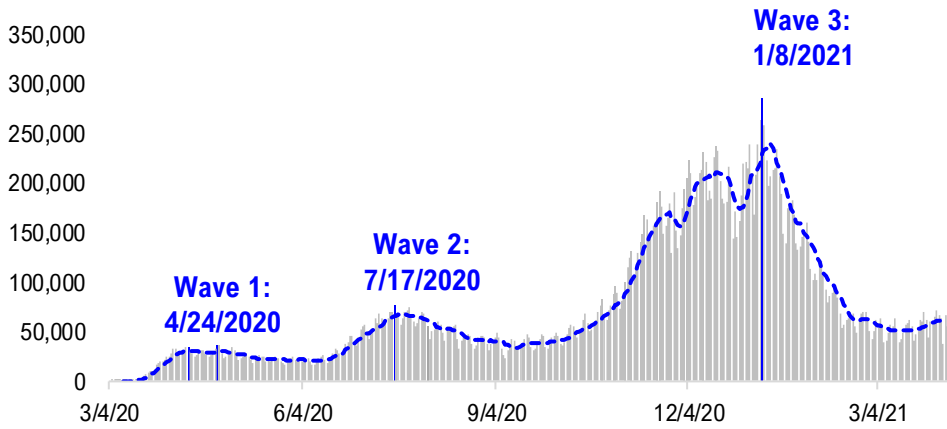


# FSInsight Daily COVID-19 Chartbook

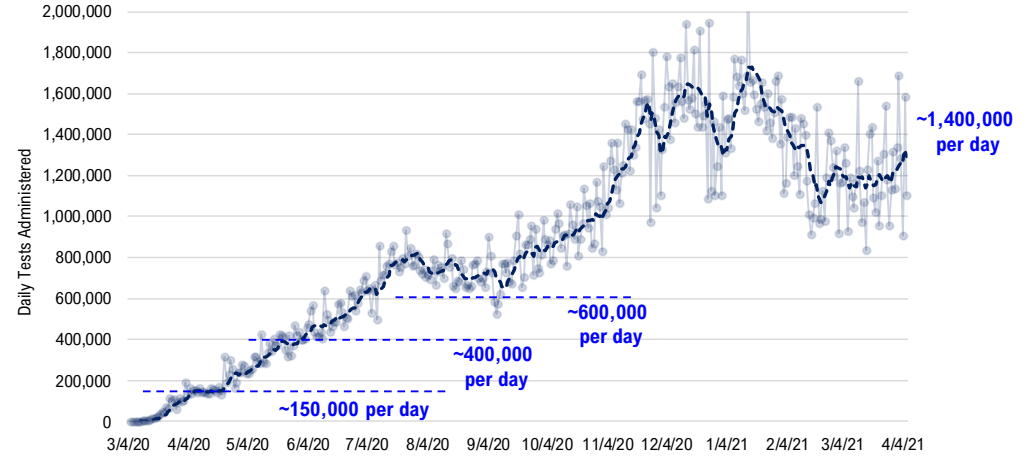


# #1: USA COVID-19 Situation at a Glance...

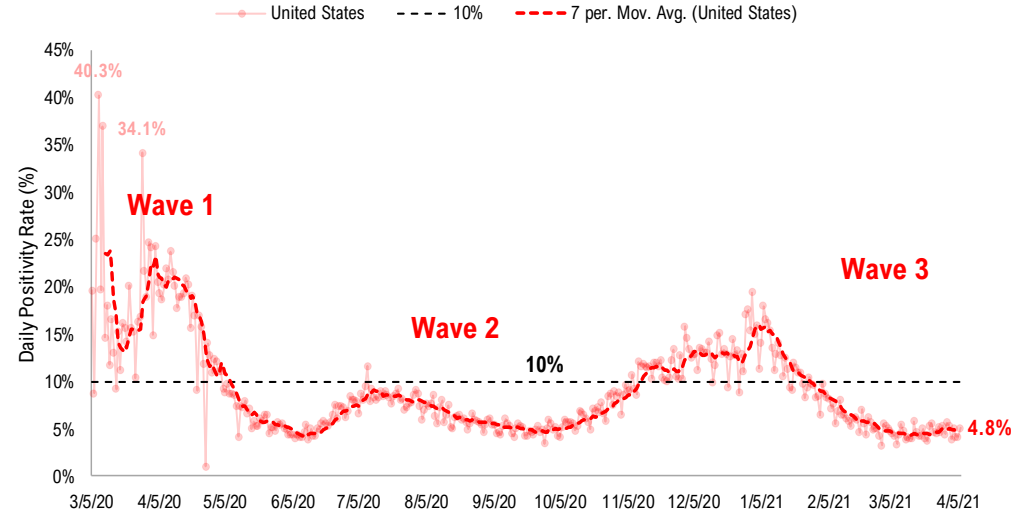
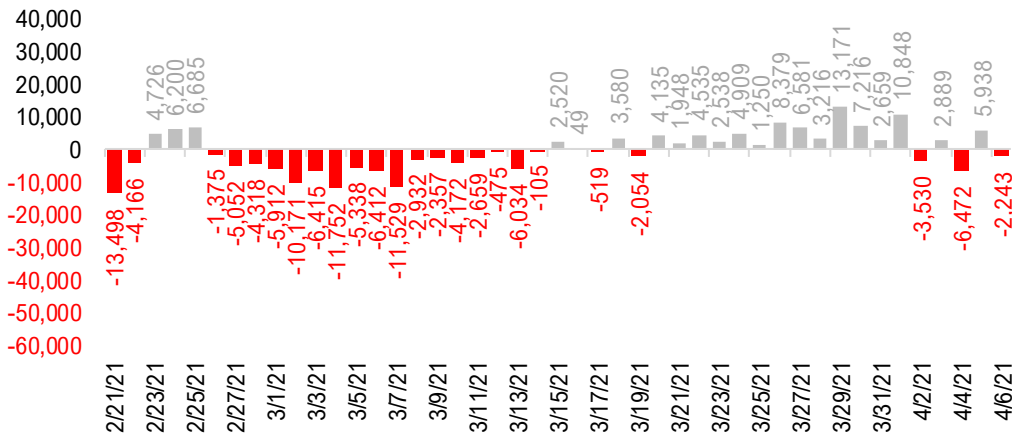
**US daily new cases**



