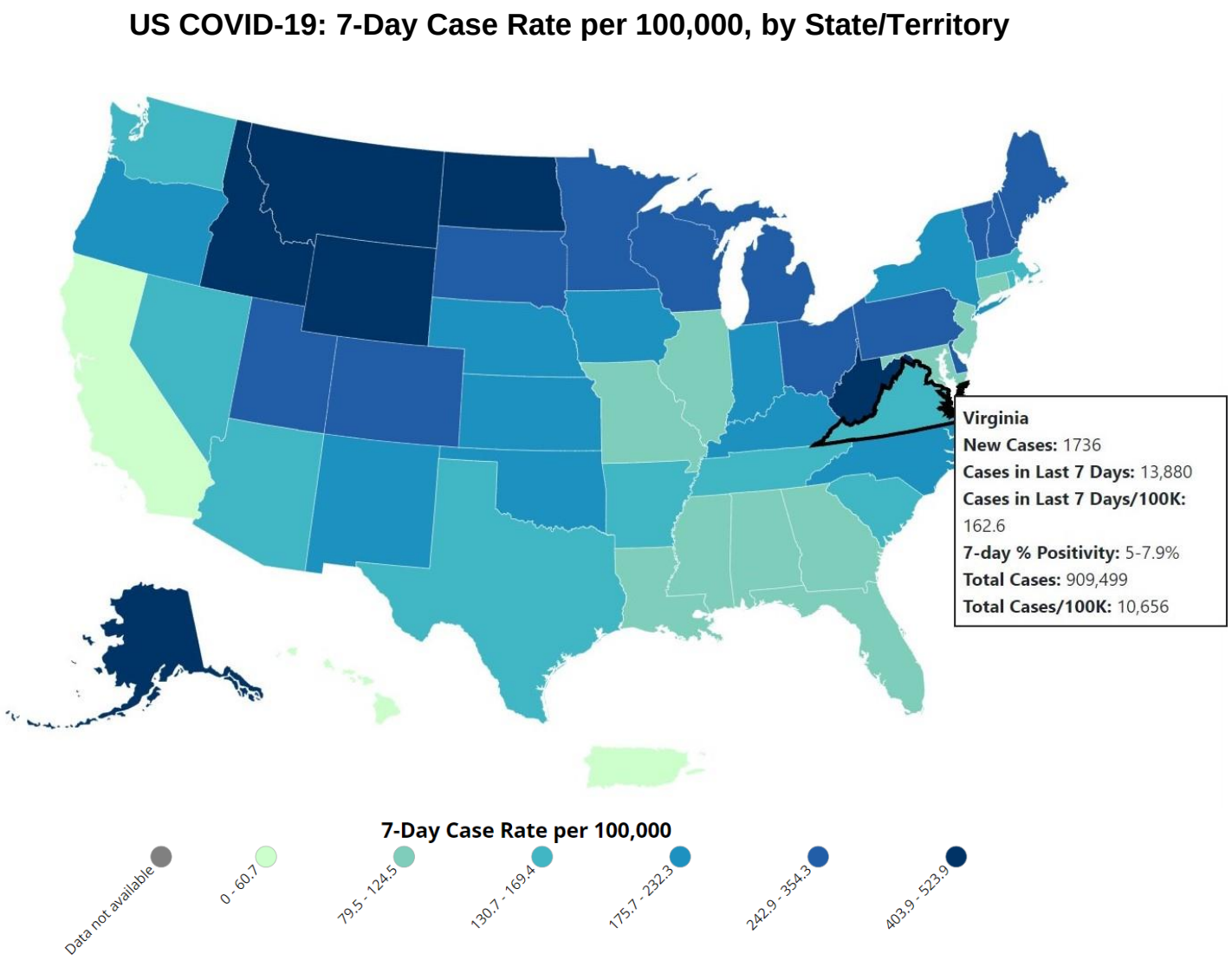
Virginia
COVID-19 Surveillance Data Update

October 21, 2021

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

National: Weekly COVID-19 Case Rate

Updated 10/20



	Cases in the Last 7 Days Per 100k Population
Virginia	162.6 (-18.9%)
U.S.	159.3 (-11.3%)
Montana	523.9 (-9.0%)
Wyoming	523.2 (-4.1%)
Idaho	493.9 (+10.7%)

Our Neighbors

Rates Higher than Virginia

West Virginia, **403.9** (-13.3%)
Kentucky, **224.9** (-30.8%)
North Carolina, **183.7** (-18.5%)

Rates Lower than Virginia:

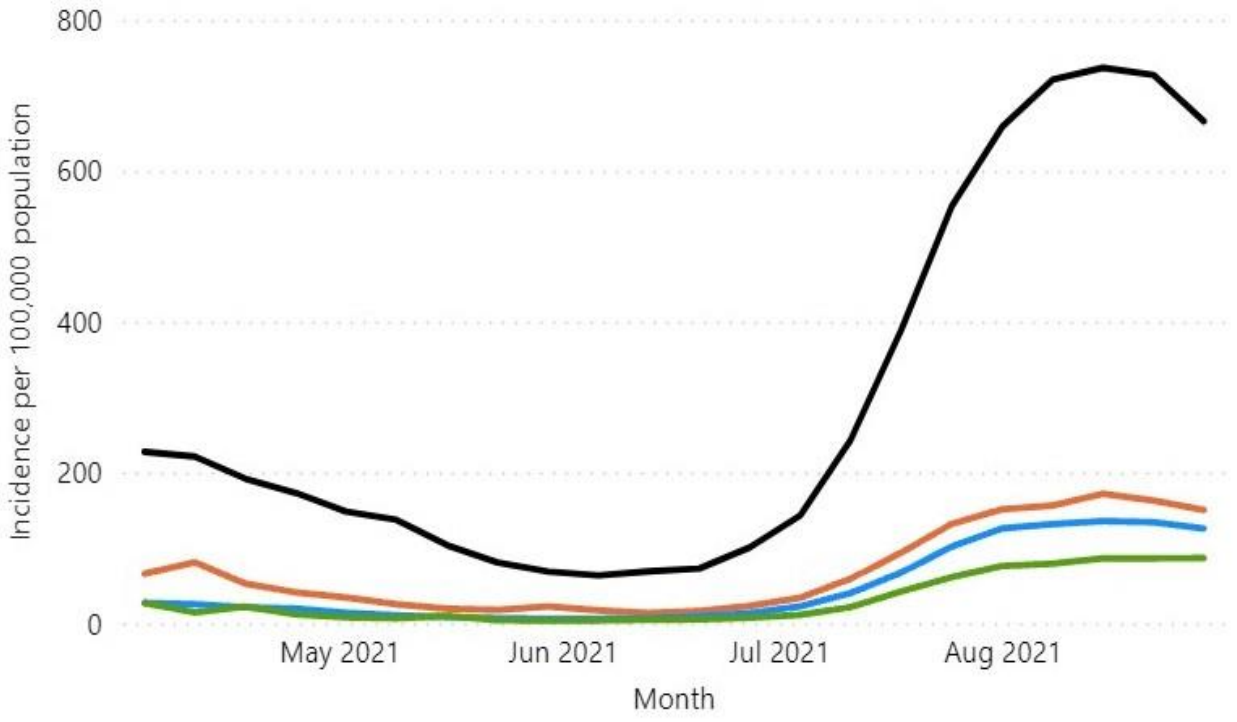
Tennessee, **130.8** (-43.6%)
Maryland, **105.3** (-14.7%)
District of Columbia, **100.9** (+49.9%)

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

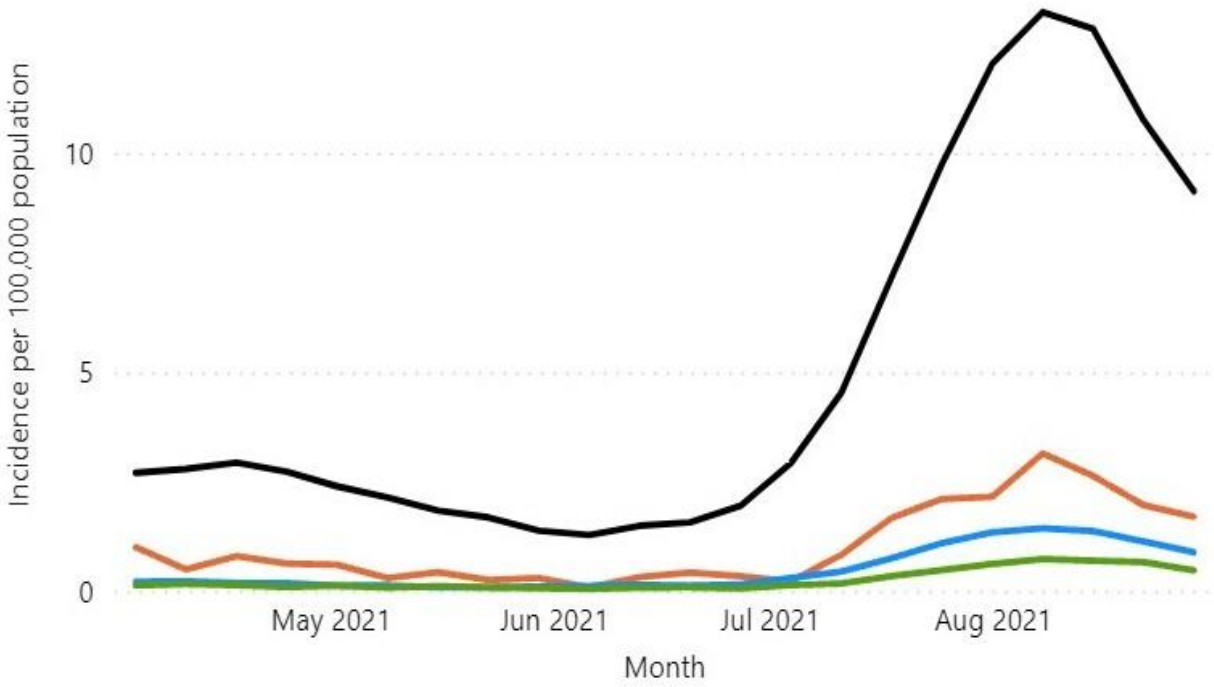
National: United States Cases and Deaths by Vaccination Status and Vaccine Type

Updated 10/19

US Cases by Vaccine Type



US Deaths by Vaccine Type



- Unvaccinated
- Janssen
- Pfizer
- Moderna

In August, unvaccinated persons had:

6.1X
Greater Risk of Testing Positive for COVID-19

AND

11.3X
Greater Risk of Dying from COVID-19

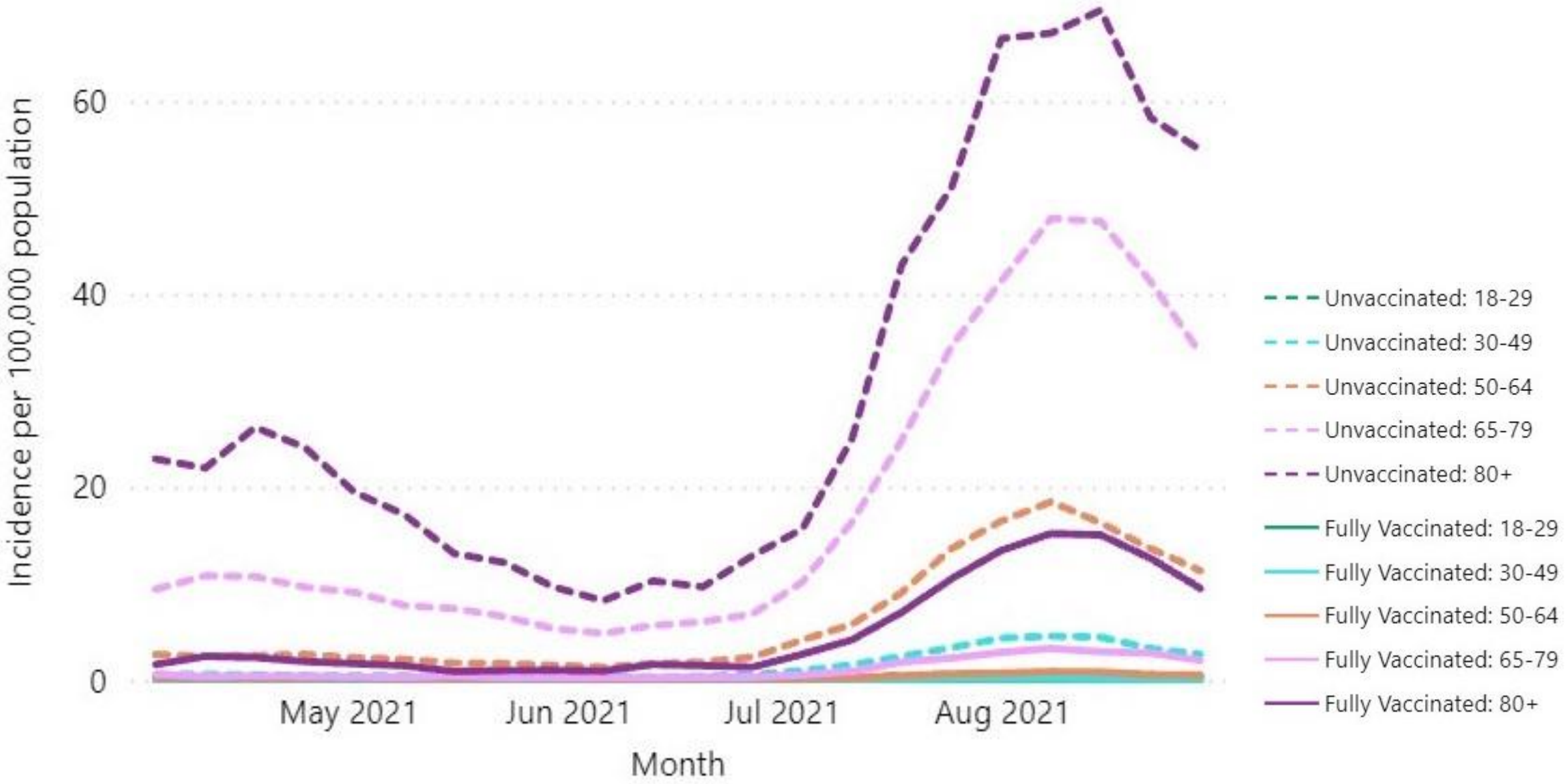
compared to fully vaccinated persons

Source: CDC COVID Data Tracker

Data Collected from 16 U.S. Jurisdictions from April 4, 2021 – September 4, 2021

National: United States Deaths by Vaccination Status and Age

