-of-state vaccinations
**Differs from previous slide because all vaccination sources (e.g., federal) are included
*** Green percent represents percent increase from two weeks prior

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

Virginia: Projected Booster Eligibility by Week

Updated 09/22

Vaccine Demand could be much higher than current Capacity, but depends on uptake, meaning a wide range of potential outcomes

- Pfizer would see the first wave of demand if all of Phase 1 is considered eligible
- Moderna is projected to be approved for boosters around October 24th, and would see an even greater number eligible
- 5- to 11-year-olds could also be eligible at the end of October; Assume uptake is similar to 12- to 15-year-olds
- Assume on-going shots continue as the vaccine mandates take effect

Vaccination Eligibility	9/26	10/3	10/10	10/17	10/24	10/31	11/7	11/14	11/21	11/28
Pfizer Eligibility	701,558	113,077	140,377	181,641	183,810	179,929	157,358	144,519	8,081	4,852
Moderna Eligibility					1,061,877	131,091	78,466	77,761	78,526	5,970
5 to 11 at 66% uptake						477,226				
On-Going Shots	79,737	79,737	79,737	79,737	79,737	79,737	79,737	79,737	79,737	79,737
Total	781,295	192,814	220,114	261,378	1,325,424	867,983	315,561	302,017	166,344	90,559
Total at 90% uptake	711,139	181,506	206,076	243,214	1,200,855	836,881	291,979	279,789	157,683	89,477
Total at 75% uptake	605,906	164,545	185,020	215,968	1,014,002	790,228	256,605	246,447	144,692	87,854
Total at 50% uptake	430,516	136,276	149,926	170,558	702,581	712,473	197,649	190,877	123,041	85,148
Total at 25% uptake	255,127	108,006	114,831	125,147	391,159	634,718	138,693	135,307	101,389	82,443

Weekly Capacity	
Current Pharmacy and Medical Practice	Maximum Total Historic
270,430	**595,560**

Current Hospital Workers
445,376

Federal doses not included in this number
Source: COVID-19 Vaccine Summary – Coronavirus (virginia.gov)