**USA total COVID-19 tests administered**

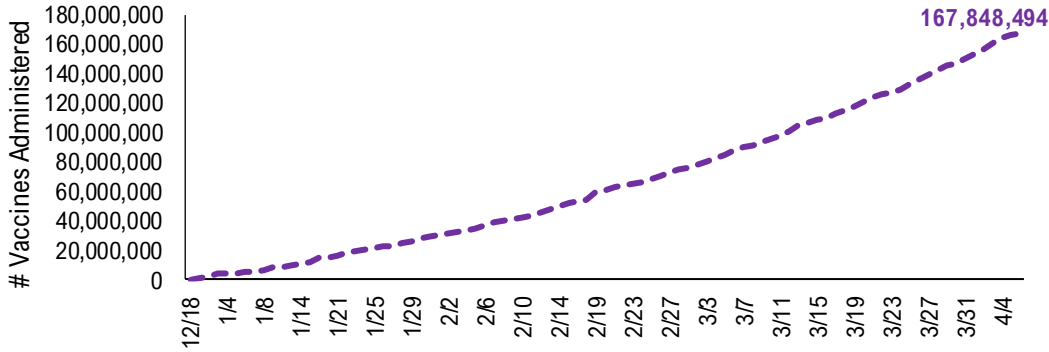


**US daily new cases rolling 7D delta**

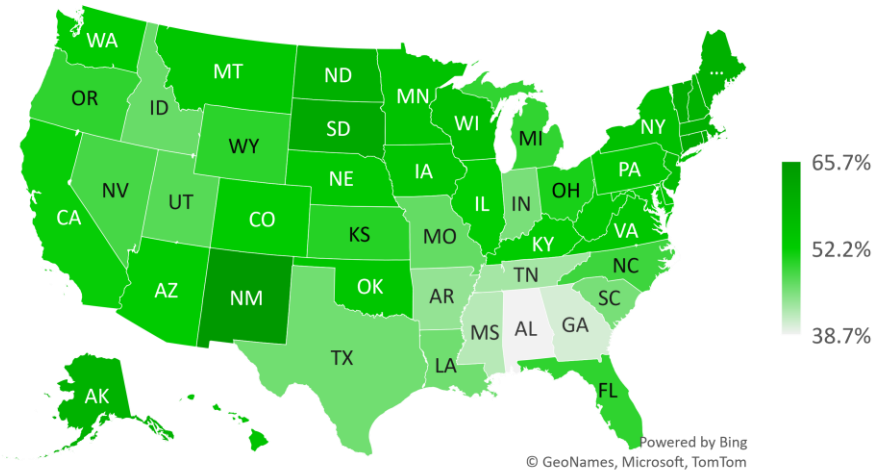


# #2: USA COVID-19 Vaccination Progress at a Glance...

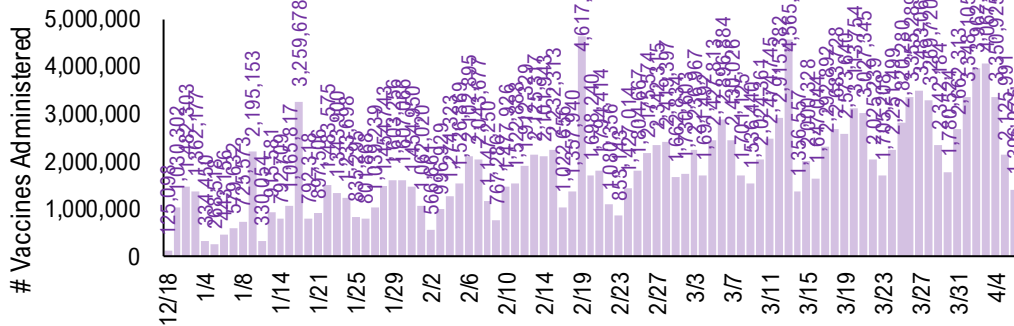
### Cumulative Vaccines Administered



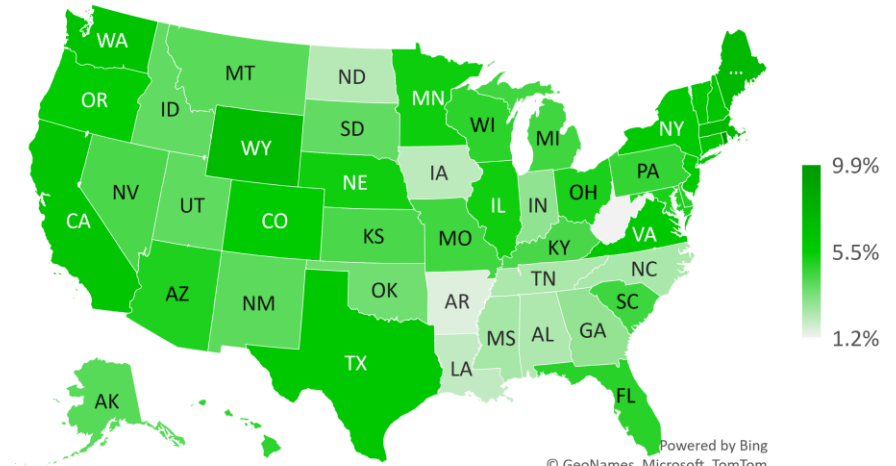
### Cumulative Vaccines Administered as % State Population



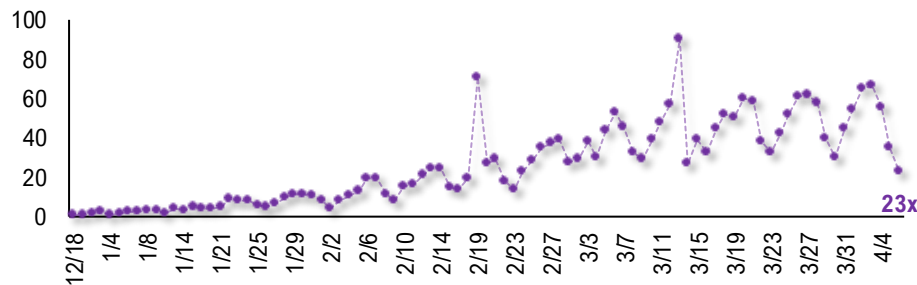
### Daily Vaccines Administered



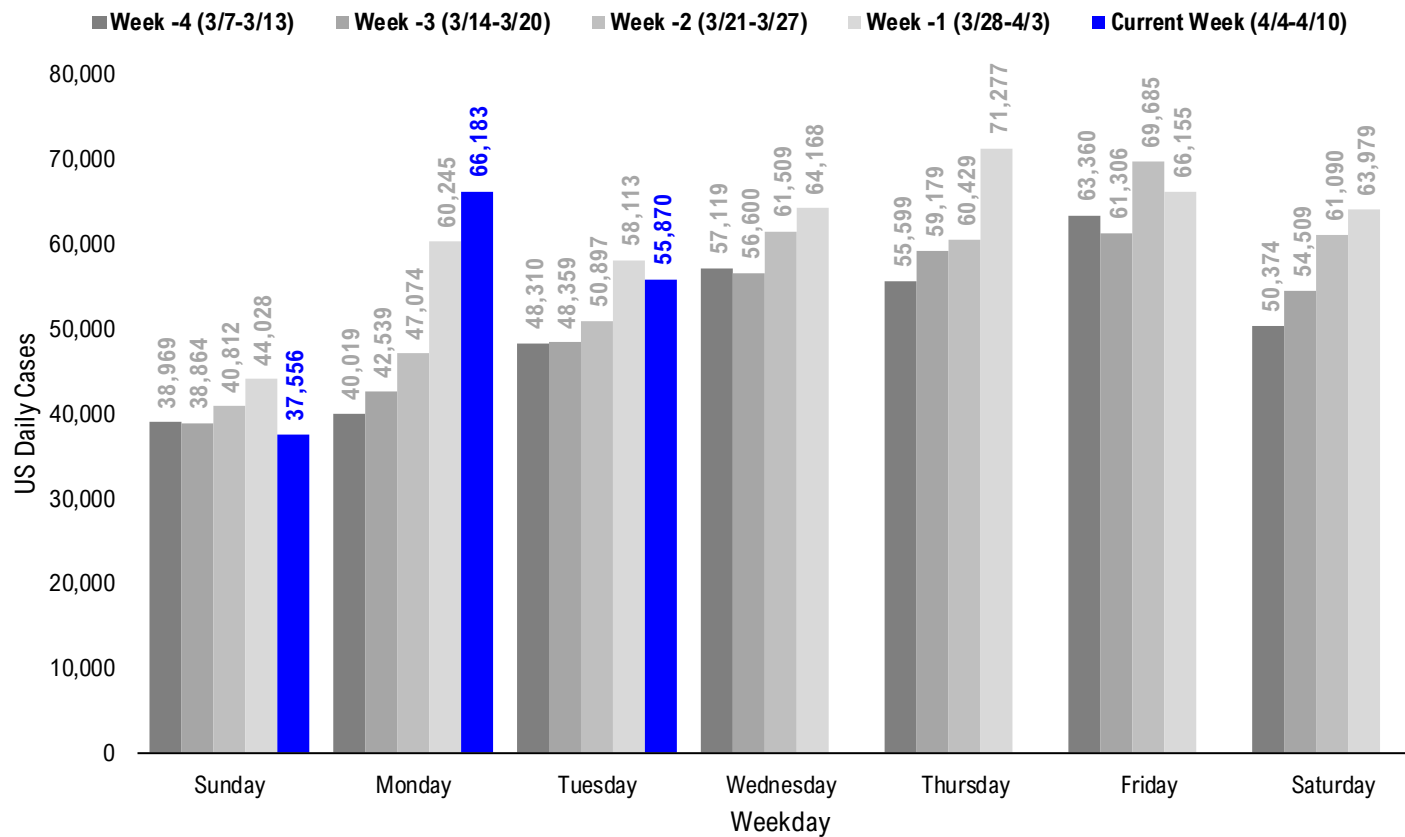
### Implied Weekly Vaccines Administered as % State Population



### Daily Vaccinations / Daily Cases (7D Avg)



# #3: USA COVID-19 Daily Cases Weekday Seasonality (Past 4 Weeks) ...



# #4: USA State COVID-19 Situation at a Glance...

	Sorted Daily Cases		Daily Cases (3D avg) per 1mm residents				Since Peak		Hospitalization	
	% US Pop	% US GDP	4/6	7D Delta	4/6	7D Delta	# Days	% Decline in Daily Cases	7D Net Hospitalization	7D Net Hospitalization / 7D New Cases
	United States	100%	100%	55.870	-2.243	162	-3	87	-80%	1,913

	Sorted Daily Cases		Daily Cases (3D avg) per 1mm residents				Since Peak		Hospitalization	
	% US Pop	% US GDP	4/6	7D Delta	4/6	7D Delta	# Days	% Decline in Daily Cases	7D Net Hospitalization	7D Net Hospitalization / 7D New Cases
	United States	100%	100%	55.870	-2.243	162	-3	87	-80%	1,913

