Pandemic Metrics

Media Briefing

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Pandemic Metrics

www.vdh.virginia.gov/coronavirus/key-measures/pandemic-metrics/

Pandemic Metrics

What these dashboards do:

- In the VDH *Pandemic Metrics* dashboards:
  - The *Daily Region Metrics* dashboard shows where COVID-19 is spreading in Virginia and the changes over time.
  - The *Weekly Transmission Extent* dashboard helps inform state and local officials about the effects of COVID-19 on each region to help them decide whether to act on additional mitigation measures for individual communities.
  - Please see below for Technical Notes and Talking Points
- VDH also created visualizations to display the *CDC School Metrics* to help communities and school divisions understand the risk of introduction and transmission of COVID-19 in schools.
  - VDH recommends that communities and school divisions use the CDC Indicators for Dynamic School Decision-Making framework together with VDH Guidance for Mitigation Measures in K-12 Settings when considering actions related to school decision making.

Documentation

Methods

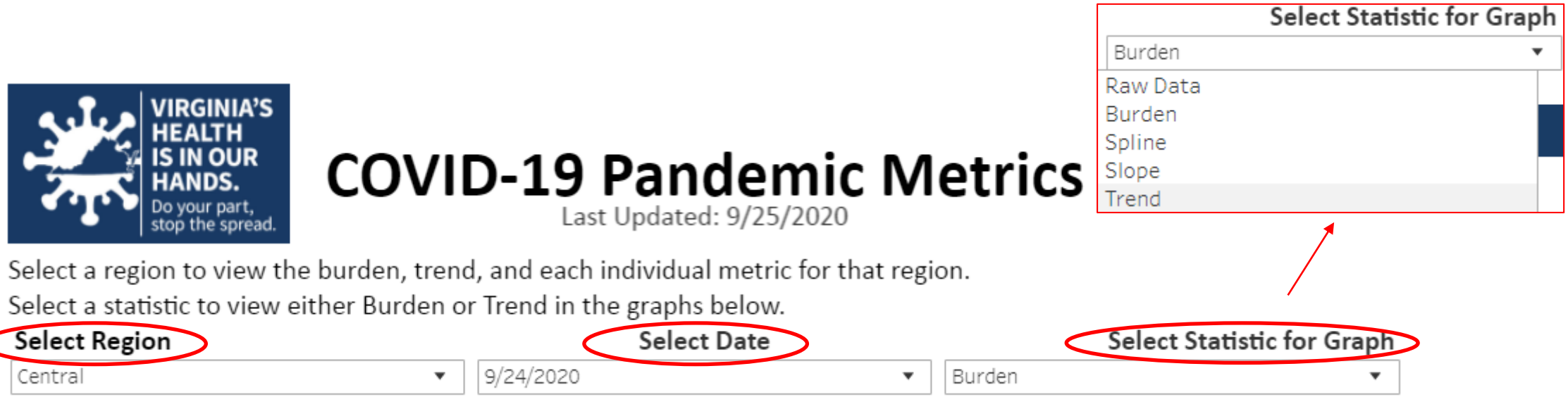
Talking Points

Guidance Documents

Guidance for Reinstating Community Mitigation Measures

Guidance for K-12 Schools

Pandemic Metrics



Eight Region Metrics

1. Daily Case Incidence Rate
2. Daily PCR Test Percent Positivity
3. Rate of Outbreaks
4. Percent of Cases That Are Health Care Workers
5. Rate of Visits to Emergency Departments for COVID-like Illness
6. Rate of Current Confirmed COVID ICU Hospitalizations
7. Percent of Hospital Beds Currently Occupied
8. Number of Hospitals Reporting Having Trouble Acquiring Personal Protective Equipment in the Last 7 Days

Describe Burden and Trend for Each Metric

Burden

1. Most recent rate (updated daily)
2. Graph of the 7-day moving average

- Measure of disease and its impact on the region
  - Describes amount or quantity
  - Use rates to standardize comparison of regions with populations of varying size in Virginia
  - Use moving average (MA) to smooth out the variability in daily reporting and to remove weekday effects

Trend

Describe whether the trend is increasing, decreasing or fluctuating

- Measure of how each metric has changed over time
  - Evaluate change over a 14-day period for all metrics except cases in healthcare care workers (use 7-day period)
  - Do not calculate for hospitals acquiring PPE because unique count for each day

