



# RESEARCH BRIEF

The Public Affairs Research Council of Louisiana

5.8.2020

## Tracking COVID-19 Benchmarks

### A Louisiana citizen's tool for marking progress and regression

The Public Affairs Research Council of Louisiana (PAR) is presenting an analysis of state trendlines related to the COVID-19 pandemic. Based on publicly available data, PAR's statewide and regional 14-day trendlines are similar to the models used by the Louisiana Department of Health (LDH) to determine the spread of the disease. The LDH trendlines form a basis for the Governor's decisions about reopening the state and lifting the stay-at-home order.

Although the PAR trendlines are not an exact substitute for the LDH analysis, these graphics will provide a regularly updated gauge of how well the state and its nine designated regions are performing in their ability to contain the outbreak. Citizens, businesses and health care systems can monitor how their actions and the circumstances in their communities are affecting the pandemic in measurable ways.

***Open data leads to public confidence and restored hope.***

These trendlines are of paramount public interest, especially because the Governor and health experts are giving weight to regional conditions.

The PAR analysis uses the same data base and comparable statistical modeling as LDH uses for its trendlines, based on guidance from the Centers for Disease Control. The biggest difference is that LDH determines some trendlines based on data that has not been released to PAR or the public. That means PAR is able to determine 14-day trendlines for the state and the regions for newly detected cases of coronavirus. However, for hospitalizations, only

statewide data is available. LDH has not yet publicly released data on reports of COVID-like symptoms, although it has the underlying information.

To LDH's credit, the agency has been providing an increasing amount and broadening scope of data to the public over the past few weeks. Some of its reporting delays are due to its dependence on the CDC for some official numbers as well as the difficulties in converting multi-sourced data into a useful, timely and comprehensible format. The agency has pledged to improve its reporting and has cooperated with PAR in releasing information.

PAR has encouraged state leaders to explain the conditions for further reopening in plain language and numbers, as best one can. By setting understandable criteria and being transparent about the benchmarks, our leaders can establish a clear link between citizens' actions and the health and economic outcomes. From that comes order, progress and restored hope.

These trendlines are not the only factors in deciding how the state should reopen. The capacity for testing for infections and contact tracing are also important. PAR is also providing charts related to testing. A number of PAR's key charts are included with this Research Brief. These and more charts are available on PAR's website – [parlouisiana.org](http://parlouisiana.org) – and will be regularly updated for public reference. PAR has created a COVID-19 portal on the website for reference material and commentary about the pandemic and Louisiana's reopening and eventual recovery.

## Background and methods

The state has focused on the reported number of people with COVID-19 symptoms, the number of newly confirmed COVID-19 cases and measures of hospitalizations. These metrics are based on the White House and Centers for Disease Control guidelines. The trends establish the “gateway criteria” for moving into phases of greater human and economic activity. In addition to the statewide trends, LDH considers the results from its nine designated regions of the state.

When the time came for the Governor and his health care advisers to decide the state’s direction for reopening after May 1, the trendlines for Louisiana were improving statewide. But the Governor noted three regions – the Baton Rouge area, Acadiana and the northeast region around Monroe – where the disease was suddenly growing. The regional conditions and the rapid uptick – not just the state trendline – had become determining factors.

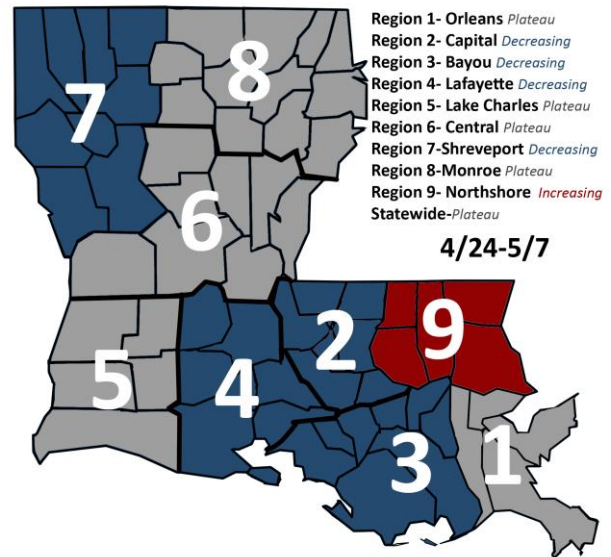
The White House guidance calls for tracking key outbreak measures along 14-day trendlines. Decreasing disease trendlines in those periods indicate that the state or regions may be advised to move forward with a phased reopening plan. For the Governor’s decision announced on April 27, he was using a 14-day trendline covering the period from April 13-26. Since then, the state has been providing daily reports on new data but has not shown the daily progress of the moving 14-day trendline.