### States:

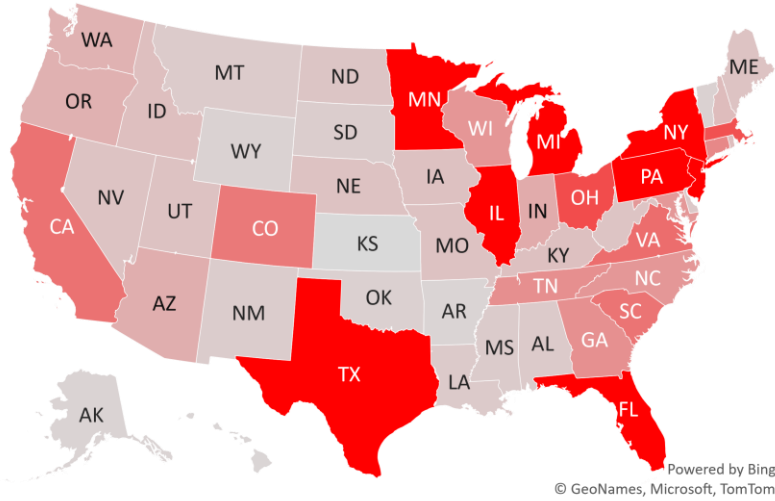
1	New York	5.9%	8.1%	5,748	-740	339	-64	87	-63%	-182	(0.3%)
2	Florida	6.5%	5.0%	5,556	+494	215	+7	88	-76%	88	0.2%
3	Michigan	3.0%	2.6%	4,964	-213	509	+63	139	-41%	1,086	2.6%
4	Pennsylvania	3.9%	3.8%	4,255	-777	284	+76	122	-70%	404	1.4%
5	Texas	8.7%	8.8%	3,365	+242	65	-14	89	-91%	-279	(1.9%)
6	New Jersey	2.7%	3.0%	3,222	-862	336	-81	87	-51%	0	0.0%
7	Minnesota	1.7%	1.8%	3,012	+1,739	260	+21	127	-82%	140	1.1%
8	Illinois	3.8%	4.2%	2,931	+527	197	+28	144	-82%	252	1.3%
9	Ohio	3.5%	3.3%	1,871	-587	137	-5	117	-86%	161	1.2%
10	Massachusetts	2.1%	2.8%	1,803	-247	232	-35	87	-79%	14	0.1%
11	Virginia	2.6%	2.6%	1,434	+2	145	-9	78	-84%	18	0.2%
12	California	11.9%	14.6%	1,367	-629	50	-12	86	-96%	-226	(1.3%)
13	South Carolina	1.6%	1.1%	1,334	+733	164	-2	86	-88%	-5	(0.1%)
14	Colorado	1.7%	1.8%	1,266	+309	194	+37	136	-81%	45	0.5%
15	Connecticut	1.1%	1.3%	1,074	-543	353	-100	83	-74%	-13	(0.2%)
16	Tennessee	2.1%	1.8%	986	+149	214	+32	109	-86%	37	0.5%
17	Georgia	3.2%	2.9%	967	+74	67	-10	86	-92%	-93	(1.5%)
18	Wisconsin	1.8%	1.6%	886	+298	102	+27	144	-92%	22	0.5%
19	North Carolina	3.2%	2.7%	870	-500	231	+19	87	-77%	58	0.5%
20	Maryland	1.8%	2.0%	867	-36	187	+7	86	-69%	175	1.9%
21	Indiana	2.0%	1.8%	615	-105	113	-5	122	-91%	85	1.3%
22	Arizona	2.2%	1.7%	570	-16	75	-5	93	-95%	-3	(0.1%)
23	Oregon	1.3%	1.2%	530	+124	93	+24	121	-77%	38	1.2%
24	Washington	2.3%	2.7%	516	-94	83	+8	132	-85%	18	0.3%
25	New Hampshire	0.4%	0.4%	385	+11	260	+23	92	-68%	14	0.5%
26	Rhode Island	0.3%	0.3%	376	+30	407	+96	122	-74%	26	0.9%
27	Idaho	0.5%	0.4%	346	+33	187	+66	117	-84%	-90	(1.3%)
28	Kentucky	1.3%	1.0%	330	-410	55	-50	88	-95%	-2	(0.1%)

### States:

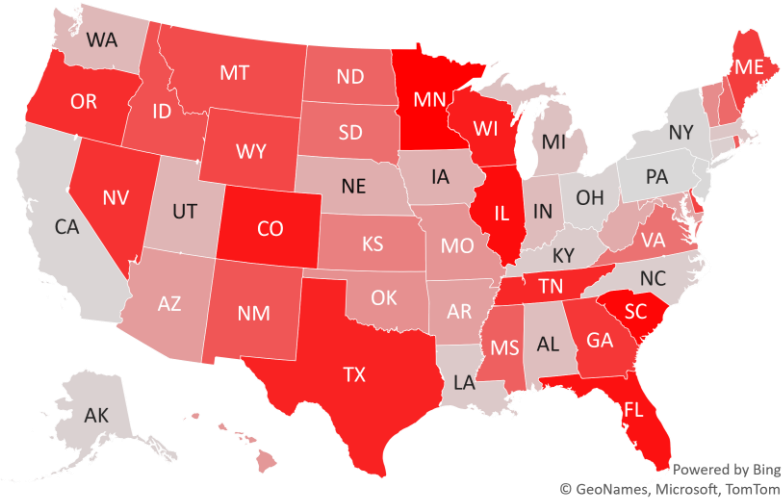
29	Iowa	1.0%	0.9%	322	-60	88	-12	144	-93%	31	1.2%
30	Missouri	1.8%	1.5%	309	-10	43	+1	143	-95%	-1	(0.0%)
31	Utah	1.0%	0.9%	300	-71	85	-14	88	-93%	-4	(0.1%)
32	Nebraska	0.6%	0.6%	299	-60	118	-18	138	-92%	46	1.4%
33	Nevada	0.9%	0.8%	295	+74	80	+17	87	-92%	78	3.6%
34	Maine	0.4%	0.3%	290	+67	200	+52	81	-67%	2	0.1%
35	West Virginia	0.5%	0.4%	277	-54	168	-19	93	-84%	25	0.9%
36	North Dakota	0.2%	0.3%	260	+19	174	+23	143	-93%	15	1.4%
37	Delaware	0.3%	0.4%	229	+58	250	-49	87	-73%	6	0.3%
38	Louisiana	1.4%	1.3%	198	-301	104	-24	89	-91%	-64	(2.5%)
39	Alabama	1.5%	1.1%	196	-165	34	-28	89	-97%	-46	(2.2%)
40	Montana	0.3%	0.2%	191	+33	93	+23	142	-93%	-13	(1.3%)
41	Mississippi	0.9%	0.6%	183	+20	39	-10	87	-96%	0	0.0%
42	New Mexico	0.6%	0.5%	178	+31	99	+21	137	-93%	-28	(2.0%)
43	South Dakota	0.3%	0.3%	163	+4	120	-36	143	-94%	3	0.3%
44	District of Columbia	0.2%	0.7%	122	-43	143	-28	86	-71%	0	0.0%
45	Oklahoma	1.2%	1.0%	120	-1	84	-1	86	-94%	-4	(0.2%)
46	Vermont	0.2%	0.2%	106	-1	250	-10	4	-28%	0	0.0%
47	Wyoming	0.2%	0.2%	90	+44	99	-10	138	-94%	1	0.3%
48	Puerto Rico	1.0%	0.5%	87	-246	90	-2	108	-75%	85	3.9%
49	Alaska	0.2%	0.3%	79	-544	256	-28	122	-77%	7	0.6%
50	Arkansas	0.9%	0.6%	71	-32	20	-4	86	-97%	-18	(2.5%)
51	Hawaii	0.4%	0.5%	59	-11	58	-6	220	-72%	0	0.0%
52	U.S. Virgin Islands	0.0%	0.0%	0	+0	100	+81	9	-77%	0	0.0%
53	Northern Mariana	0.0%	0.0%	0	+0	0	+0	161	-100%	0	
54	Kansas	0.9%	0.8%	0	+0	41	-9	132	-97%	4	0.3%
55	Guam	0.0%	0.0%	0	+0	0	+0	147	-100%	0	0.0%
56	American Samoa	0.0%	0.0%	0	+0	0	+0	0	0%	0	

