



# Epidemiology of COVID-19 in Missouri

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COVID-19  
Daily Situation Report  
July 19, 2021

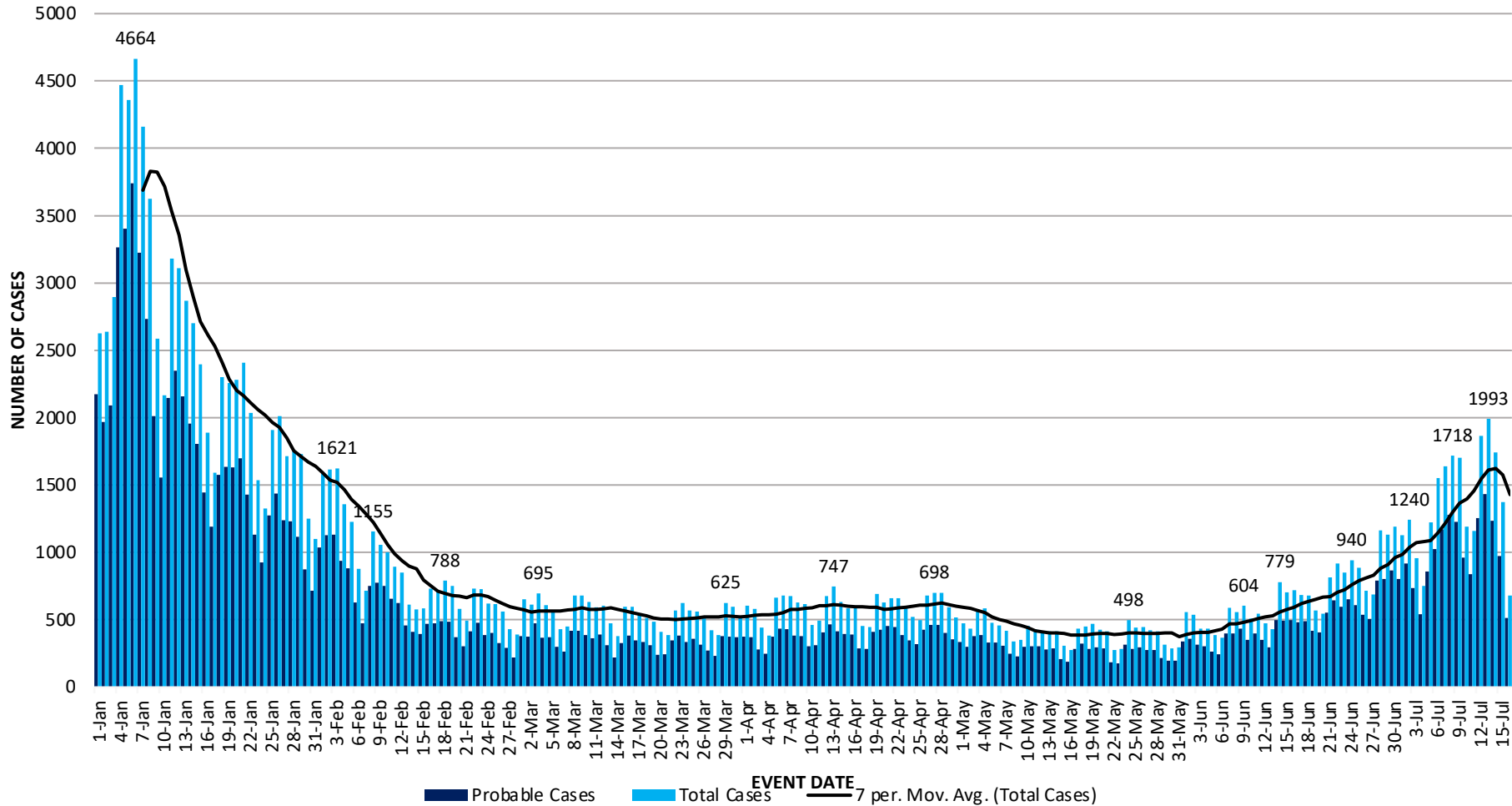
**Avg. Total Daily Cases**  
**28.0**  
Rolling 7 Day Average Per 100,000

**Avg. PCR+ Cases**  
**1,244**  
Rolling 7 Day Average

**New Cases Added**  
**1,020**  
PCR & Ant.+ Since Last Report

**Avg. Antigen+ Cases**  
**474**  
Rolling 7 Day Average

**MO COVID-19 Total Cases (PCR+ & Antigen+) by Report Date through 7/16/2021;**  
**Total Cases = 647,403; PCR+ = 545,551; Antigen+ = 101,852**