Updated 10/19



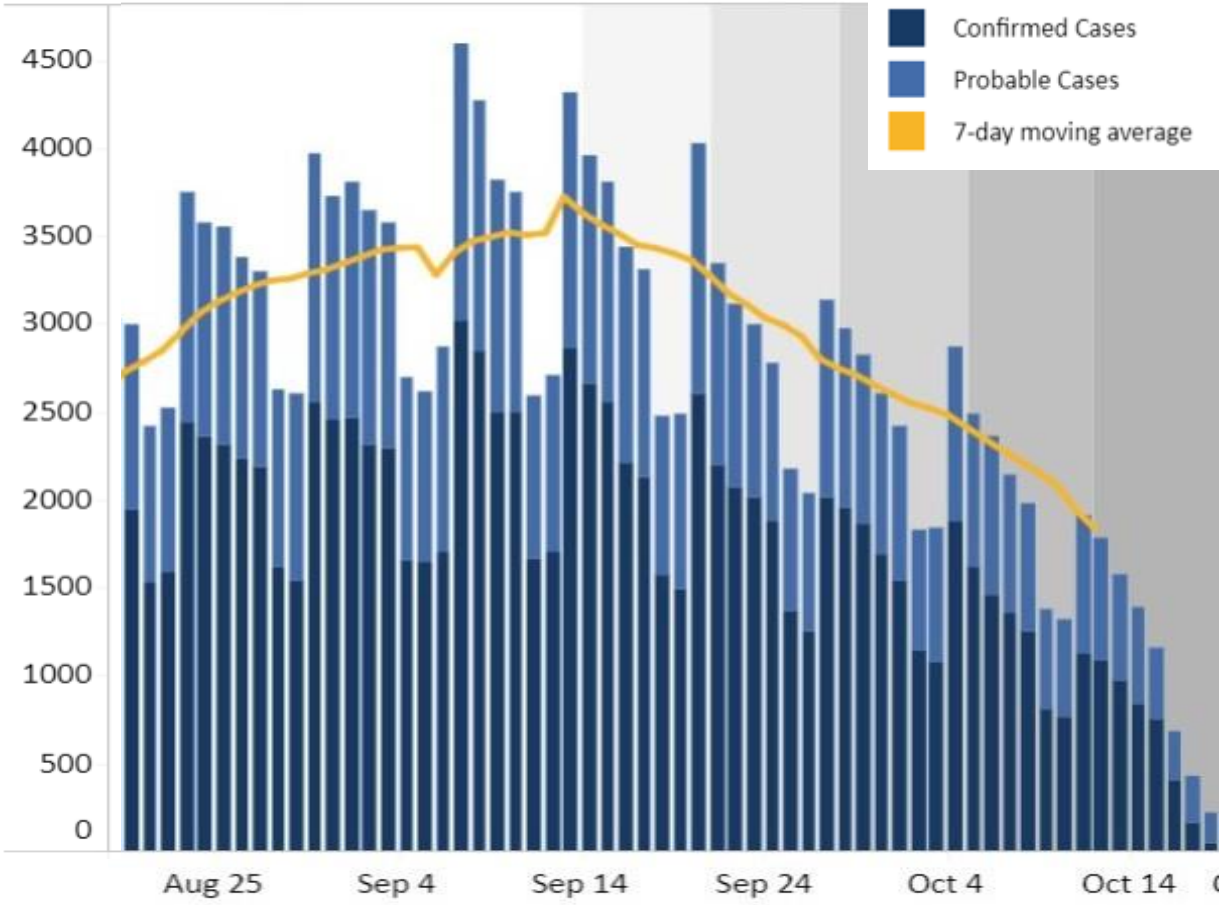
Source: CDC COVID Data Tracker

Data Collected from 16 U.S. Jurisdictions from April 4, 2021 – September 4, 2021

Virginia: Cases, Hospitalizations, and Deaths

Updated 10/20

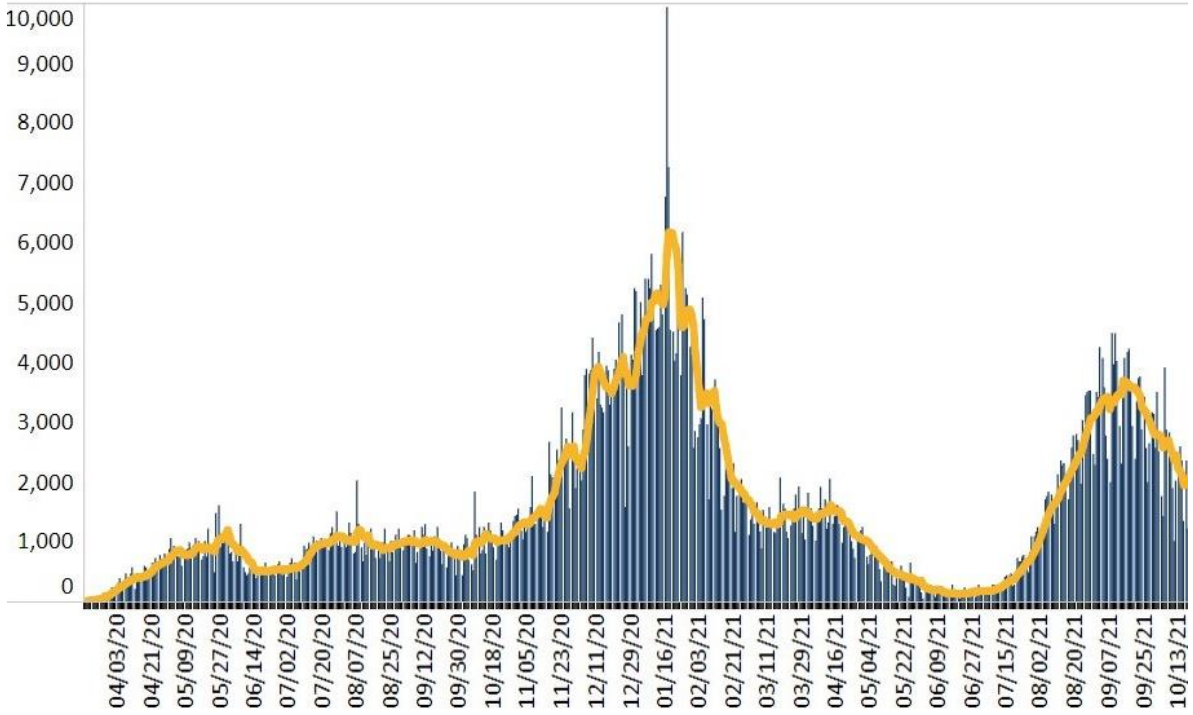
Cases by Date of Symptom Onset, last 60 days