# #5: USA COVID-19 Heat Map...

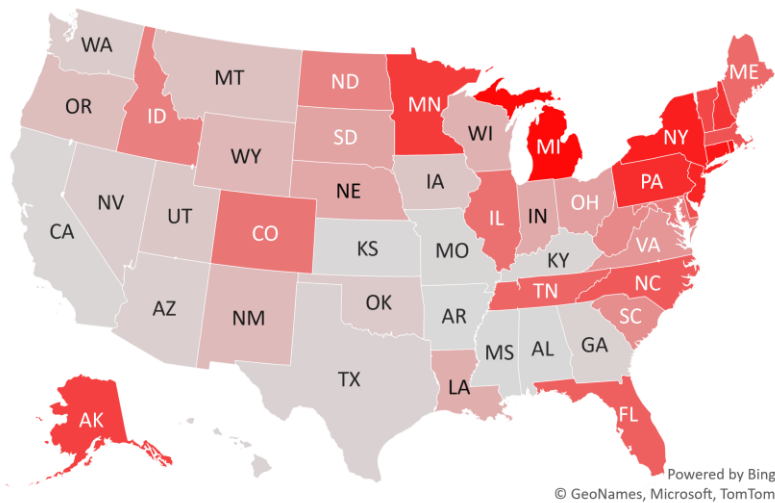
### Daily Case Increases



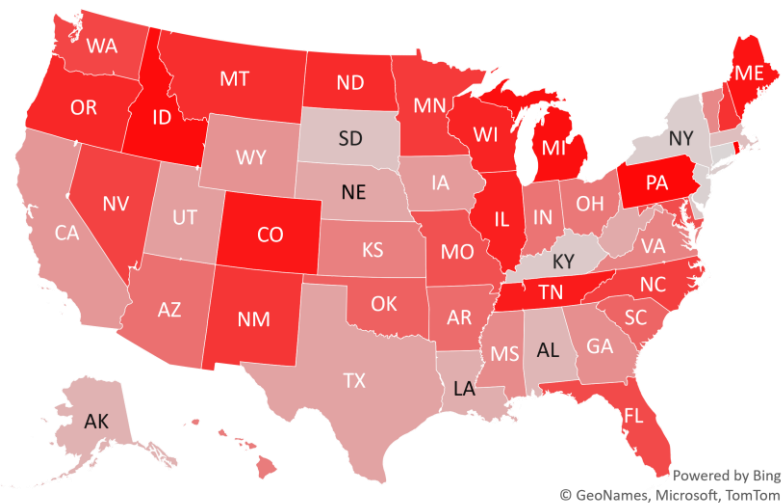
### 7D Delta in Daily New Cases



### Daily Case Increases per 1mm Resident (3D Avg)



### 7D Delta in Daily Case Increases per 1mm Resident (3D Avg)



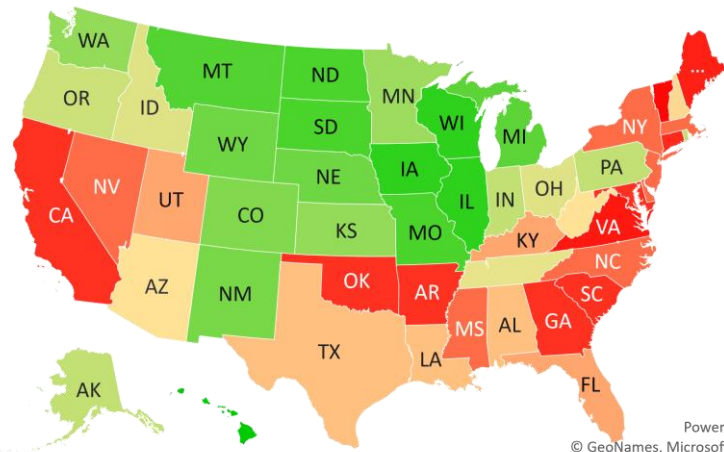
# #6: # of Days since Daily Case Peaked by States...

## # Days since Daily Cases (3D Avg) Peak (as of 4/6)

	Sorted			
	Peak Date	4/6/21	% off the Peak	% US Pop
United States	1/9/21	87	-80%	100%
<b>States:</b>				
Hawaii	8/29/20	220	-72%	0.4%
Northern Mariana Island	10/27/20	161	-100%	0.0%
Guam	11/10/20	147	-100%	0.0%
Wisconsin	11/13/20	144	-92%	1.8%
Illinois	11/13/20	144	-82%	3.8%
Iowa	11/13/20	144	-93%	1.0%
South Dakota	11/14/20	143	-94%	0.3%
North Dakota	11/14/20	143	-93%	0.2%
Missouri	11/14/20	143	-95%	1.8%
Montana	11/15/20	142	-93%	0.3%
Michigan	11/18/20	139	-41%	3.0%
Wyoming	11/19/20	138	-94%	0.2%
Nebraska	11/19/20	138	-92%	0.6%
New Mexico	11/20/20	137	-93%	0.6%
Colorado	11/21/20	136	-81%	1.7%
Washington	11/25/20	132	-85%	2.3%
Kansas	11/25/20	132	-97%	0.9%
Minnesota	11/30/20	127	-82%	1.7%
Rhode Island	12/5/20	122	-74%	0.3%
Pennsylvania	12/5/20	122	-70%	3.9%
Indiana	12/5/20	122	-91%	2.0%
Alaska	12/5/20	122	-77%	0.2%
Oregon	12/6/20	121	-77%	1.3%
Ohio	12/10/20	117	-86%	3.5%
Idaho	12/10/20	117	-84%	0.5%
Tennessee	12/18/20	109	-86%	2.1%
Puerto Rico	12/19/20	108	-75%	1.0%
West Virginia	1/3/21	93	-84%	0.5%

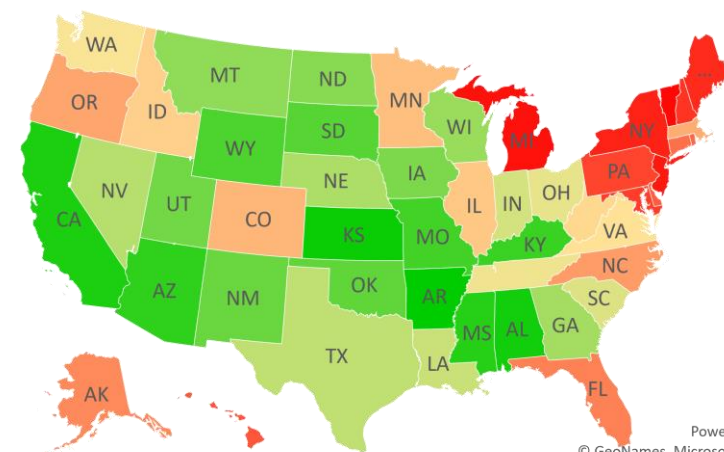
	Sorted			
	Peak Date	4/6/21	% off the Peak	% US Pop
United States	1/9/21	87	-80%	100%
<b>States:</b>				
Arizona	1/3/21	93	-95%	2.2%
New Hampshire	1/4/21	92	-68%	0.4%
Texas	1/7/21	89	-91%	8.7%
Louisiana	1/7/21	89	-91%	1.4%
Alabama	1/7/21	89	-97%	1.5%
Utah	1/8/21	88	-93%	1.0%
Kentucky	1/8/21	88	-95%	1.3%
Florida	1/8/21	88	-76%	6.5%
New York	1/9/21	87	-63%	5.9%
Nevada	1/9/21	87	-92%	0.9%
New Jersey	1/9/21	87	-51%	2.7%
North Carolina	1/9/21	87	-77%	3.2%
Mississippi	1/9/21	87	-96%	0.9%
Massachusetts	1/9/21	87	-79%	2.1%
Delaware	1/9/21	87	-73%	0.3%
South Carolina	1/10/21	86	-88%	1.6%
Oklahoma	1/10/21	86	-94%	1.2%
Maryland	1/10/21	86	-69%	1.8%
Georgia	1/10/21	86	-92%	3.2%
District of Columbia	1/10/21	86	-71%	0.2%
California	1/10/21	86	-96%	11.9%
Arkansas	1/10/21	86	-97%	0.9%
Connecticut	1/13/21	83	-74%	1.1%
Maine	1/15/21	81	-67%	0.4%
Virginia	1/18/21	78	-84%	2.6%
U.S. Virgin Islands	3/28/21	9	-77%	0.0%
Vermont	4/2/21	4	-28%	0.2%