Thresholds

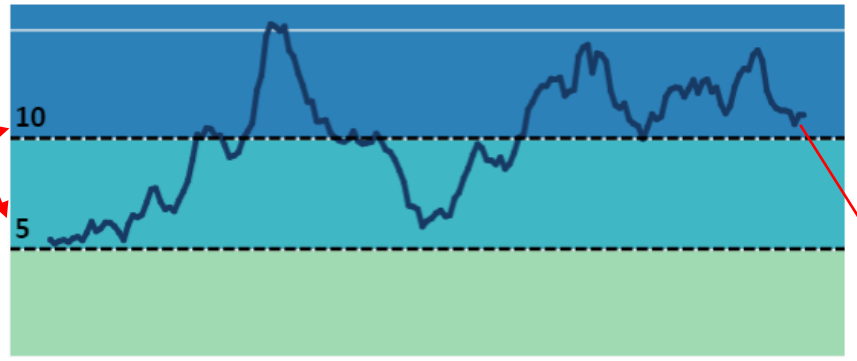
- Thresholds are set for each metric
  - Three levels (2 thresholds) are set for daily case incidence, outbreaks, and COVID-like illness visits to emergency departments
  - Two levels (1 threshold) are set for daily PCR test percent positivity, cases that are healthcare workers, confirmed COVID ICU hospitalizations, hospital beds currently occupied, and hospitals experiencing difficulty acquiring PPE
- Used national standards and/or precedents where available
  - For example:
    - Daily case incidence thresholds adopted from early CDC technical guidance provided to states for internal use
    - PCR percent positivity aligned with Governor’s goal for PCR percent positivity in Virginia's Key Measures
- Used subject matter expertise where there was no precedent
  - For example, the Virginia Hospital & Healthcare Association provided guidance on thresholds for hospital-related metrics

Select Region: Central | Select Date: 9/25/2020 | Select Statistic for Graph: Burden

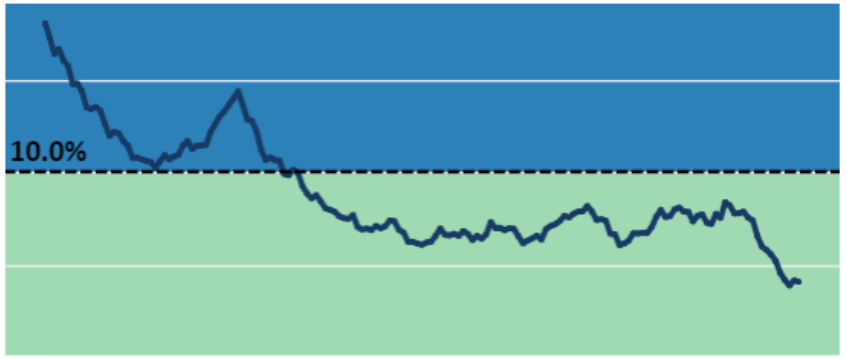
Individual Metrics Burden and Trend, 9/25/2020

1. Most recent rate (updated daily)
2. Graph of the 7-day moving average for each metric

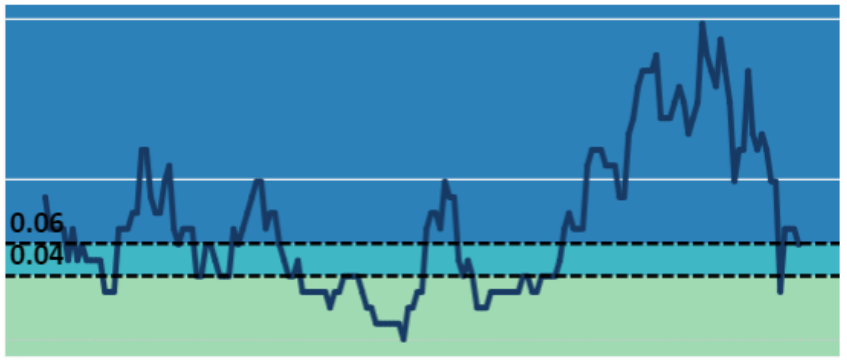
BURDEN		TREND
CASES	What is the daily case incidence rate per 100,000? Moderate Threshold = 5.0 High Threshold = 10.0	Cases have been decreasing for **12 days**. This does not exceed the threshold of 14 days, so cases are considered to be **fluctuating**.
% POSITIVITY	What is the daily PCR percent positivity? High Threshold = 10%	Percent positivity has been decreasing for **17 days**. This exceeds the threshold of 14 days, so percent positivity is considered to be **decreasing**.
OUTBREAKS	What is the rate of outbreaks per 100,000? Moderate Threshold = 0.04 High Threshold = 0.06	Outbreaks have been decreasing for **20 days**. This exceeds the threshold of 14 days, so outbreaks are considered to be **decreasing**.