Gray shaded area illness may not have been reported yet

- Compared to last week, **cases** decreased to 1,906 (7-day MA) per day (-14.1%)
  - 69% lower than the January peak of 2021
  - 48% higher than the March low of 2021
  - 1377% higher than the June low of 2021
- **Hospitalizations** decreased to 1,418 per day (-12.2%)
- **Deaths** increased to 42.9 per day (+4.9%)

Cases, 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: Regional Metric Summary

Updated 10/20

Metrics date: 10/20/2021

	Central	Eastern	Far Southwest	Near Southwest	Northern	Northwest
New cases per 100k within the last 7 days	155.0 ↓	139.9 ↓	321.5 ↓	216.4 ↓	94.9 ↓	208.1 ↓
% Positivity 7-day moving average	5.9% ↓	8.6% ↓	13.6% ↓	10.1% ↓	3.4% ↓	9.3% ↓
COVID-like ED visits rate per 100k	18.1 ↓	13.6 ↓	21.8 ↓	18.6 ↓	6.4 ↓	12.5 ↓

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

Heterologous SARS-CoV-2 Booster Vaccinations – NIH Preliminary Report: October 13, 2021

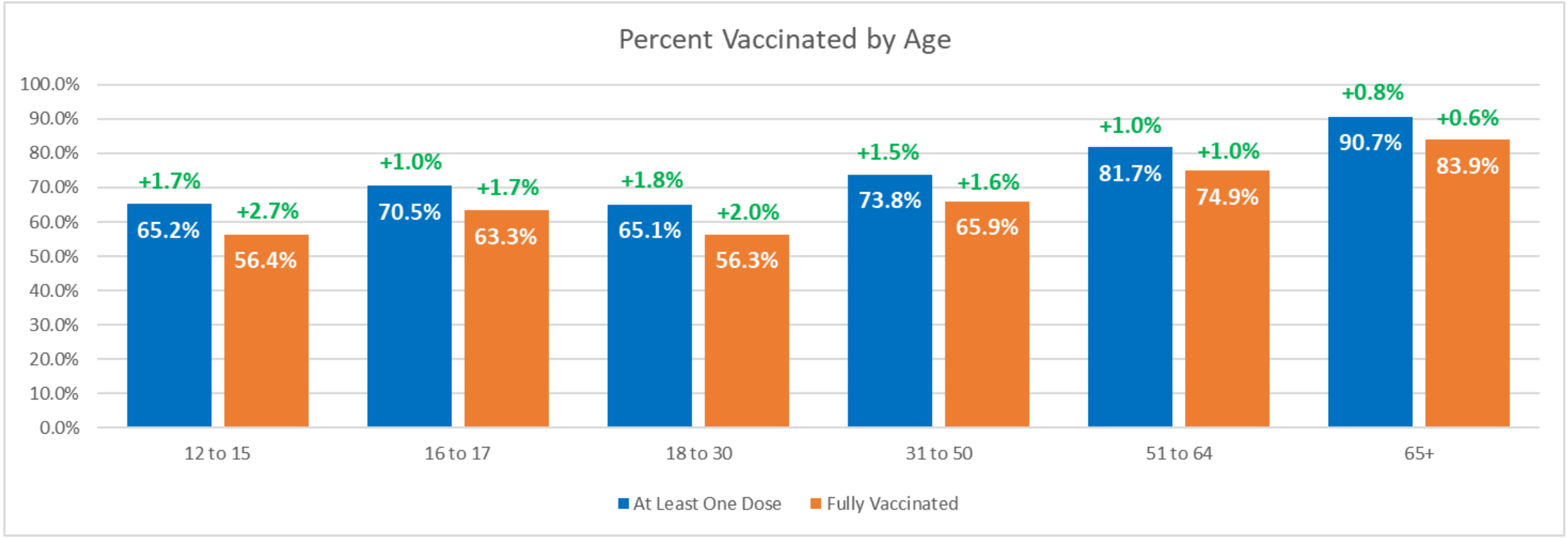
- In a study conducted by the NIH in 458 individuals over 14 locations on the effects of heterologous COVID-19 booster administration: 154 received a Moderna booster, 150 received a J&J booster, and 154 received a Pfizer booster
  - **Homologous** boosters increased neutralizing antibodies **4.2-20-fold**
  - **Heterologous** boosters increased neutralizing antibodies **6.2-76-fold**
  - Reactogenicity (side effects) to the booster dose were similar between heterologous and homologous boosters
  - **The highest neutralizing response was seen in those who had J&J as their primary vaccine and then received a booster of an mRNA vaccine**

Heterologous prime-boost: breaking the protective immune response bottleneck of COVID-19 vaccine candidates: March 29, 2021

- A study in China observed the effects of heterologous COVID-19 vaccine administration effects **in mice** with mRNA, Adenovirus, Inactivated, and Recombinant vaccines
- Due to the hurried nature of COVID-19 vaccine requirement there have been issues with the homologous use of vaccines
  - **mRNA vaccines** like Moderna and Pfizer are effective but have more **adverse reactions**
  - **Adenovirus vaccines** like J&J have less adverse reactions, a strong t-cell response, but a **lower level of neutralizing antibodies** leading to less overall efficacy
  - **Inactivated vaccines** like Sinopharm, Covaxin, and CoronaVac seen in India and China have an overall **inferior immune response** which is a similar outcome to recombinant vaccines like AstraZeneca
- However, if given an **adenovirus vaccine as a primary dose** and **followed** it with either a **heterologous booster** of mRNA vaccine, Recombinant vaccine, or Inactivated vaccine there were **increased levels of neutralizing antibodies and antibody response**