## # Days since Daily Case Peak: **Longer = Good**



Powered by Bing  
© GeoNames, Microsoft, TomTom

## Daily Cases % off the Peak: **Larger Decline = Good**



Powered by Bing  
© GeoNames, Microsoft, TomTom

# #7: US New Cases by States... (sorted by today's new cases)

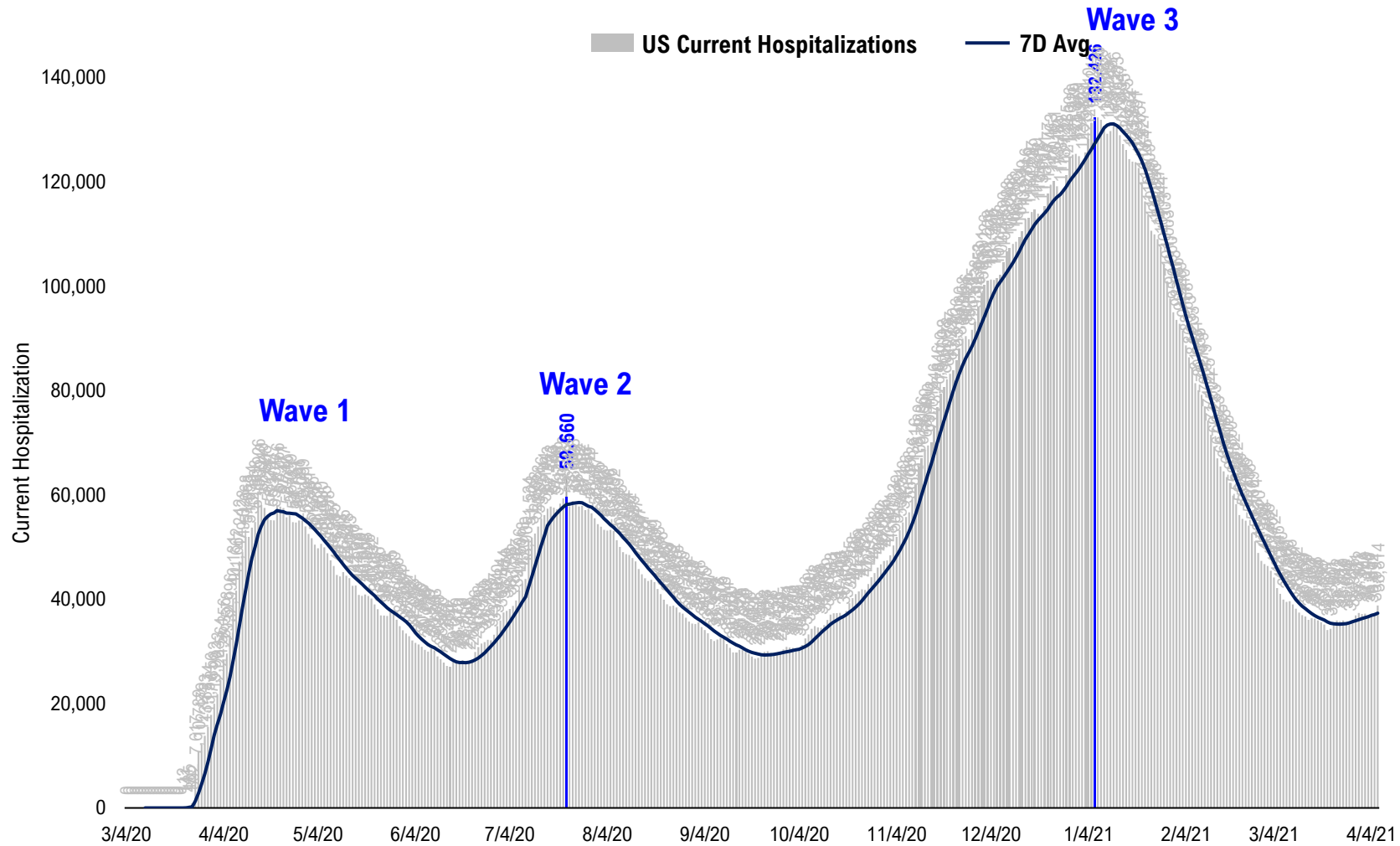
	Sorted						Sorted				
	7D Ago	Last 3-day Trend					7D Ago	Last 3-day Trend			
	3/30/21	4/4/21	4/5/21	4/6/21	vs 7D ago		3/30/21	4/4/21	4/5/21	4/6/21	vs 7D ago
United States	58,113	37,556	66,183	55,870	-2,243	United States	58,113	37,556	66,183	55,870	-2,243
<b>States:</b>						<b>States:</b>					
New York	6,488	7,467	6,583	5,748		Iowa	382	332	178	322	
Florida	5,062	4,794	3,480	5,556		Missouri	319	279	206	309	
Michigan	5,177	0	10,293	4,964		Utah	371	344	173	300	
Pennsylvania	5,032	3,933	2,718	4,255		Nebraska	359	242	146	299	
Texas	3,123	1,465	837	3,365		Nevada	221	260	181	295	<--higher
New Jersey	4,084	3,281	2,457	3,222		Maine	223	295	223	290	<--higher
Minnesota	1,273	0	1,383	3,012	<--higher	West Virginia	331	350	277	277	
Illinois	2,404	2,449	2,102	2,931	<--higher	North Dakota	241	61	76	260	
Ohio	2,458	0	2,918	1,871		Delaware	171	299	201	229	<--higher
Massachusetts	2,050	0	2,988	1,803		Louisiana	499	0	1,259	198	
Virginia	1,432	1,267	1,023	1,434		Alabama	361	194	109	196	
California	1,996	2,400	2,112	1,367		Montana	158	107	0	191	<--higher
South Carolina	601	0	1,195	1,334	<--higher	Mississippi	163	97	70	183	
Colorado	957	1,220	867	1,266	<--higher	New Mexico	147	0	443	178	<--higher
Connecticut	1,617	0	2,699	1,074		South Dakota	159	0	156	163	
Tennessee	837	0	3,408	986		District of Columbia	165	105	75	122	
Georgia	893	653	501	967		Oklahoma	121	0	873	120	
Wisconsin	588	584	307	886	<--higher	Vermont	107	244	118	106	
North Carolina	1,370	0	6,401	870		Wyoming	46	0	82	90	<--higher
Maryland	903	1,669	859	867		Puerto Rico	333	470	306	87	
Indiana	720	945	715	615		Alaska	623	0	483	79	
Arizona	586	464	608	570		Arkansas	103	72	42	71	
Oregon	406	402	246	530	<--higher	Hawaii	70	96	93	59	
Washington	610	0	1,388	516		U.S. Virgin Islands	0	0	32	0	
New Hampshire	374	398	279	385		Northern Mariana Islands	0	0	0	0	
Rhode Island	346	0	918	376		Kansas	0	0	354	0	
Idaho	313	318	337	346		Guam	0	0	0	0	
Kentucky	740	0	405	330		American Samoa	0	0	0	0	

<--higher – if the state has 20% more daily cases than 7D ago...  
 Source: Fundstrat, COVID-19 Tracking Project, State Department of Health