**Deaths (9,474)**

**79**  
Median Age

**0**  
Newly Added

**Testing (7/13)**

**11,100**  
Total Tests

**12.4%**  
Percent Positive

**Ant. – 7 Days**

**47,006**  
Total Tests  
7/7 – 7/13

**8.2%**  
Percent Positive

**PCR – 7 Days**

**70,676**  
Total Tests  
7/7 – 7/13

**13.5%**  
Percent Positive

**Ant. – 30 Days**

**171,508**  
Total Tests

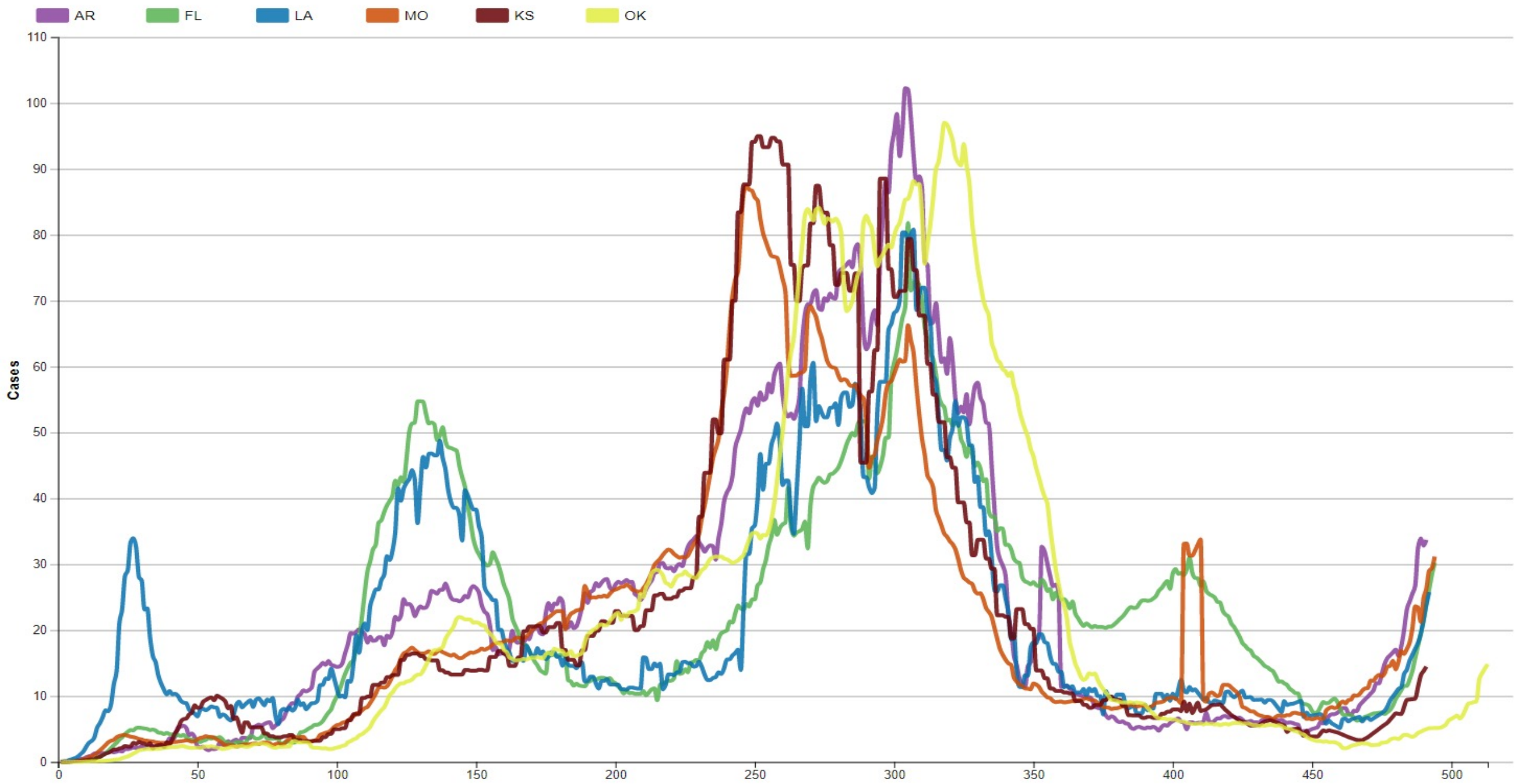