Virginia: Vaccination by Age Groups

Updated 10/20



Virginia Vaccination by Age

- ✓ **82.0%** **(+1.5%)** of the Adult (18+) Population Vaccinated with at Least One Dose
- ✓ **72.6%** **(+2.5%)** of the Eligible (12+) Population Fully Vaccinated
- ✓ **90.7%** **(+0.9%)** of Virginians 65+ and **66.9%** **(+1.9%)** of 12 to 17 year olds have received at least one dose
- ✓ **62.1%** **(+2.5%)** of the Total Population has been Fully Vaccinated

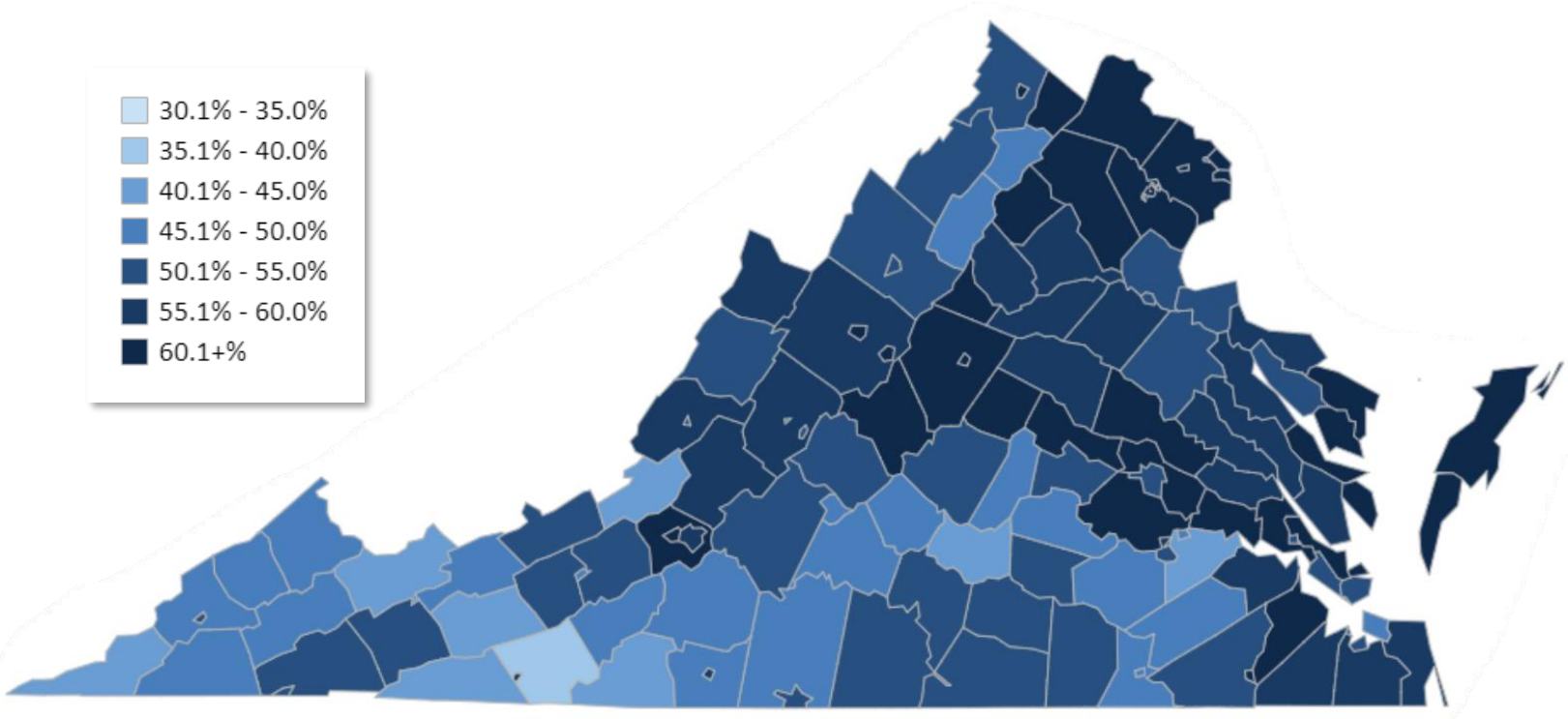
- Green percent represents percent increase from two weeks prior

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

Virginia: Vaccination across the Commonwealth by Geography

Updated 10/20

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 Urban	65%	73%	68%	68%	79%	91%	**74%**
Urban	68%	76%	59%	71%	79%	88%	**73%**
Mixed Rural	47%	55%	52%	59%	70%	83%	**64%**
Rural	39%	46%	46%	53%	66%	79%	**61%**
Grand Total	**60%**	**68%**	**58%**	**66%**	**75%**	**86%**	**70%**

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	59.2%	+1.1%
Eastern	56.2%	+1.9%
Northern	68.4%	+0.9%
Northwest	57.2%	+1.2%
Southwest	51.2%	+1.1%