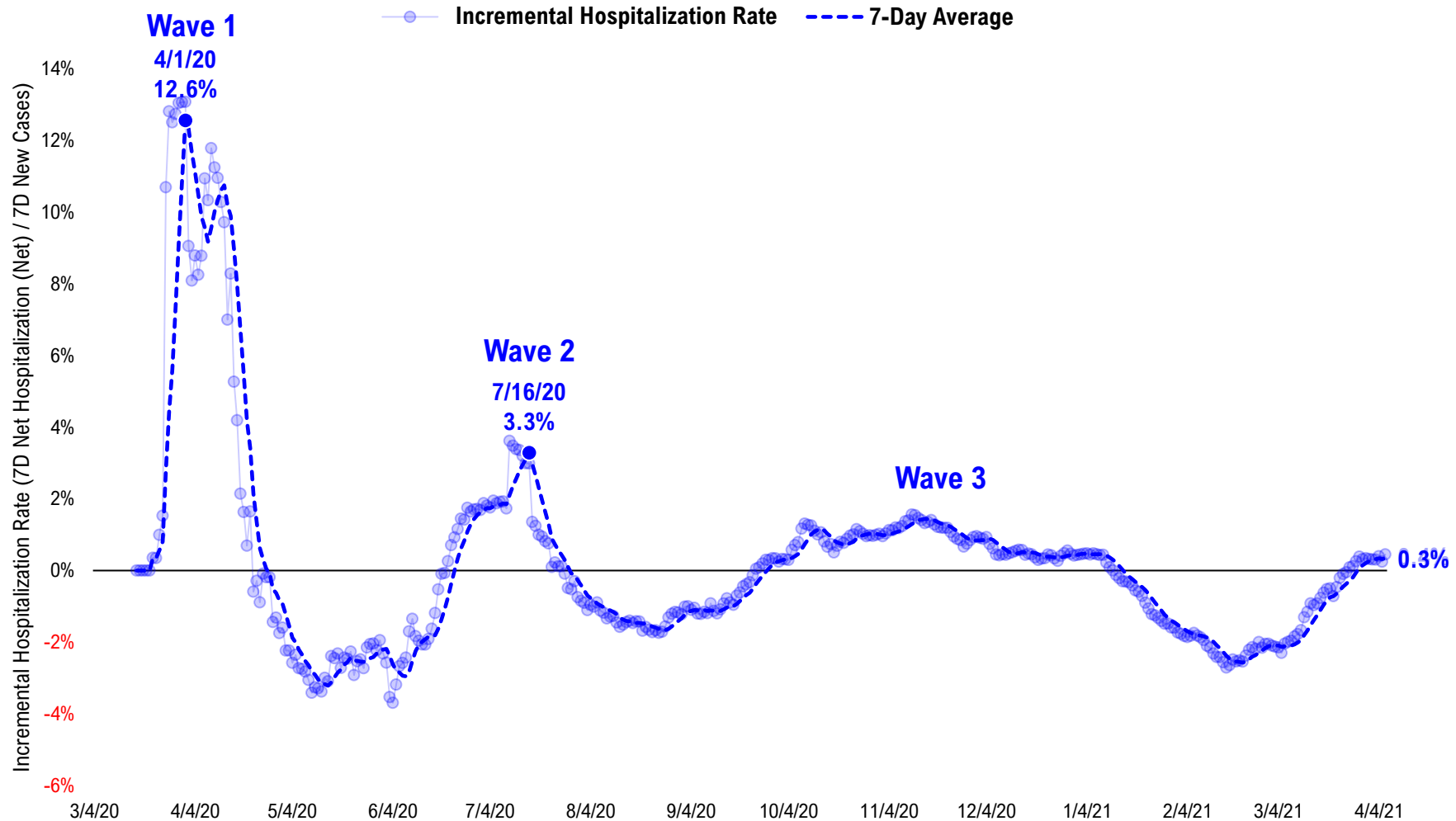
# #8: US Daily Hospitalizations...

### US Net Hospitalizations (aggregate of 50 states + Washington, D.C.)



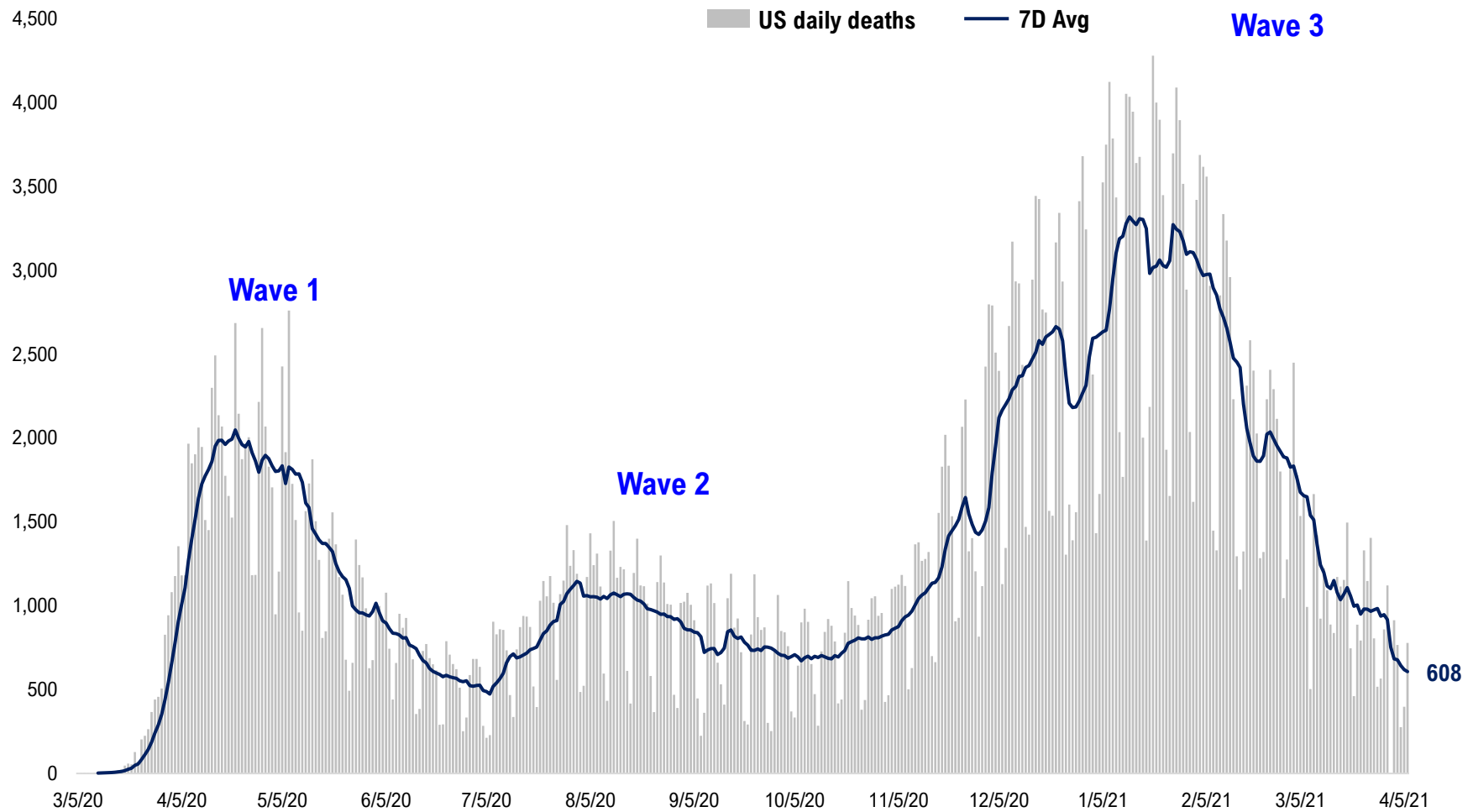
# #9: Incremental Hospitalization Rate...

Incremental Hospitalization Rate: 7D Net Hospitalizations / 7D Total New Cases  
(aggregate of 50 states + Washington, D.C.)