Based on PAR’s 14-day trendline ending on May 7, Louisiana overall seems to be moving in the right direction with a decreasing number of people hospitalized due to COVID-19. On the key metric tracking the number of new cases of COVID-19, the results are mixed. The state overall is at a plateau. The nine regions are split with four decreasing, four staying the same and only the Northshore area increasing.

PAR will not conduct analysis on the COVID-like symptoms metric until data are made public by LDH. The same applies to regional level data for

hospitalizations. The state also seems to be on pace to conduct sufficient testing to meet its goal, though more time will reveal if this continues to be the case.

### Mapping progress – new cases trendlines by region



## Four Key Metrics

The state health agency examines a variety of data when making a recommendation to the Governor about whether the state should be reopening. These include the three metrics tracking the disease’s impact on 14-day timelines and an estimate of the outlook for the state’s testing capacity. The graphs in this PAR Research Brief use the data available for the past 14 days up through Thursday, May 7. LDH dives into the data a little deeper in its analysis looking at smaller micro-trends, particularly near the end of a 14-day period.

Taken in tandem, the three metrics provide a flowing picture of the disease’s progression. Higher numbers of people reporting symptoms could result in higher numbers of people actually diagnosed with COVID-19, which could place greater pressure on hospitals as those people grow sicker and are admitted. A spike in reported symptoms would be an early-warning sign to the hospitals. Likewise, a slackening in symptoms could be expected to result eventually in lower diagnoses and hospitalizations.

**COVID-like symptoms.** The CDC collects information from emergency rooms and other treatment centers on patients and their symptoms. Those exhibiting signs of COVID -- such as fever, chills, trouble breathing, sore throat and loss of taste or smell -- are counted as having COVID-like symptoms in the CDC database. LDH relies on the CDC to report this information to the state. These data are not yet available on the LDH website, though the agency has pledged to do so in the near future. Significantly, at the time of the Governor’s announcement on April 27, the state and all regions showed decreasing trendlines for reported symptoms.

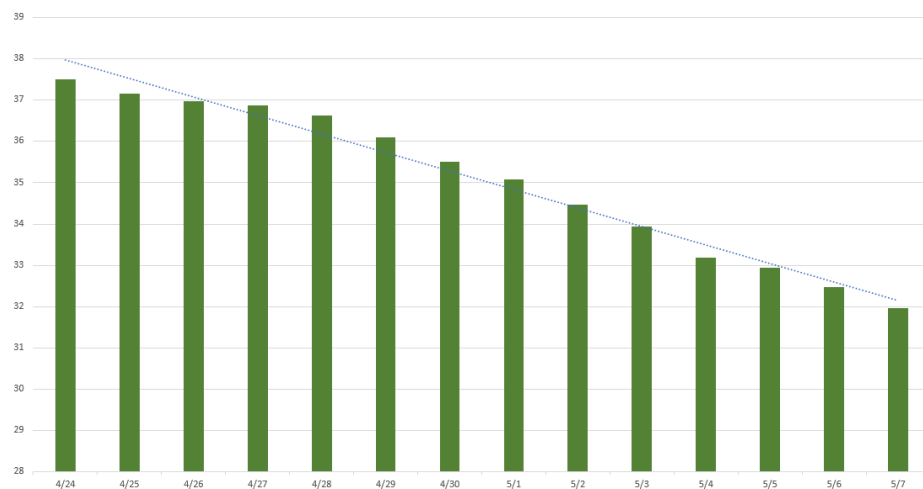
**New positive COVID-19 cases.** LDH collects information from both state and private labs about the number of COVID-19 positive cases regionally and over time. Using this data, PAR can create a model similar to the models LDH is reporting. The graphs in this report show the number of new cases per 100,000 residents over a 14-day period, which is a method used by the state. By calculating the cases according to population in this way, the results from region to region are easier to compare to determine the severity of the outbreak.