11.1



4.1%



0.06

Describe whether the trend is increasing, decreasing or fluctuating

- Increasing
- Fluctuating
- Decreasing

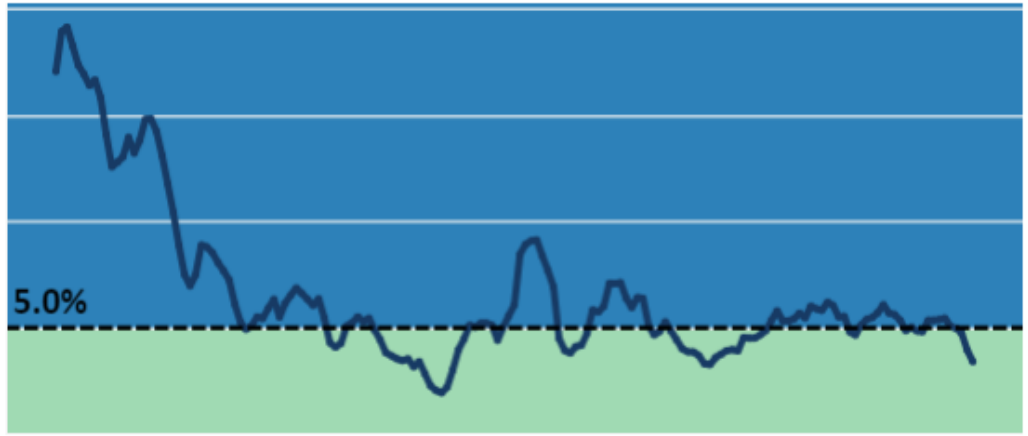
Date:	9/24/2020
Cases:	225
Cumulative Cases to Date:	25,311
7-day Moving Average:	161.3
7-day Rolling Sum:	1,129
Rate per 100,000:	11.1
Spline:	158.6
Slope of Curve:	-2.8
Days increasing/decreasing:	-11

HC WORKERS

What percent of cases are among healthcare workers?

High Threshold = 5%

3.4%



The percent of cases among HCWs has been decreasing for **17 days**. This exceeds the threshold of 7 days, so the percent of cases among HCWs is considered to be **decreasing**.

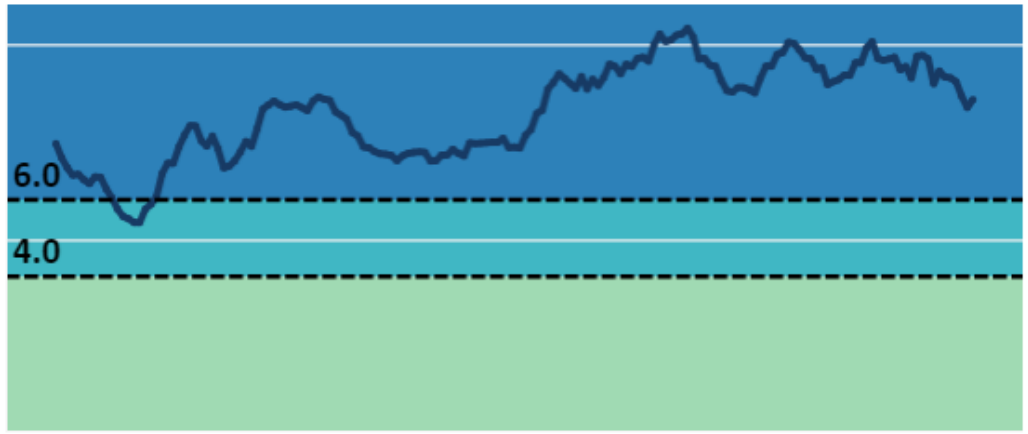
ED VISITS

What is the visit rate per 100,000?

Moderate Threshold = 4.0

High Threshold = 6.0

8.6



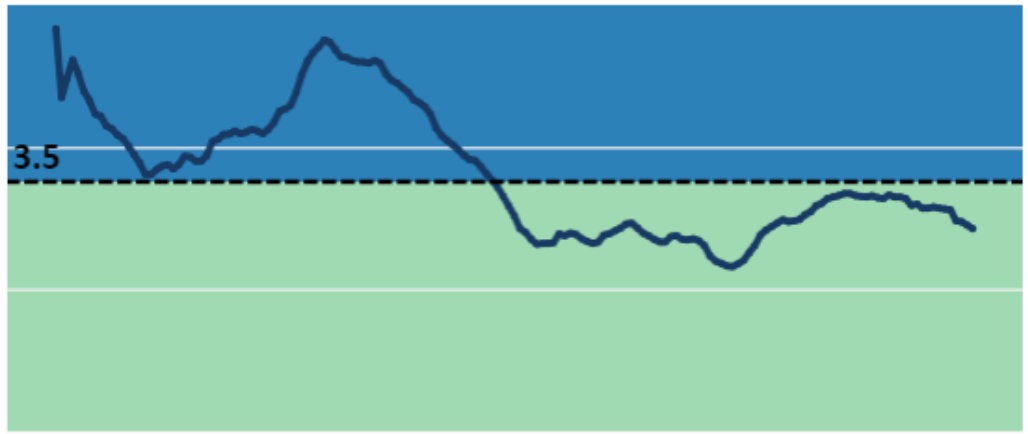
ED visits for CLI have been decreasing for **17 days**. This exceeds the threshold of 14 days, so the number of ED visits for CLI is considered to be **decreasing**.

ICU HOSPITALIZATIONS

What is the rate of current confirmed COVID ICU hospitalizations per 100,000?