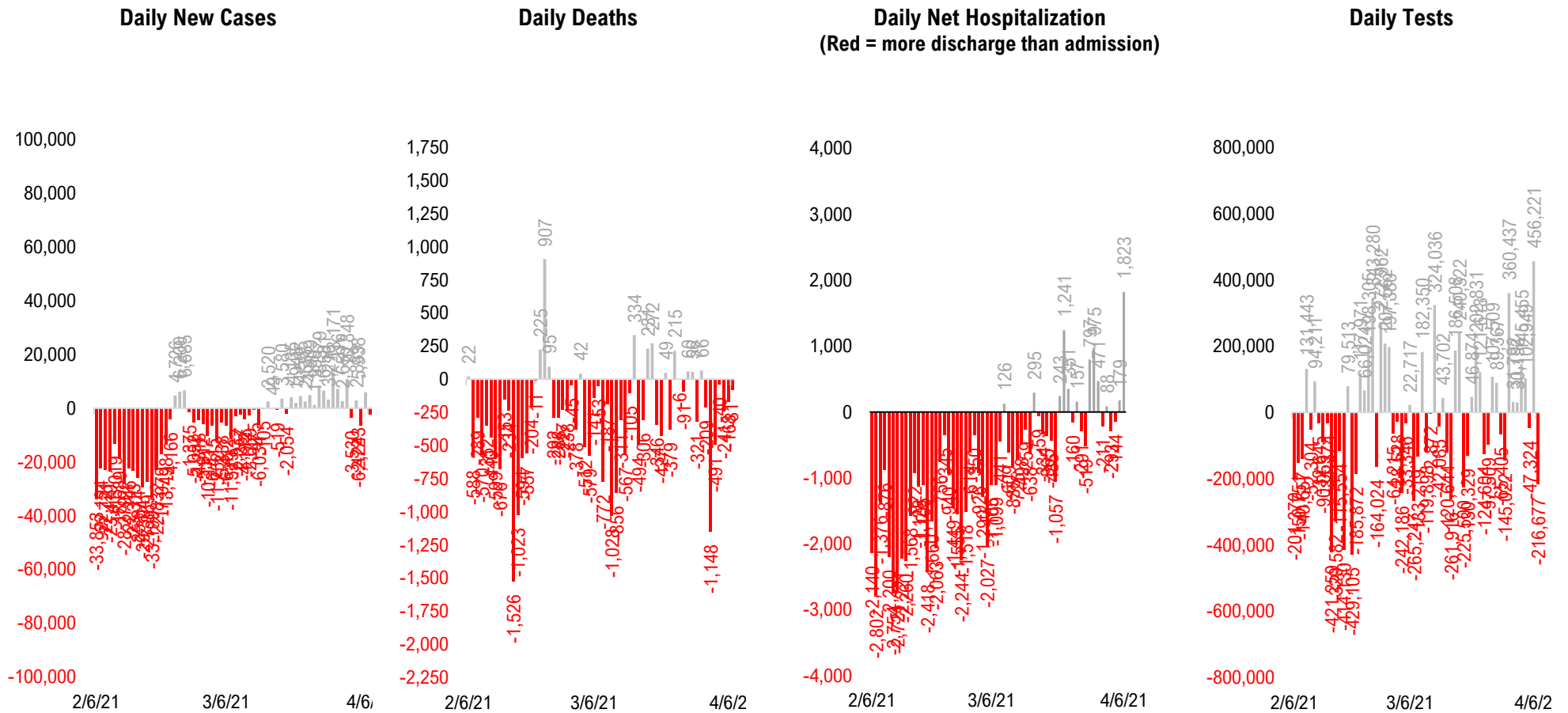


# #10: US Daily New Fatalities...

## US daily COVID-19 Fatalities

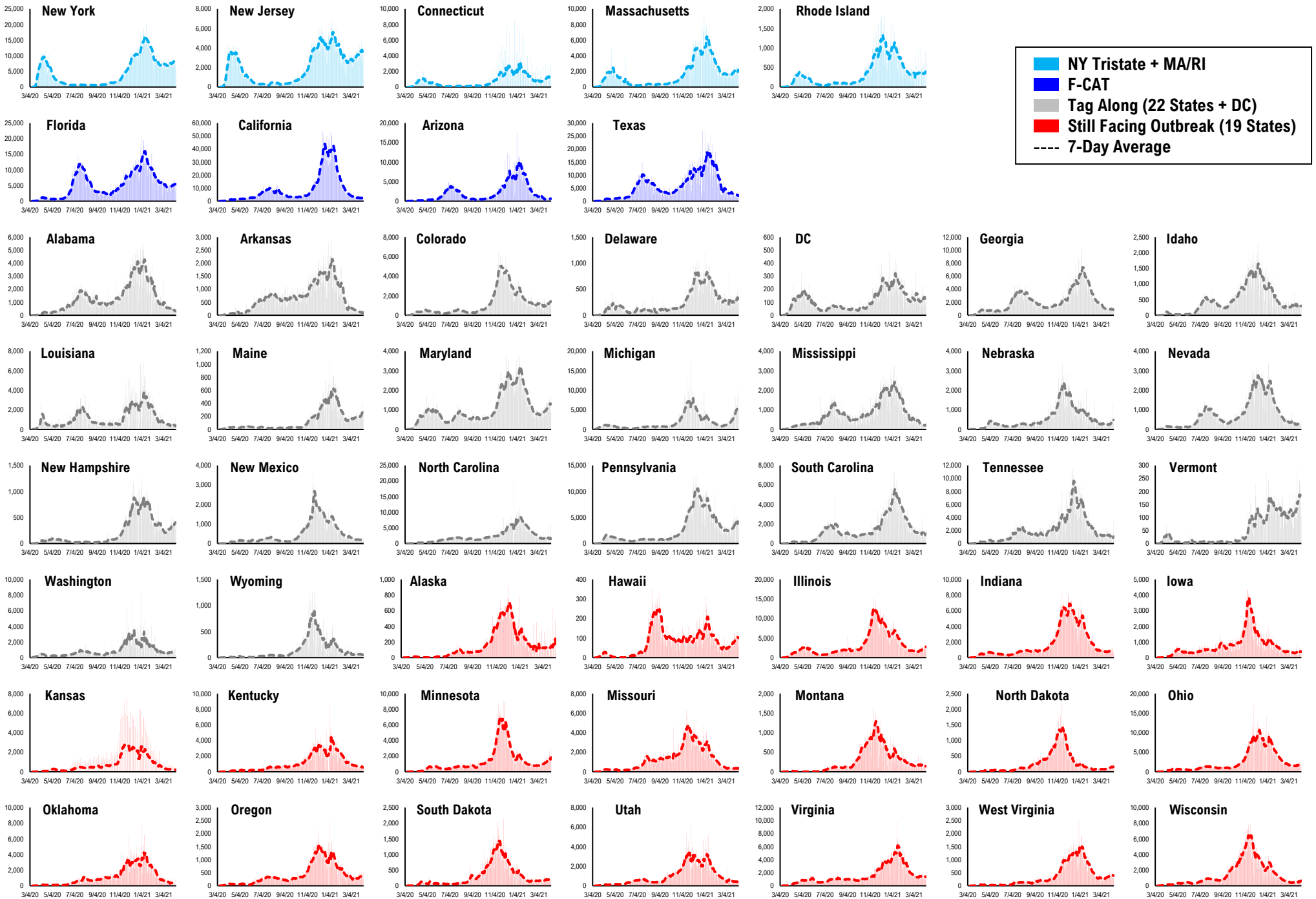


# #11: Rolling 7-Day Change in the Key Metrics... (Past 8 Weeks)

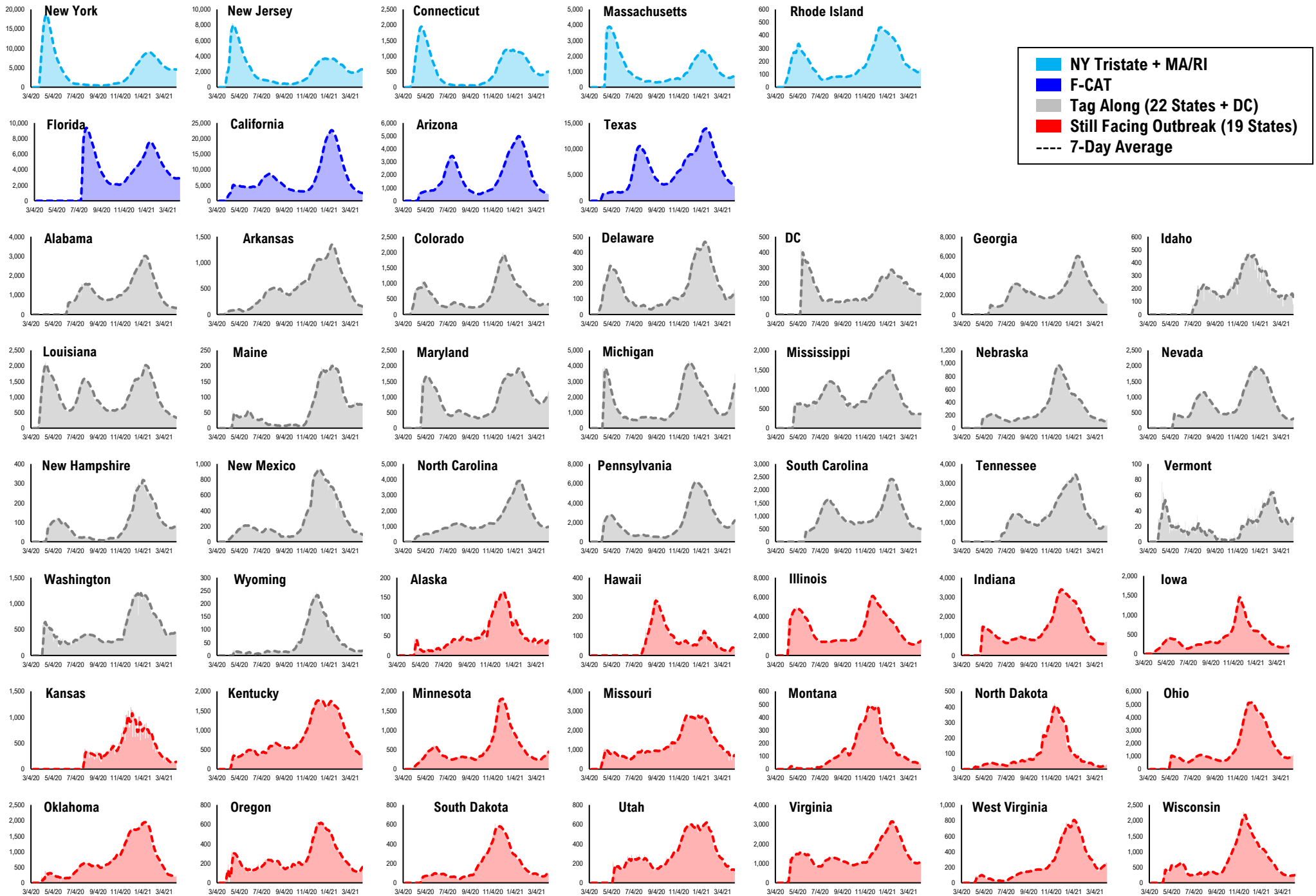


\* Ignored California between 8/10 and 8/23, due to its data glitch caused 300,000-case backlog  
Source: Fundstrat, COVID-19 Tracking Project, State Department of Health