**6.6%**  
Percent Positive

**PCR – 30 Days**

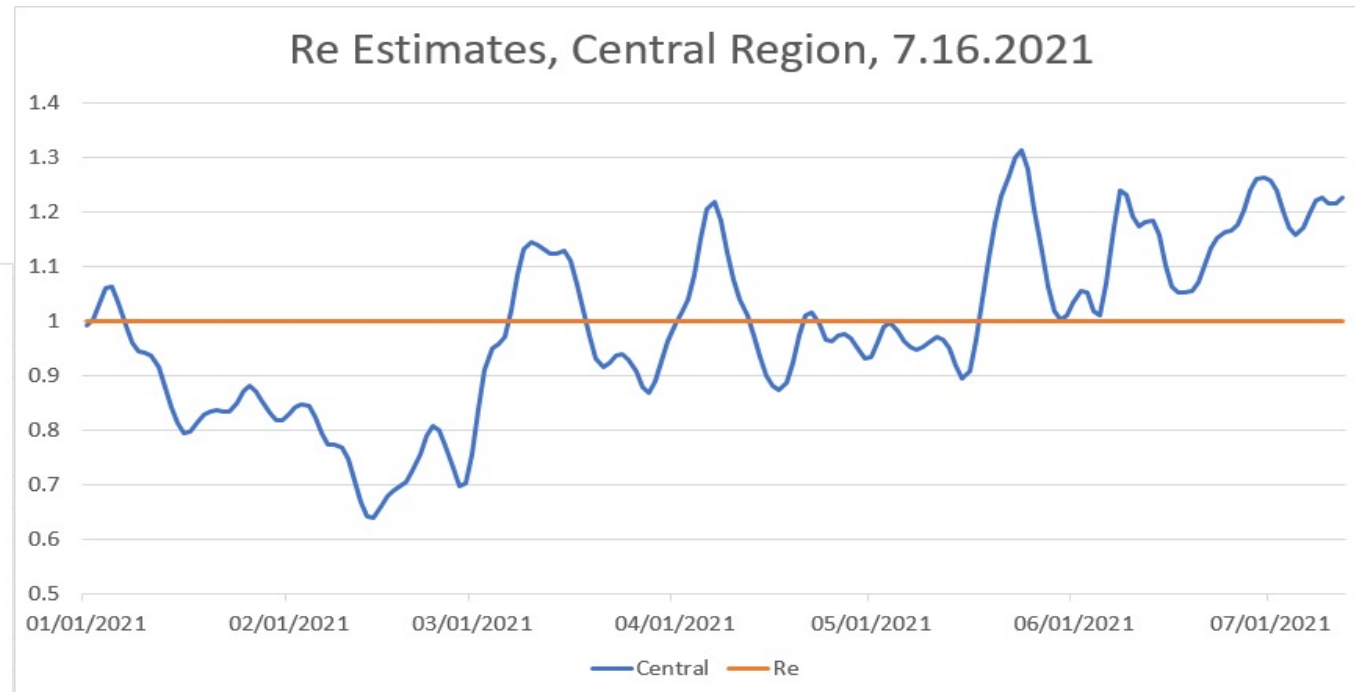
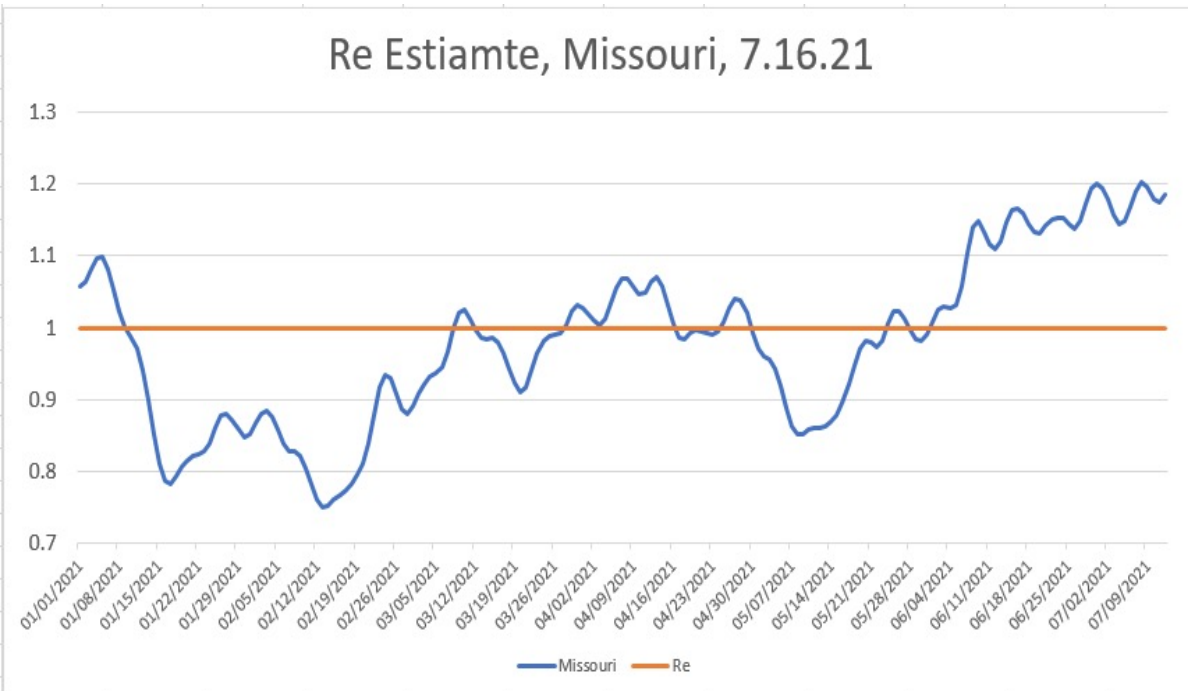
**246,289**  
Total Tests

**10.7%**  
Percent Positive

New cases of Covid-19, reported to CDC, in AR, FL, LA, MO, KS, and OK  
Seven-day moving average of new cases (per 100K), by number of days since .01 average daily cases (per 100K) first recorded.