High Threshold = 3.5

2.9



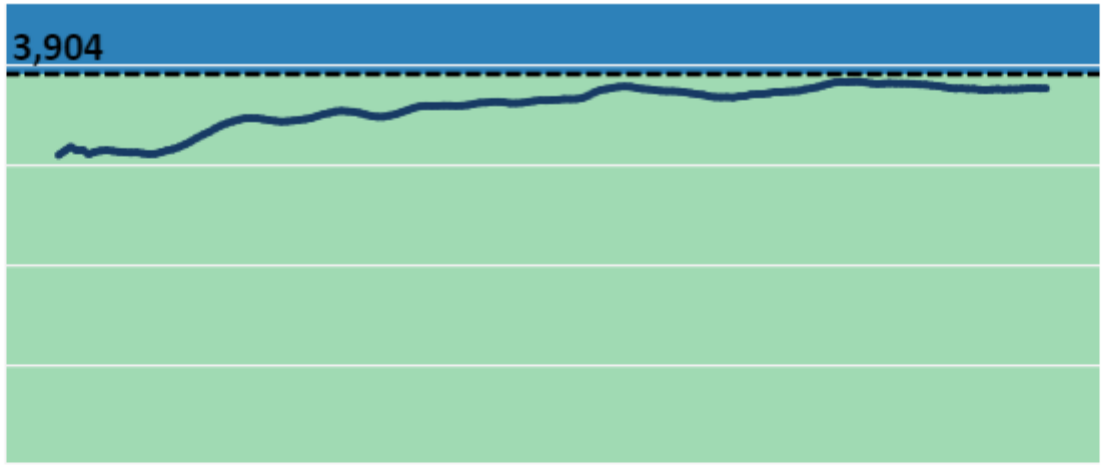
ICU hospitalizations have been decreasing for **20 days**. This exceeds the threshold of 14 days, so the number of ICU hospitalizations is considered to be **decreasing**.

HOSPITAL BEDS

What percent of hospital beds are currently occupied?

High Threshold = 90%

87.0%



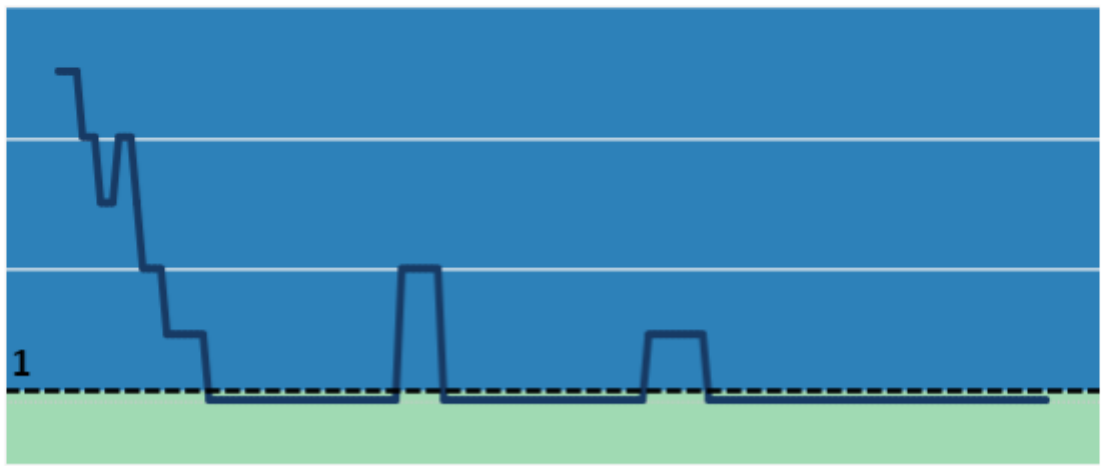
The percent of occupied beds has been increasing for **9 days**. This does not exceed the threshold of 14 days, so the percent of occupied beds is considered to be **fluctuating.**

PPE

How many hospitals have reported trouble acquiring PPE in the last 7 days?

High Threshold = 1

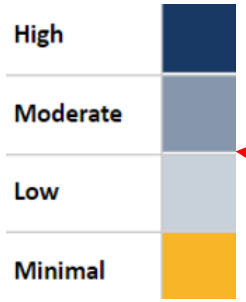
0



Not Applicable

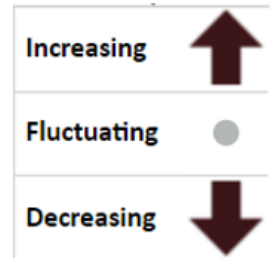
Pandemic Metrics

Calculate Composite Scores for Burden and Trend Each Week to Determine Extent of Transmission in Each Region



Burden and Trend by Region, Week Ending 9/19/2020

Region	Burden	Trend	Transmission Extent
Central	High Burden	●	At Substantial Community Transmission
Eastern	Moderate Burden	●	At Moderate Community Transmission
Far Southwest	Moderate Burden	●	At Moderate Community Transmission
Near Southwest	Moderate Burden	●	At Moderate Community Transmission
Northern	Low Burden	●	At Low Community Transmission
Northwest	Moderate Burden	●	At Moderate Community Transmission