PAR uses an average of new cases over a three-day period to smooth out irregularities that could be related to reporting inconsistencies. (LDH also uses multiple-day averaging.) Then, a statistically derived trendline – in the form of a straight line -- is fitted to the data to gauge whether cases are increasing, decreasing or have reached a plateau, according to the CDC definition for each. Those trendlines showing a statistically calculated upward slope with a value of 0.1 or more are considered “increasing” across the 14 days. Those with a downward slope of more than 0.1 are “decreasing.” Flatter slopes in-between are called a “plateau.”

**Hospitalizations.** Hospitalizations related to COVID are available on the LDH website, but not at a regional level. PAR reports hospitalizations statewide

per 100,000 population with a three-day average, as does LDH. The data show a pronounced decrease in COVID hospitalizations over the 14-day period ending May 7. Of the three key disease impact measures, hospitalizations are the lagging indicator. The reported COVID hospitalizations should not be confused with overall hospital capacity and beds in use for all reasons.

State COVID-19 hospitalizations per 100,000



**Testing.** The Governor and his team have wanted to increase testing for infection so that at least 140,000 tests would be conducted per month in Louisiana and hopefully as many as 200,000. Combining results from both state and commercial labs, Louisiana has ramped up testing capacity by conducting an average of 6,612 tests per day from May 4 to 6. If this pace were to continue for the entire month, the state would reach more than 200,000 tests for May.

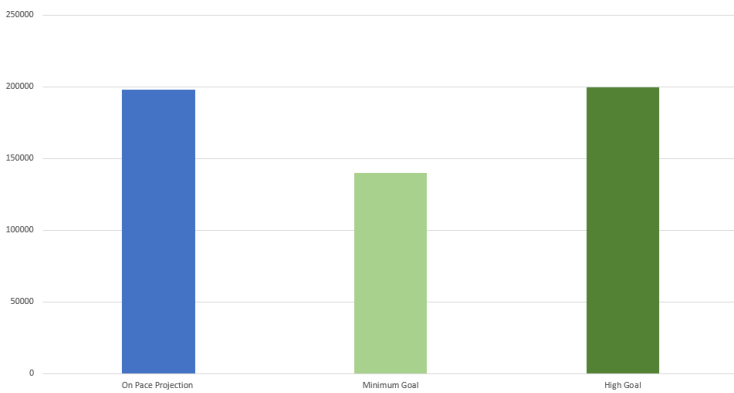
## Conclusion

Whereas the state updates its data daily and has disclosed an enormous amount of information, LDH has yet to provide regularly updated 14-day trendlines. The agency posted a set of trendline graphics showing new cases on a regional basis for the first time on May 1, but has not released regional updates since then. LDH did report on April 27 whether the nine regions had increasing or decreasing directions.

PAR’s trendline graphics are intended to give the public a greater and more timely awareness of where the state and regions stand with regard to combating COVID-19. They will be updated regularly.

PAR does not intend for these graphics to be the last word on key decisions about state or regional phased reopening plans, and PAR is not taking a position on those decisions. The graphics contribute to our awareness about the trends. Milestone decisions might be based on various factors, including testing capacity and sudden upswings in disease outbreak that might not track downward overall in a 14-day period.

Louisiana testing progress for May



According to a recently released poll by Louisiana State University, people generally seem to be abiding by the Governor’s stay-at-home order. However, there are signs of “quarantine fatigue.” The disease and healthcare benchmarks will be needed as the state reopens and as the public adjusts to government decisions.

Allowing people to track how we are doing can help them get on board and feel like they are connected and part of the solution. It also helps reduce surprises that could stem from citizens not being able to look at the data themselves. If the public can track our progress against the benchmarks, they can better anticipate the likely decisions to re-open or extend closures.

While federal guidelines call for a 14-day look-back period in evaluating disease trends, another valid approach would be to consider a period of longer length. According to the Centers for Disease Control, the incubation period for COVID-19 has a median period of four to five days from exposure to symptoms onset that could extend as long as 14 days. This timeframe is much longer than the flu, which has an average incubation period of two days but could extend as long as four.