# COVID-19 Reproductive Number ( $Re$ ) Estimates, Missouri (7.16.2021)



# Missouri Genomic Surveillance, 7.16.2021

- ▶ B.1.1.17 (Alpha/UK) – 2
- ▶ B.1.351 (Beta/South Africa) - 0
- ▶ P.1 (Gamma/Brazil) - 0
- ▶ B.1.427, B.1.429 (Epsilon/California) - 0
- ▶ **B.1.617.2, B.1.617.3 (Delta/India) - 55**
- ▶ **AY.3 (B.1.617.2.3 sub-lineage of Delta/India) - 32**
- ▶ B.1.526, B.1.526.1 and B.1.526.2 (Iota/New York) - 0

# COVID-19, Boone County, 7.19.2021

## The Status of COVID-19 in BOONE - PCR ONLY

Based on White House Coronavirus Task Force thresholds. Based off PCR-metrics only.

### Severity: Past 7 Days

*How large is the problem now?*

New Cases	<b>323</b> (179 per 100k)	<b>#10</b> (#30)
New Deaths	<b>0</b> (0.0 per 100k)	
7-Day Positivity Rate	<b>13.4%</b> (CDC method)	<b>#62</b>

### Trajectory: Past 7 vs. Prior 7

*In what direction is the problem moving?*

% Change in Cases	<b>50.9%</b>	<b>#36</b>
% Change in Deaths	<b>0.0%</b>	
%p Change in Positivity Rate	<b>4.0%p</b>	<b>#29</b>

### Response

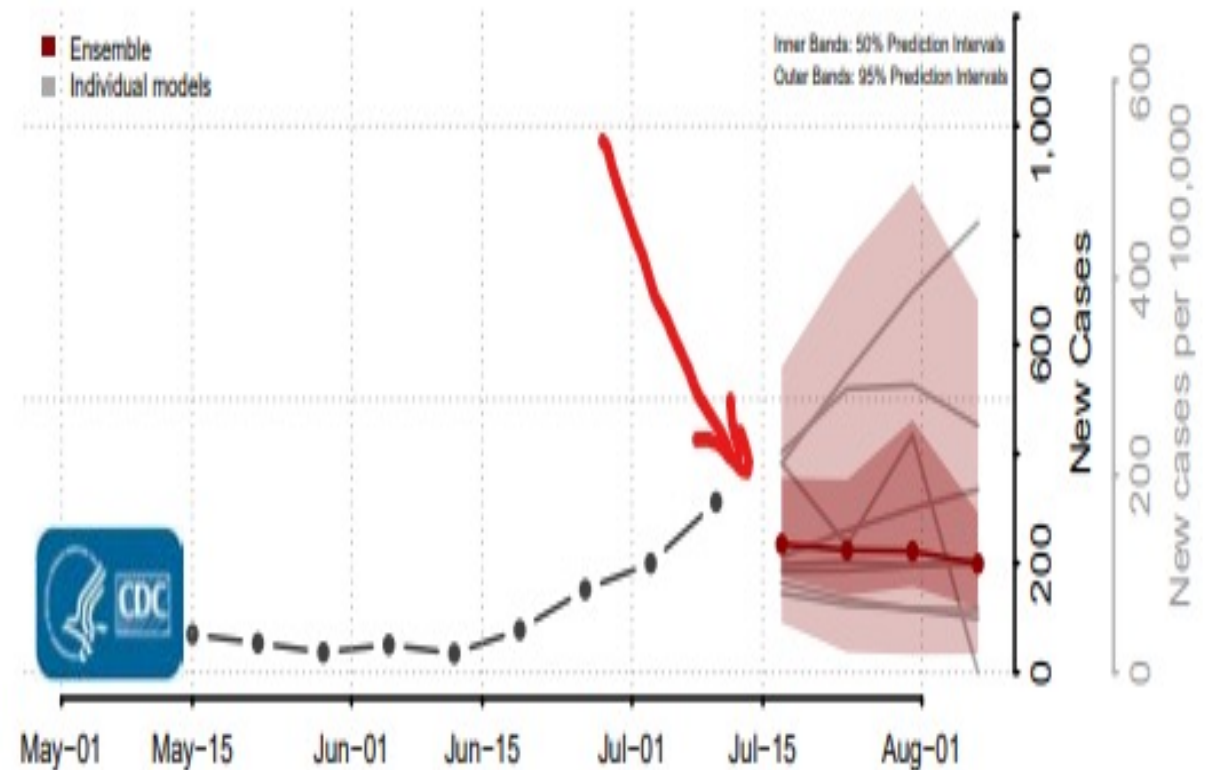
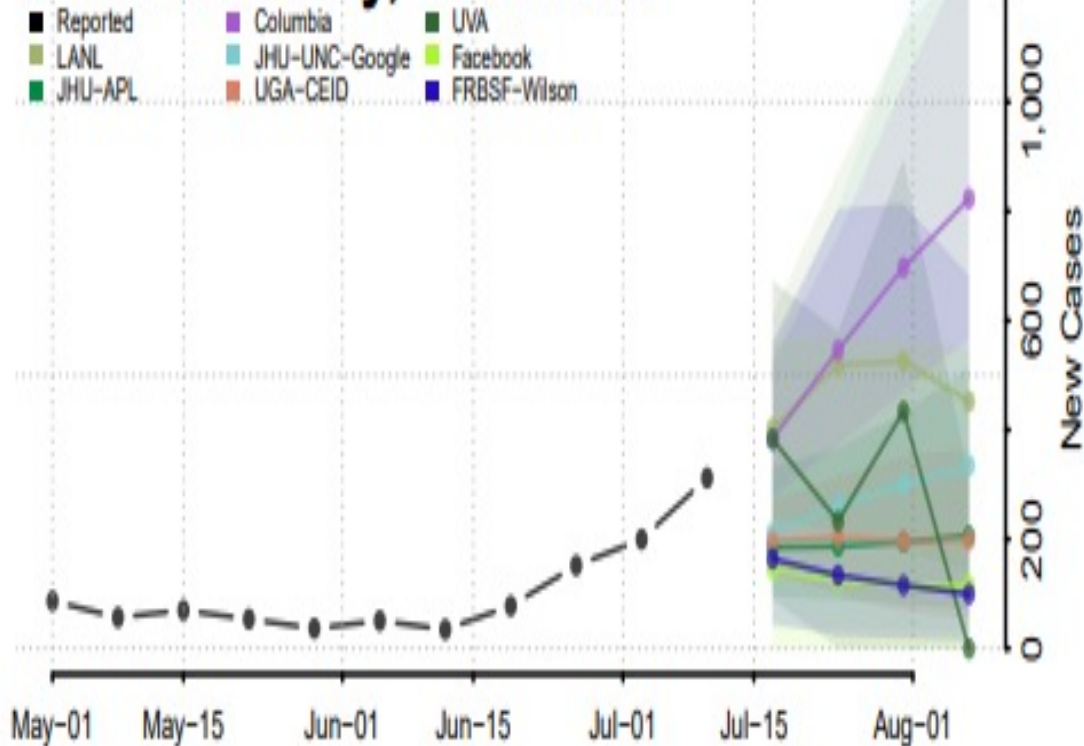
*What is being done now?*