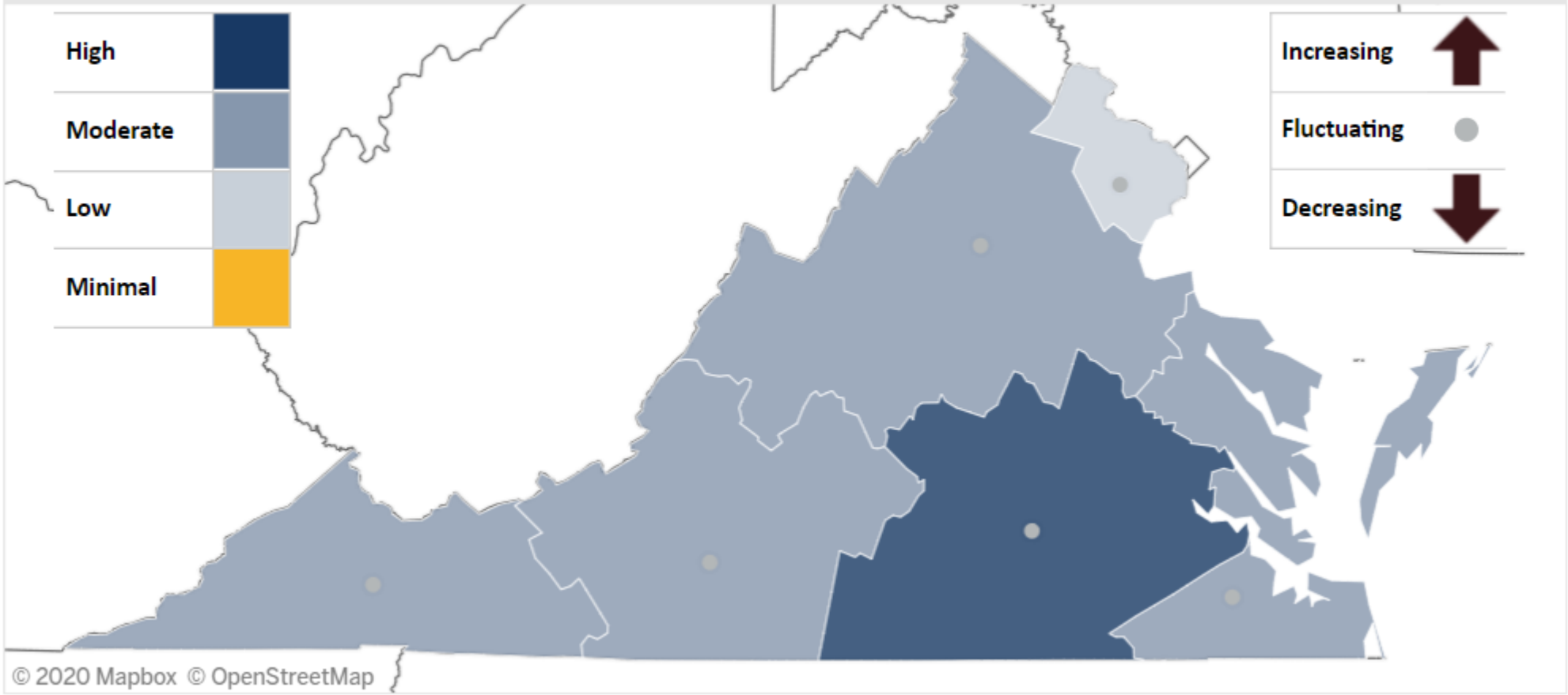


Five Levels

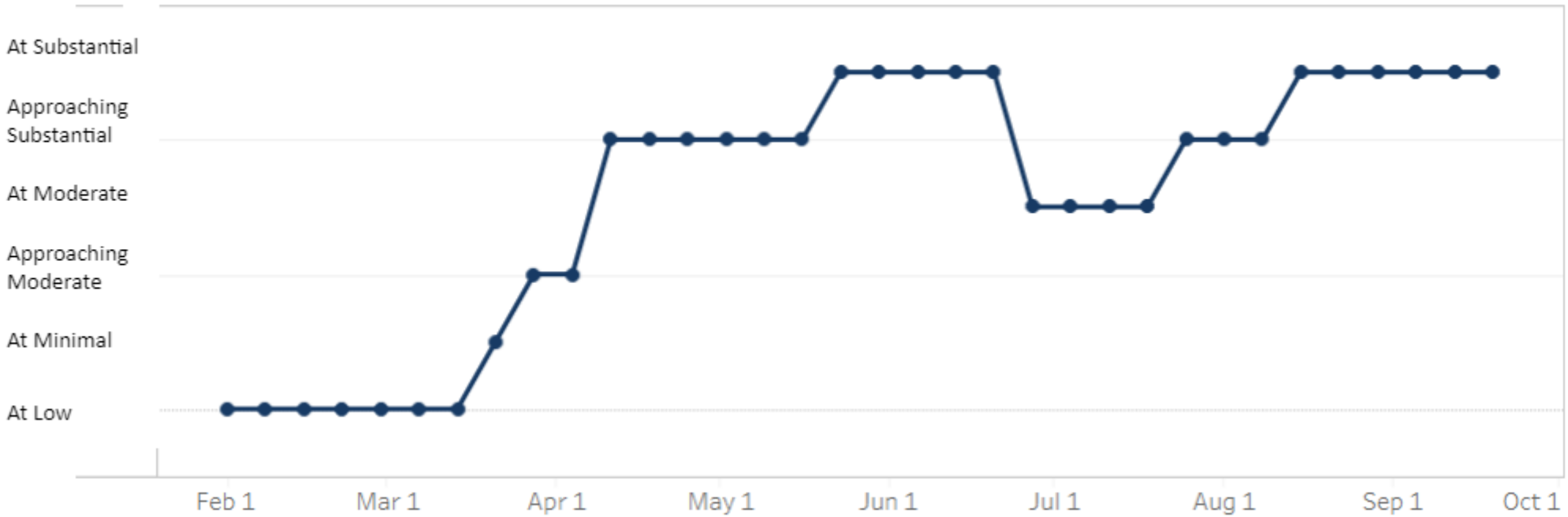
1. At Substantial Community Transmission
2. Approaching Substantial Community Transmission
3. At Moderate Community Transmission
4. Approaching Moderate Community Transmission
5. At Low Community Transmission