- 1 (-1 over 2 weeks) out of 133 Localities have a first dose vaccination rate below 40%
- 37 (+4 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: Vaccination by Race/Ethnicity

Updated 10/20

First Dose Vaccination Rates by Race/Ethnicity and Age Group

Race/Ethnicity	12 to 15	16 to 17	18 to 30	31 to 50	51 to 64	65+
Asian or Pacific Islander	90%	98%	86%	80%	91%	87%
Black	50%	55%	43%	57%	74%	82%
Latino	76%	86%	77%	76%	84%	86%
Native American	120%	133%	85%	113%	106%	114%
White	48%	54%	53%	58%	67%	80%

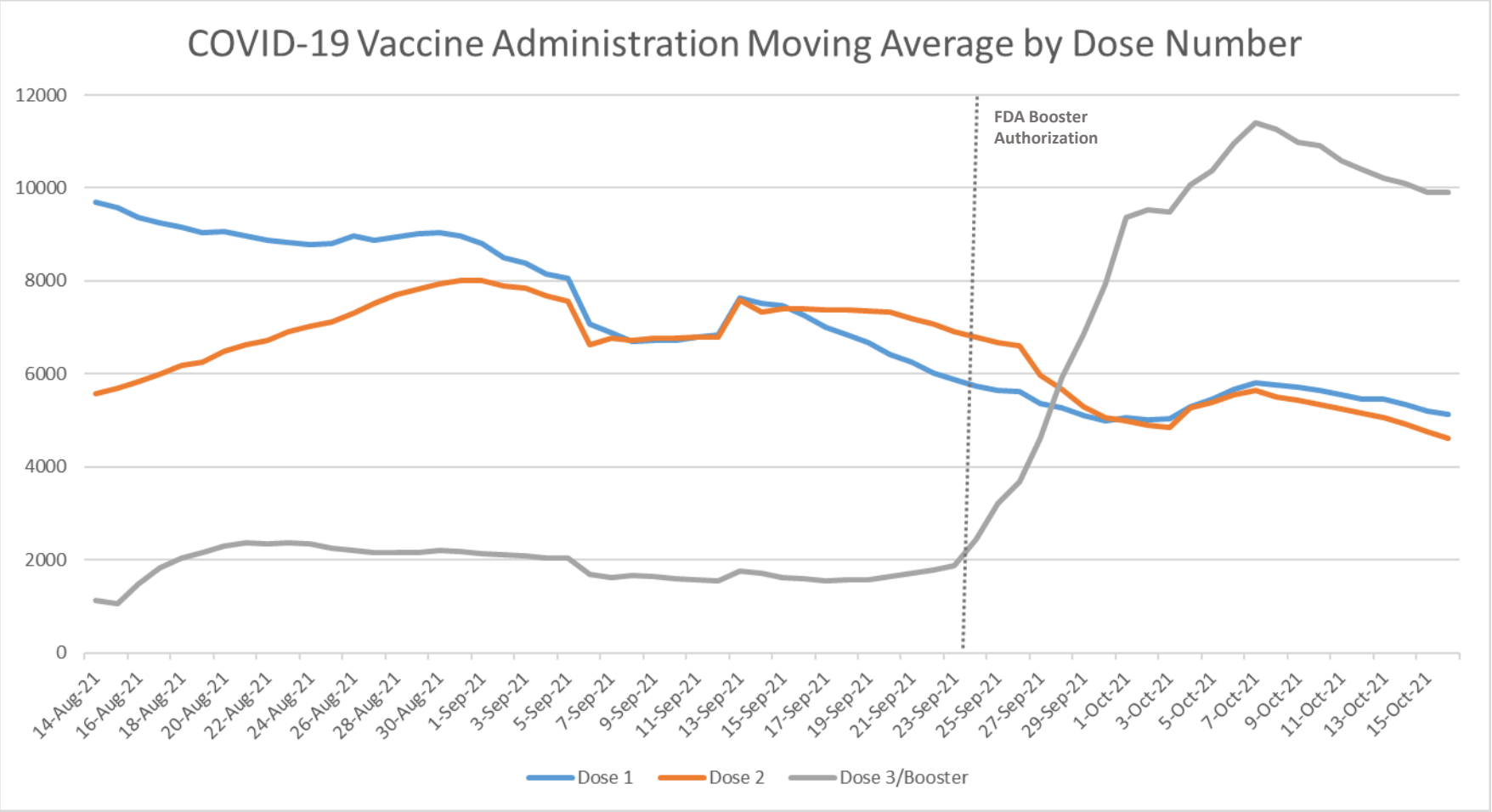
First Dose Vaccination Rates by Race/Ethnicity and Isserman Geographic Classification

2013 SRHP Isserman Classification	Asian	Black	Latino	Native American	White
Mixed Urban	86%	59%	71%	133%	64%
Urban	78%	55%	75%	106%	61%
Mixed Rural	76%	57%	67%	85%	56%
Rural	70%	55%	63%	61%	52%

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

First and Second doses continue to decline, and Third Dose/Booster shot administrations are plateauing

- First Doses and Second Dose administrations have been steadily declining
- Booster/Third Dose administrations are plateauing after the sharp increase in uptake following authorization



Federal doses not included in this number

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

Third Dose/Booster Metrics

Population	Eligible	Doses	Uptake
65+	424,726	190,760	44.9%
Total	1,136,653	320,956	28.2%