Given the longer incubation period for the novel coronavirus, a 21-day look-back could be appropriate because that approach can detect longer-term changes. The point of considering this option is not to let decision makers pick and choose their favorite scenarios. But decision makers might find value in examining trends over both time periods.

For Louisiana, using a 21-day look-back shifts some of the trends both regionally and statewide. See the chart, which looks at the two- and three-week periods ending on May 7. The state has an overall decreasing trend of new COVID positive cases over a three-week period versus a plateau for the two-week period. No region is increasing when using this longer time frame.

### Positive Case Time Frame Comparison

Region	14 Day Look-Back	21 Day Look-Back
Orleans	Plateau	Decreasing
Capital	Decreasing	Plateau
Bayou	Decreasing	Decreasing
Lafayette	Decreasing	Decreasing
Lake Charles	Plateau	Plateau
Central	Plateau	Plateau
Shreveport	Decreasing	Decreasing
Monroe	Plateau	Plateau
Northshore	Increasing	Plateau
Statewide	Plateau	Decreasing

Looking forward, government leaders should clearly articulate where they draw the lines and how the measured control of the disease will influence decision-making. This approach should be transparent and give people a sense that decisions are not arbitrary and that the situation is not unending. Having clear criteria will allow people to see how their cooperation with social distancing or contact tracing has a direct impact on how quickly we can get back to work fully.

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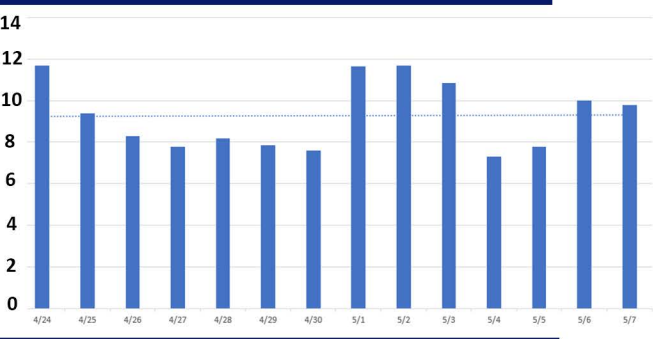