CURRENT PANDEMIC STATUS

Transmission Extent by Region, Week Ending 9/19/2020



Transmission Extent by Week, Central Region



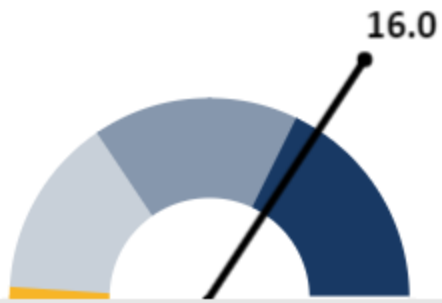
Composite Score, Central Region Week Ending 9/19/2020

At Substantial Community Transmission

As of the week ending on 9/19/2020, the current status of COVID-19 in Central is **high burden, fluctuating**.

Burden, Central Region Week Ending 9/19/2020

High Burden	≥16 - 24
Moderate Burden	≥ 8 - <16
Low Burden	>0 - <8
No Burden	0



Trend, Central Region Week Ending 9/19/2020

The average composite trend score for the Central region for the week ending 9/19/2020 was **9.9**. This falls in the range ≥7 - <15 and is considered **fluctuating**.

Increasing	≥15 - 22
Fluctuating	≥7 - <15
Decreasing	0 - <7

The current pandemic status is presented as a transmission extent, which is comprised of a burden score and a trend score. The burden and trend scores are both calculated each Monday as the average of composite burden and trend scores from the previous week.

For more detailed data on the composite scores, please see the dashboard available here: https://www.vdh.virginia.gov/coronavirus/key-measures/pandemic-metrics/composite-scores/

INDIVIDUAL METRICS

Individual metrics represent trusted data sources. VDH uses an established method to determine the current burden and trend for each metric. These data are then compared to thresholds to calculate an indicator value of 0, 1, or 2

The color of the circles below indicates the indicator value for the burden or trend of that individual metric.

Indicator Values

Individual Metric Values, Weights, and Scores, 9/25/2020

Individual Metric	Burden Indicator	Burden Weight	Burden Score	Trend Indicator	Trend Weight	Trend Score
Cases	2	6	12	1	6	6
Percent Positivity	0	1	0	0	1	0
Outbreaks	1	1	1	0	1	0
HC Workers	0	0	0	0	0	0
ED Visits	2	1	2	0	1	0
ICU Hospitalizations	0	1	0	0	1	0
Hospital Beds	0	1	0	1	1	1
PPE	0	1	0	NA	NA	NA
Composite Scores			**15**			**7**

The weighted indicators are calculated for each individual metric by multiplying the indicator value by the weight assigned to that individual metrics.

For more information on how the indicator values for each individual metric are determined, see the Regional Metrics tab.

Pandemic Metrics

About the Data

Daily Region Metrics

Weekly Transmission Extent

CDC School Metrics

CDC Indicators for Dynamic School Decision-Making

The data used in the dashboard below are the same data used in the other dashboards that make up the *Pandemic Metrics*, but use slightly different timeframes and thresholds for evaluation.

Key Differences Between the VDH Pandemic Metrics Dashboard and CDC School Metrics

- VDH created the VDH Pandemic Metrics Dashboard in June 2020.
- Local health districts began using the dashboard in July and sharing data with localities and schools in August.
- On September 15, CDC published the School Indicators for Dynamic Decision Making, which includes thresholds for each category and indicator.

Key Differences Between the VDH Pandemic Metrics Dashboard and CDC School Metrics

- The VDH Pandemic Metrics Dashboard shows a daily case incidence rate and a daily PCR percent positivity.

- For case incidence, three levels are set with two thresholds: <5 cases per day per 100,000 population, 5 to <10, and ≥10.

- For PCR percent positivity, two levels are set with one threshold of ≥10%.

Key Differences Between the VDH Pandemic Metrics Dashboard and CDC School Metrics

- The CDC framework utilizes a 14-day cumulative case incidence rate and a 14-day cumulative percent positivity, not daily rates.

- Five levels are set for 14-day cumulative case incidence: <5 cases within the last 14 days per 100,000 population, 5 to <20, 20 to <50, 50 to ≤200, and >200.