New Tests (Past 7 Days)	<b>2,511</b> 1,391 per 100k	<b>#7</b> (#24)
% Change in Tests (Past 7 vs. Prior 7)	<b>7.5%</b>	
Testing Turnaround (Past 7 Days)	<b>1.3 days</b>	

# COVID Cases Forecast, Boone County, MO

7.19.2021

## Boone County, Missouri



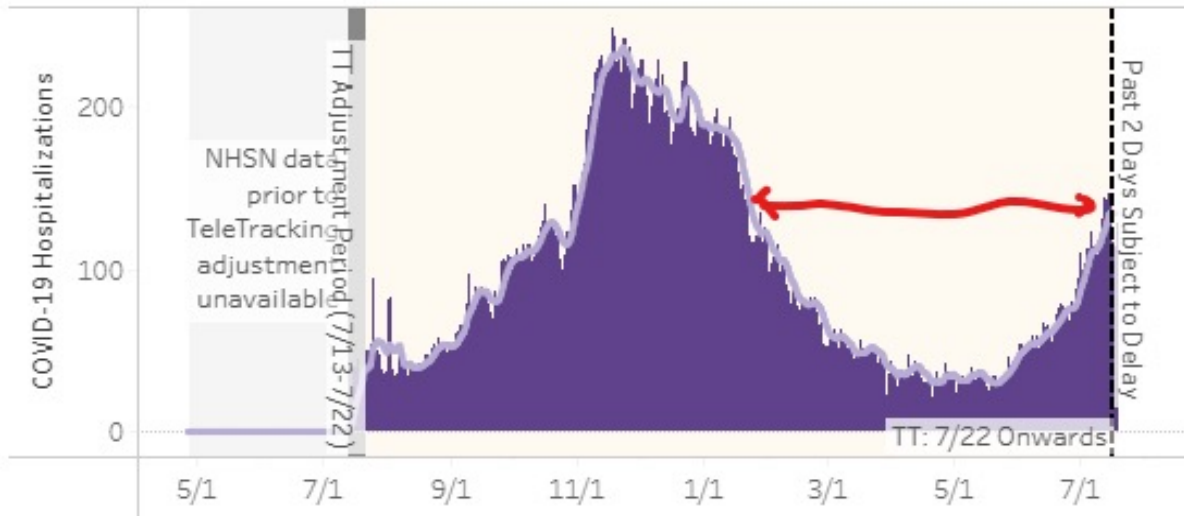
# COVID Hospitalizations, Central Region

(7.19.2021)