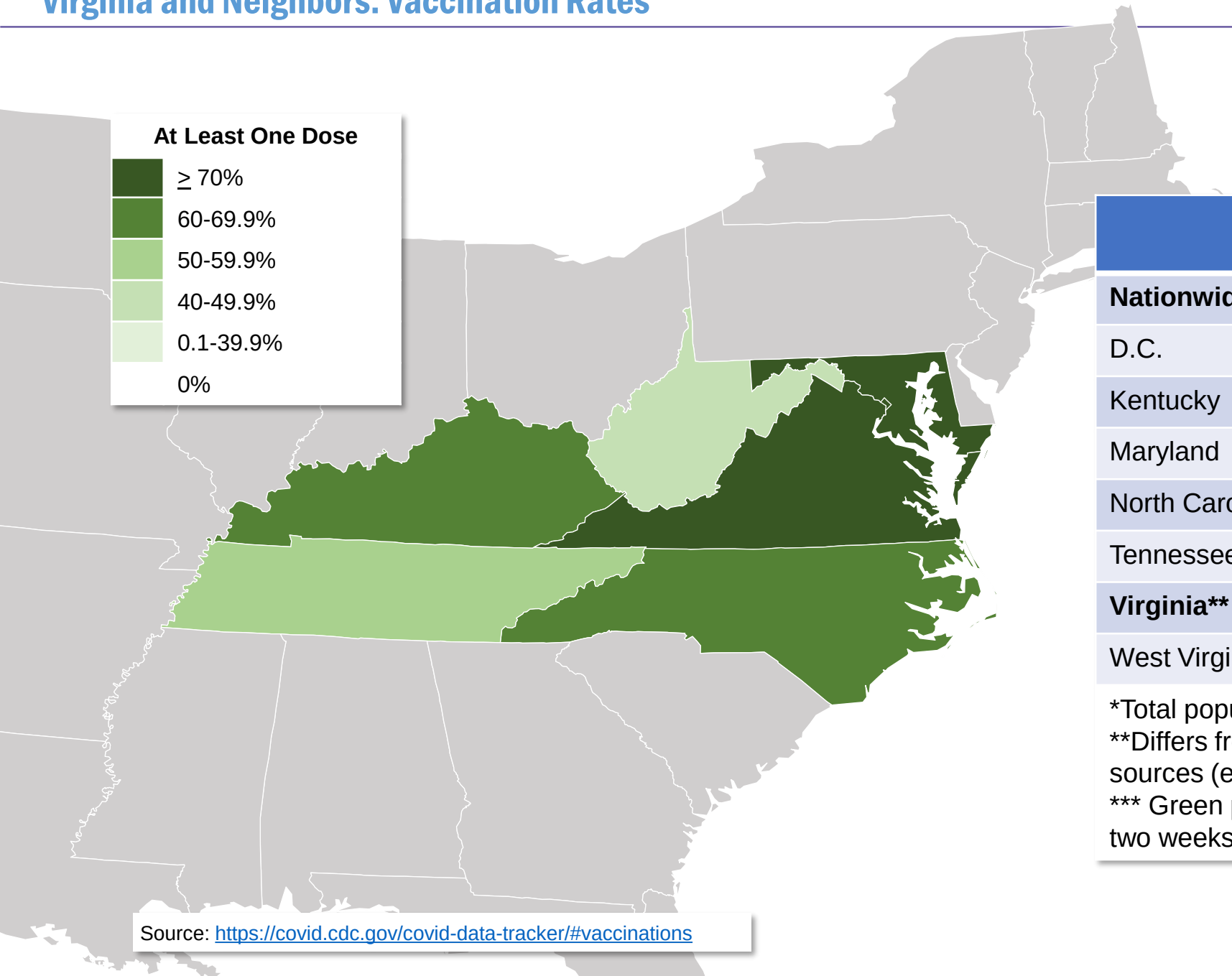
Administered Location Type Description	3rd Doses	Proportion
Pharmacy – chain	214,590	67%
Public health provider – public health clinic	28,505	9%
Hospital	26,375	8%
Medical practice – family medicine	26,049	8%
Other (incl. CVC)	9,285	3%
Medical practice – other specialty	5,739	2%
Medical practice – internal medicine	3,634	1%
Health center – community (non-Federally Qualified Health Center/non-Rural Health Clinic)	2,436	1%
Long-term care – nursing home, skilled nursing facility, federally certified	1,801	1%
Medical practice – pediatrics	1,736	1%
Medical practice – OB/GYN	383	0%
Health center – student	244	0%
Corrections/detention health services	141	0%
Unclassified	38	0%
Grand Total	**320,956**	**100%**

Federal doses not included in this number

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

Virginia and Neighbors: Vaccination Rates

Updated 10/20



	At Least One Dose*	Fully Vaccinated*
Nationwide	**66.0% (+1.5%)**	**57.1% (+2.0%)**
D.C.	72.8% (+2.0%)	61.5% (+1.7%)
Kentucky	62.2% (+1.6%)	54.1% (+2.3%)
Maryland	72.1% (+1.5%)	65.4% (+1.6%)
North Carolina	62.3% (+3.1%)	51.9% (+3.4%)
Tennessee	53.9% (+1.5%)	47.0% (+2.4%)
Virginia**	**70.0% (+1.6%)**	**62.2% (+2.0%)**
West Virginia	48.7% (+0.8%)	40.9% (+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