- Five levels are set for 14-day cumulative PCR percent positivity: <3%, 3% to <5%, 5% to <8%, 8% to ≤10%, and >10%.

Key Differences Between the VDH Pandemic Metrics Dashboards and CDC School Metrics

VDH is evaluating the differences between the thresholds and the timeframes used in the VDH Pandemic Metrics Dashboard and the CDC School Metrics Dashboard until October 14, 2020 and will determine whether it is beneficial to make the VDH Pandemic Metrics Dashboard thresholds consistent with the CDC School Metrics Dashboard case incidence thresholds.

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

COVID-19 Pandemic Metrics

VDH VIRGINIA DEPARTMENT OF HEALTH

Last Updated: 9/25/2020

Select a **locality** to filter the Core Indicators and the Secondary Indicators.

Select a **date** to filter the Core Indicators, the Secondary Indicators, and the Map of School Indicators visualizations below

Select Locality

Accomack

Select Date

9/24/2020

CDC K-12 SCHOOL METRICS

The Centers for Disease Control and Prevention (CDC) have published a set of *Indicators for Dynamic School Decision-Making*. These indicators and thresholds can help communities better understand the risk of introduction and transmission of COVID-19 in schools. Local decision makers can consider these indicators to help guide decisions related to school programming. The first two "core" indicators of disease transmission are intended to be combined with the third core indicator - a school's self-assessed measure of their ability to implement five key mitigation strategies (masks, social distancing, hand hygiene/respiratory etiquette, cleaning/disinfection, and contact tracing in collaboration with local health departments).

In order to make this CDC framework useful for school districts, VDH has compiled and provided these indicators below.

For more information on the CDC framework and to view the thresholds for each indicator, please visit https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/indicators.html#interpretation .

Risk of Transmission in Schools

- Lowest Risk
- Lower Risk
- Moderate Risk
- Higher Risk
- Highest Risk

Core Indicators, Accomack, 9/25/2020

Total number of new cases per 100,000 persons within the last 14 days*

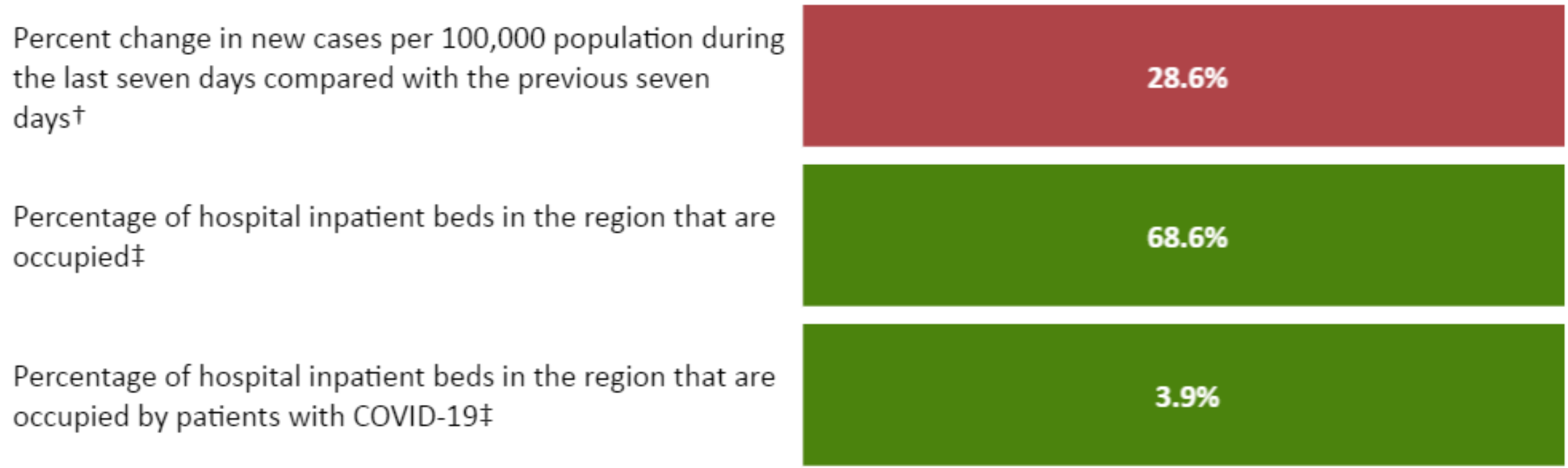
Percentage of RT-PCR tests that are positive during the last 14 days**

Ability of the school to implement five key mitigation strategies

VDH does not have these data. CDC recommends self-assessment measuring a school's ability to implement consistent and correct use of masks, social distancing, hand hygiene and respiratory etiquette, cleaning and disinfection, and contact tracing in collaboration with the local health department.

Secondary Indicators, Accomack or Eastern Region, 9/27/2020

Officials can use these secondary indicators to support the decision-making process in local communities. These secondary indicators should not be used as the main criteria for determining the risk of disease transmission in schools. They should be used to support decision-making derived from the core indicators.