## COVID-19 Hospitalizations

### COVID-19 Total Patients in the Hospital by Day

Central Region(s) Selected

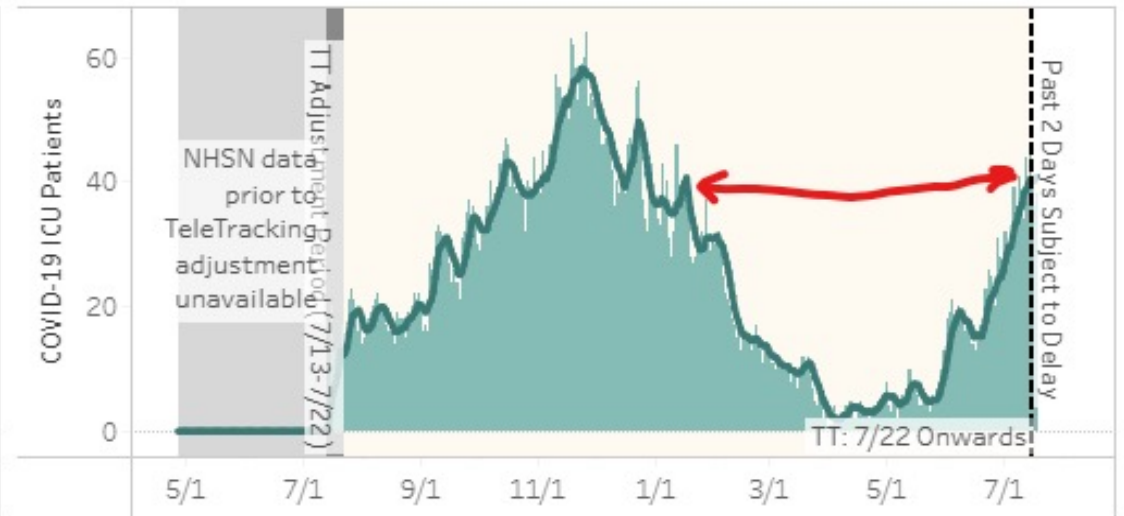


Legend: COVID-19 Hospitalizations by Day

- Total COVID-19 Hospitalizations