# New COVID-19 Cases per 100,000 residents

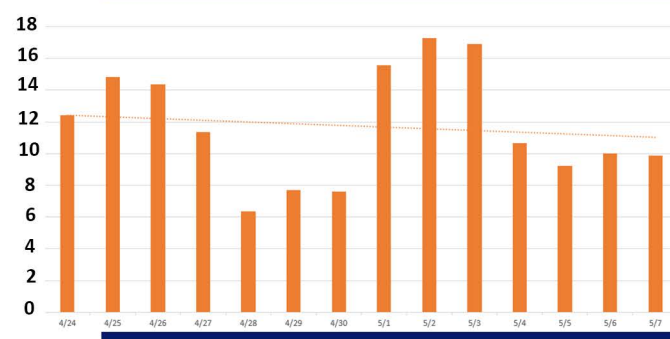
Source: LDH & CDC

4/24-5/7

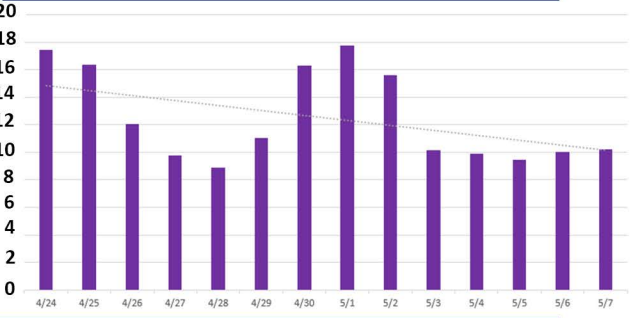
**Region 1: Orleans - Plateau**



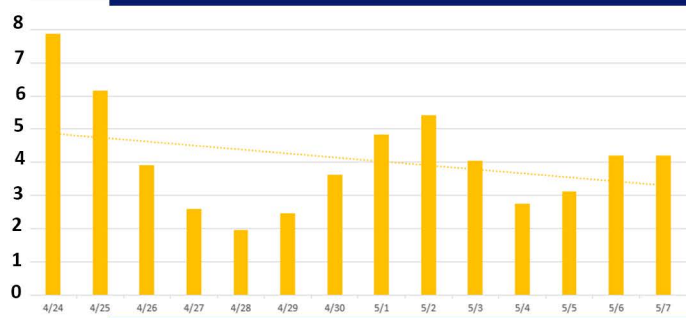
**Region 2: Capital - Decreasing**



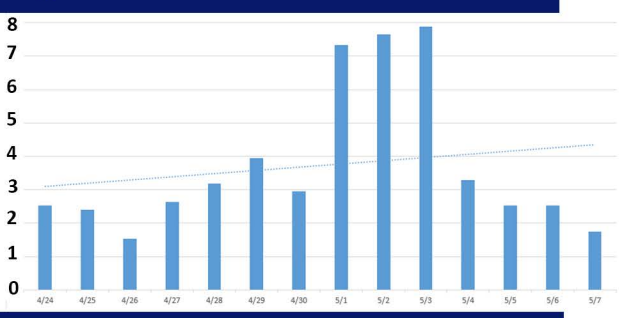
**Region 3: Bayou - Decreasing**



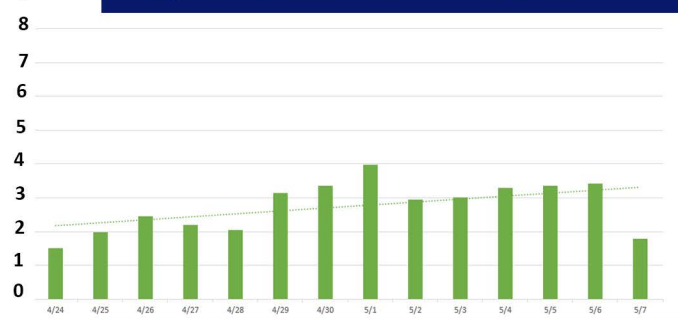
**Region 4: Lafayette - Decreasing**



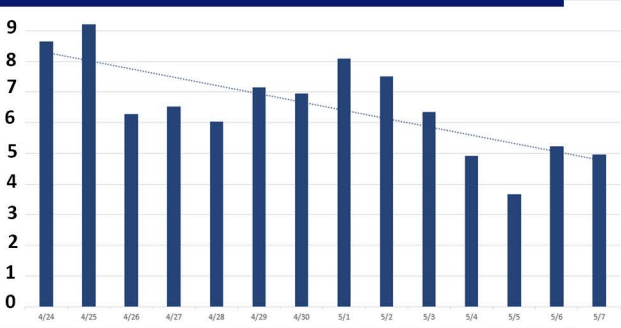
**Region 5: Lake Charles - Plateau**



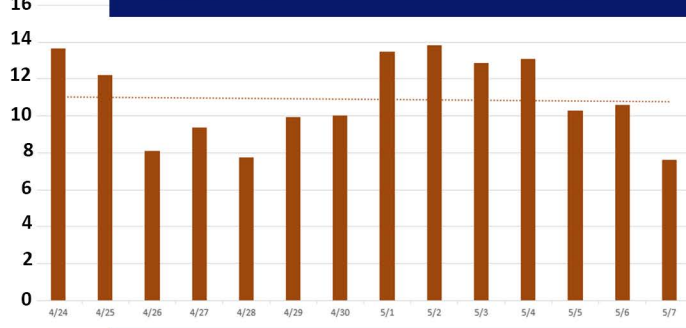
**Region 6: Central - Plateau**



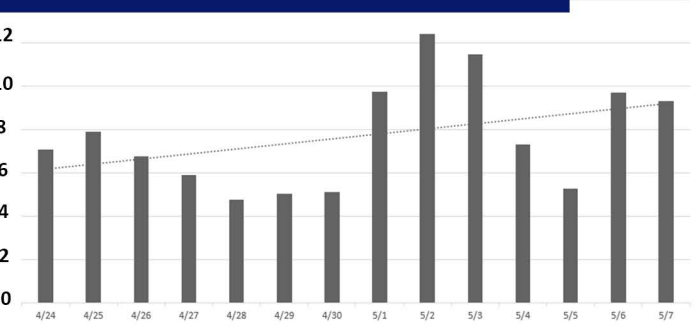
**Region 7: Shreveport - Decreasing**



**Region 8: Monroe - Plateau**



**Region 9: Northshore - Increasing**



**Statewide - Plateau**