Select Indicator

14-day Case Incidence

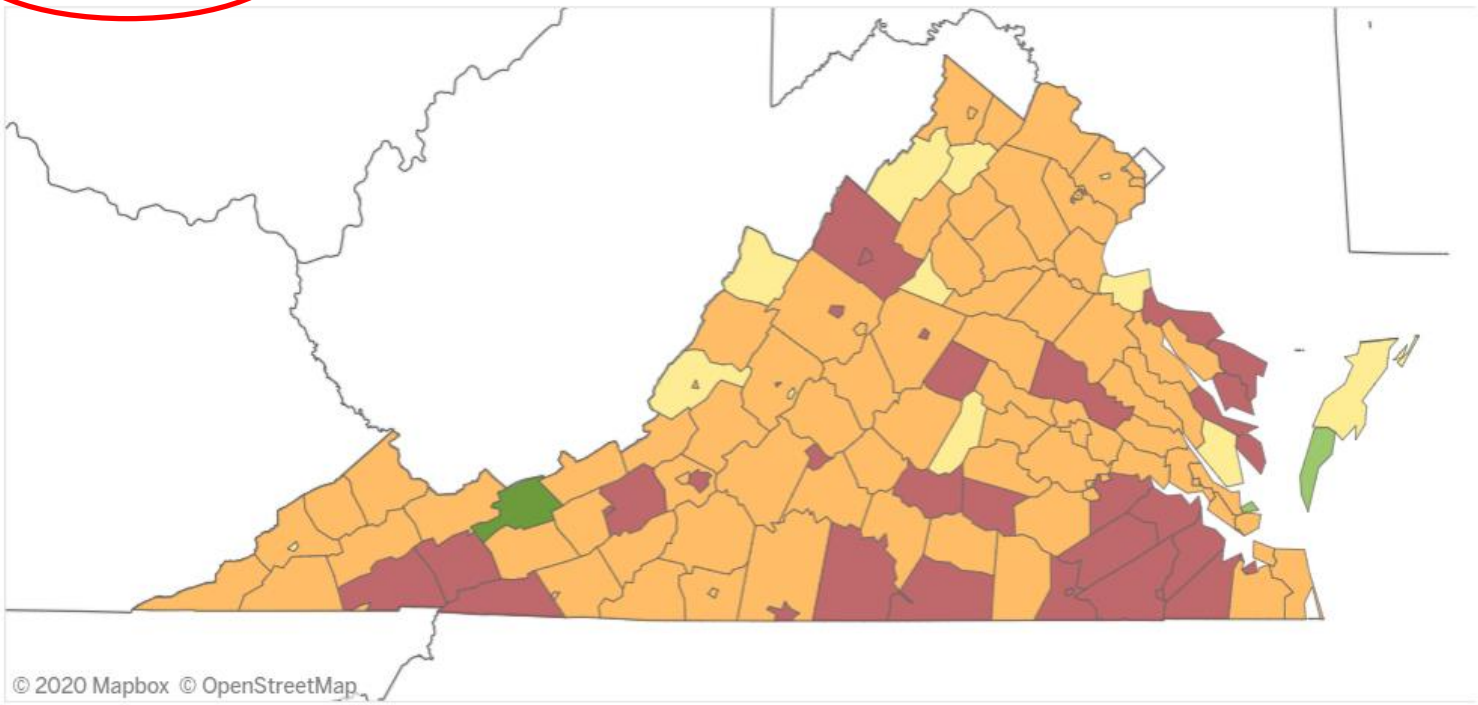
- 14-day Case Incidence
- 14-day Percent Positivity
- Percent Change in 7-day Case Incidence
- Percent of Inpatient Hospital Beds Occupied
- Percent of Inpatient Hospital Beds Occupied by COVID Patients

Map of School Indicators, 9/25/2020

Select an **indicator** to filter the Map of School Indicators.

Select Indicator

14-day Case Incidence



Definitions of CDC School Indicators

* Total number of new cases per 100,000 persons within the last 14 days is calculated by adding the number of new cases reported in the locality (city or county) in the last 14 days, dividing by the population of that locality, and multiplying by 100,000. This indicator differs from the daily case incidence rate per 100,000 use in the *Daily Region Metrics* and *Daily Locality Metrics* dashboards because it captures the case incidence for 14 days rather than just one day.

** Percentage of RT-PCR tests in the locality that are positive during the last 14 days is calculated by dividing the number of positive tests over the last 14 days by the thotal number of tests conducted over the last 14 days and multiplying by 100. Testing data are provided at the locality level with the exception of Covington, Emporia, Lexington, and Manassas Park. Based on how laboratory results are reported, data from these small jurisdictions are not trustworthy on their own. The surrounding counties of Alleghany, Greensville, Rockbridge, and Prince William are displayed instead.

† Percent change in new cases per 100,000 population during the last seven days compared with the previous seven days is calculated by adding the number of new cases reported in the locality in the last seven days, subtracting the total number of new cases in the previous seven days, dividing the difference by the total number of new cases in the previous seven days, and multiplying by 100. In communities with low case incidence, this measure can fluctuate wildly. For example, if there are 5 cases reported in a county during one week, and six reported the next, then the percent change will be 20%. In these situations, the thresholds that CDC established may be less useful.