- 7-Day Average

### COVID-19 Patients in ICU by Day

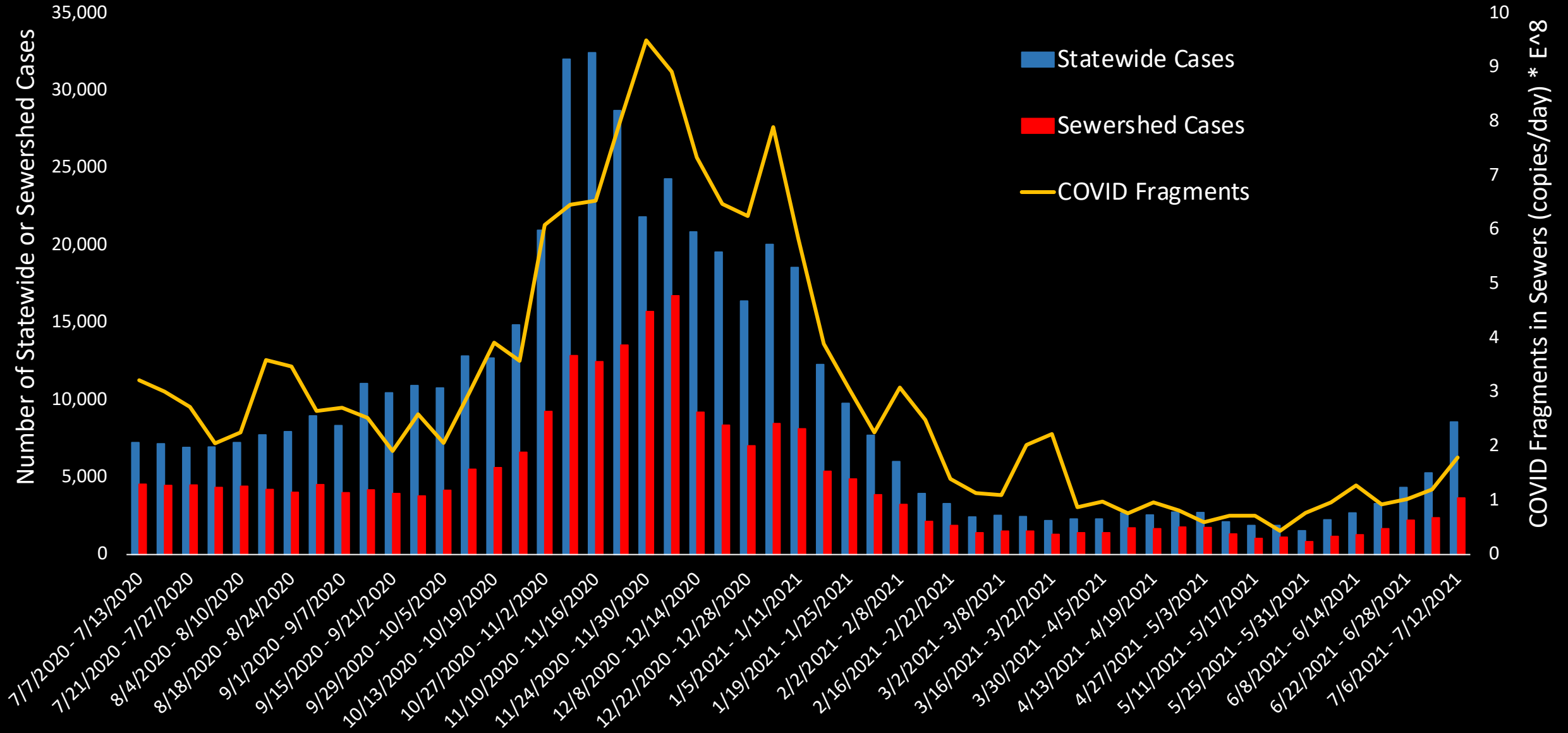
Central Region(s) Selected



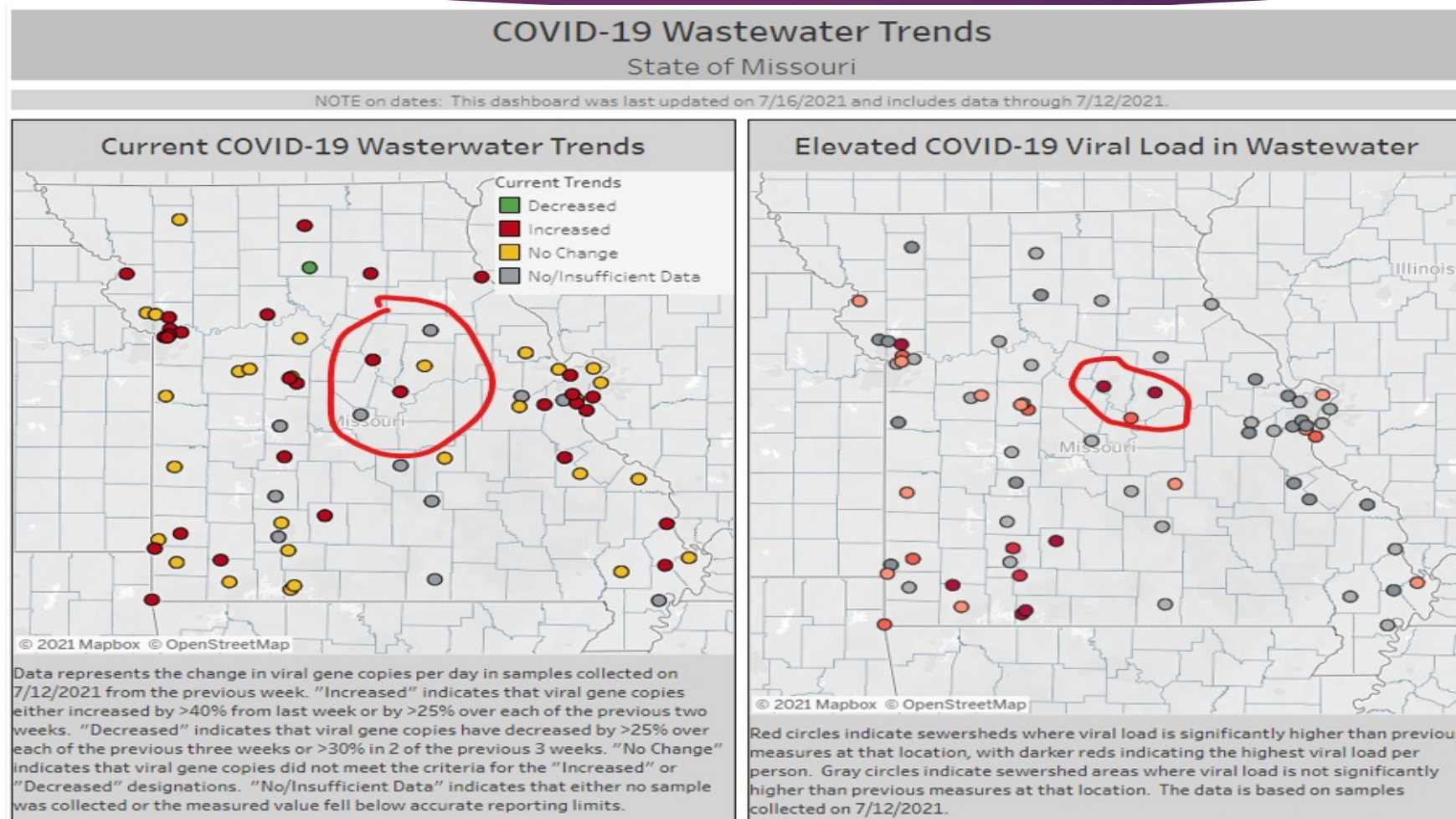
Legend: COVID-19 ICU Hospitalizations by Day

- COVID-19 Patients in ICU
- 7-Day Average

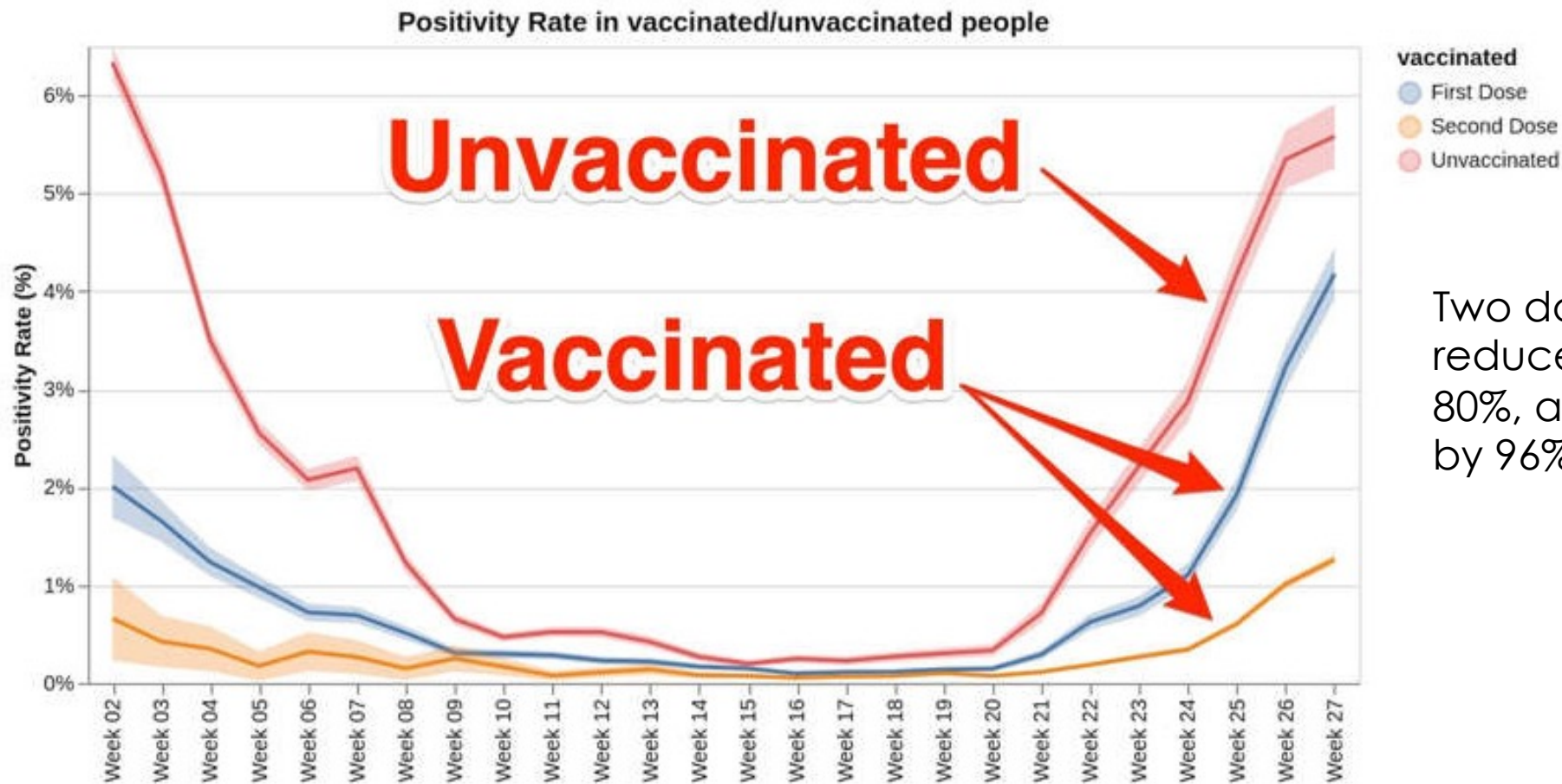
# State vs Sewershed COVID Cases and COVID Fragments in Sewers Thru July 12



# Missouri Wastewater Analysis (7.16.2021)



# COVID Test Positivity by Vaccination Status (UK data)



Two doses of vaccine reduced risk of mild disease by 80%, and risk of hospitalization by 96% (PHE data)

**1. Summary of Study Results for Post-Authorization COVID-19 Vaccine Effectiveness#**

Reference (date)	Country	Design	Population	Dominant Variants (Alpha=B.1.1.7 Beta=B.1351 Gamma=P.1 Delta=B.1617.2)	History of COVID	Vaccine Product	Outcome Measure death	1 <sup>st</sup> Dose VE (95%CI)	Days post 1 <sup>st</sup> dose	2 <sup>nd</sup> Dose VE (95% CI)	Days post 2 <sup>nd</sup> dose	Max Duration of follow up after fully vaccinated
<a href="#">Nasreen et al (July 3, 2021)</a>				Delta <sup>^</sup>	Unknown	BNT162b2	Symptomatic infection	56 (45, 64)	1	87 (64, 95)		
							Hospitalization or death	78 (65, 86)		—		
						mRNA-1273	Symptomatic infection	72 (57, 82)		—		
							Hospitalization or death	96 (72, 99)		—		
						AZD1222	Symptomatic infection	67 (44, 80)		—		
							Hospitalization or death	88 (60, 96)		—		
<a href="#">Lopez-Bernal et al (May 20, 2021)</a>				Delta	Excluded	BNT162b2	Symptomatic infection	33.2 (8.3-51.4)	21+ days post dose 1	87.9 (78.2-93.2)	≥14	
						excluded	AZD1222	Symptomatic infection	32.9% (19.3-44.3)	21+ days post dose 1	59.8% (28.9-77.3)	≥14
<a href="#">Stowe et al (June 14, 2021)</a>	UK	TND Case-control	Patients seeking emergency care services with subsequent hospitalization	Alpha	included	BNT162b2	Hospitalization	83% (62-93)	21+ to <13 days post dose 2	95% (78-99)	14+	~20 weeks (but most much less)
						AZD1222		76% (61-85)		86% (53-96)		
				Delta		BNT162b2		94% (46-99)		96 (86-99)		
						AZD1222		71% (51-83)		92% (75-97)		