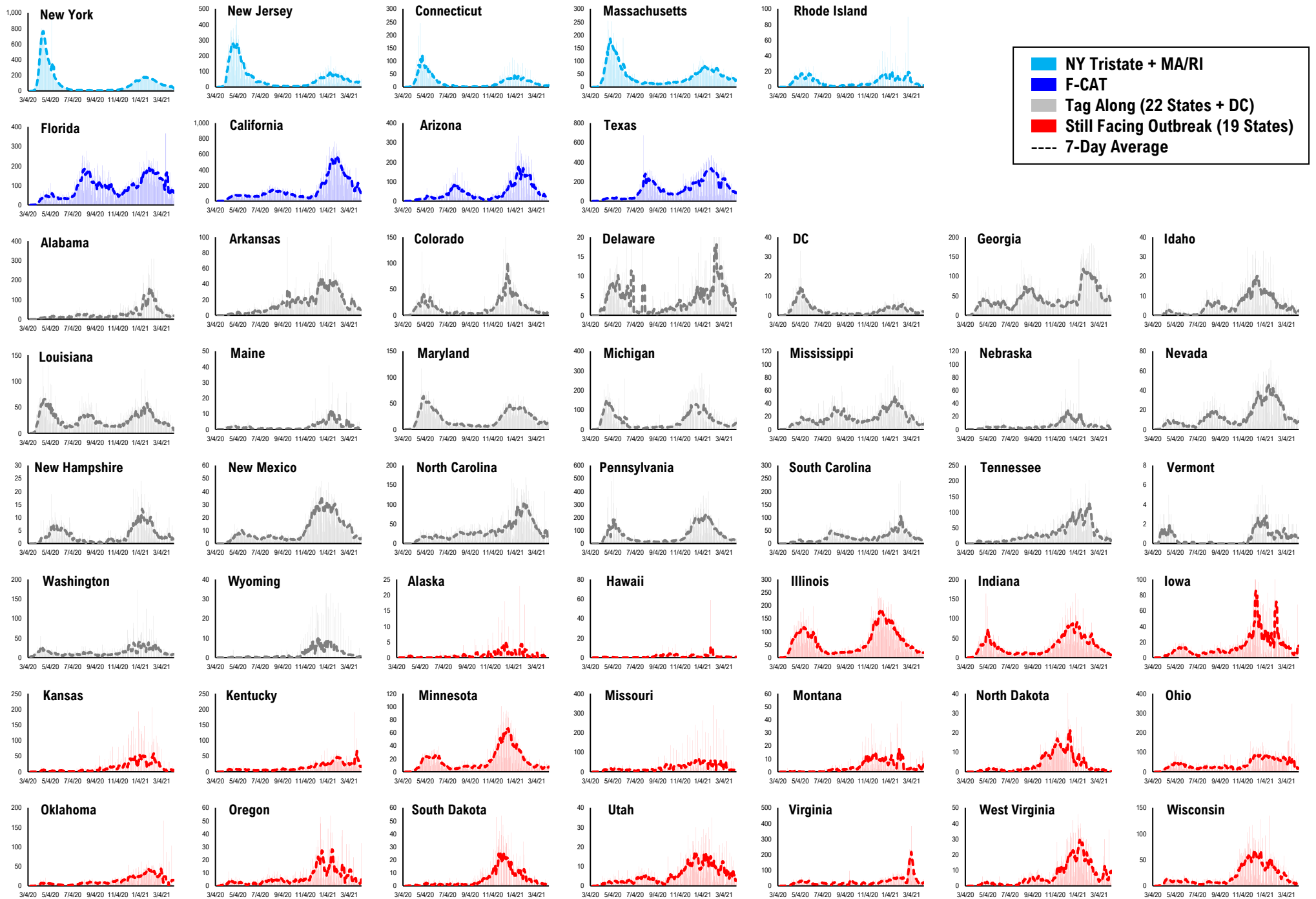
# #12: Daily New Cases by States...



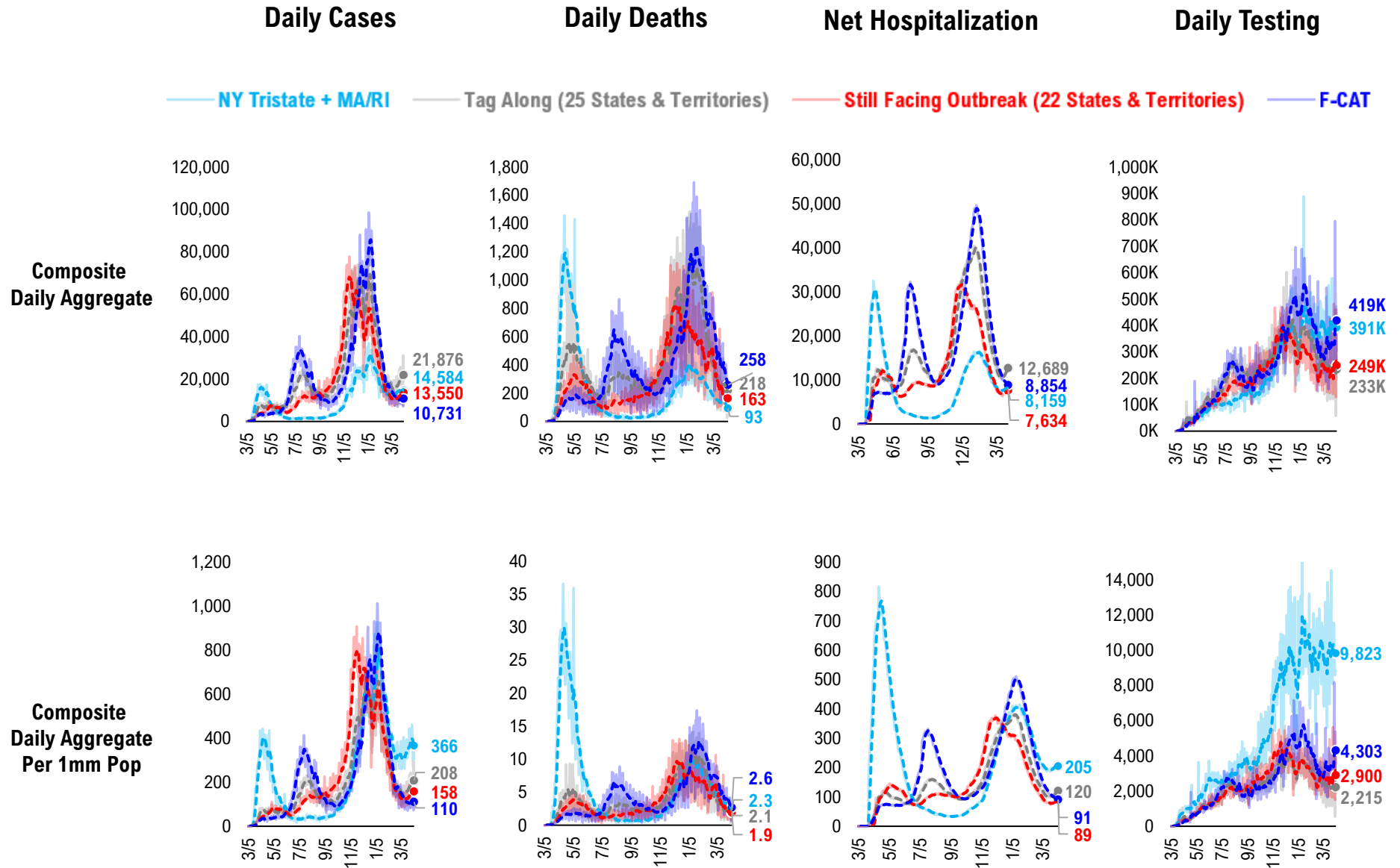
# #13: Current Hospitalizations by States...



# #14: Daily New Deaths by States...



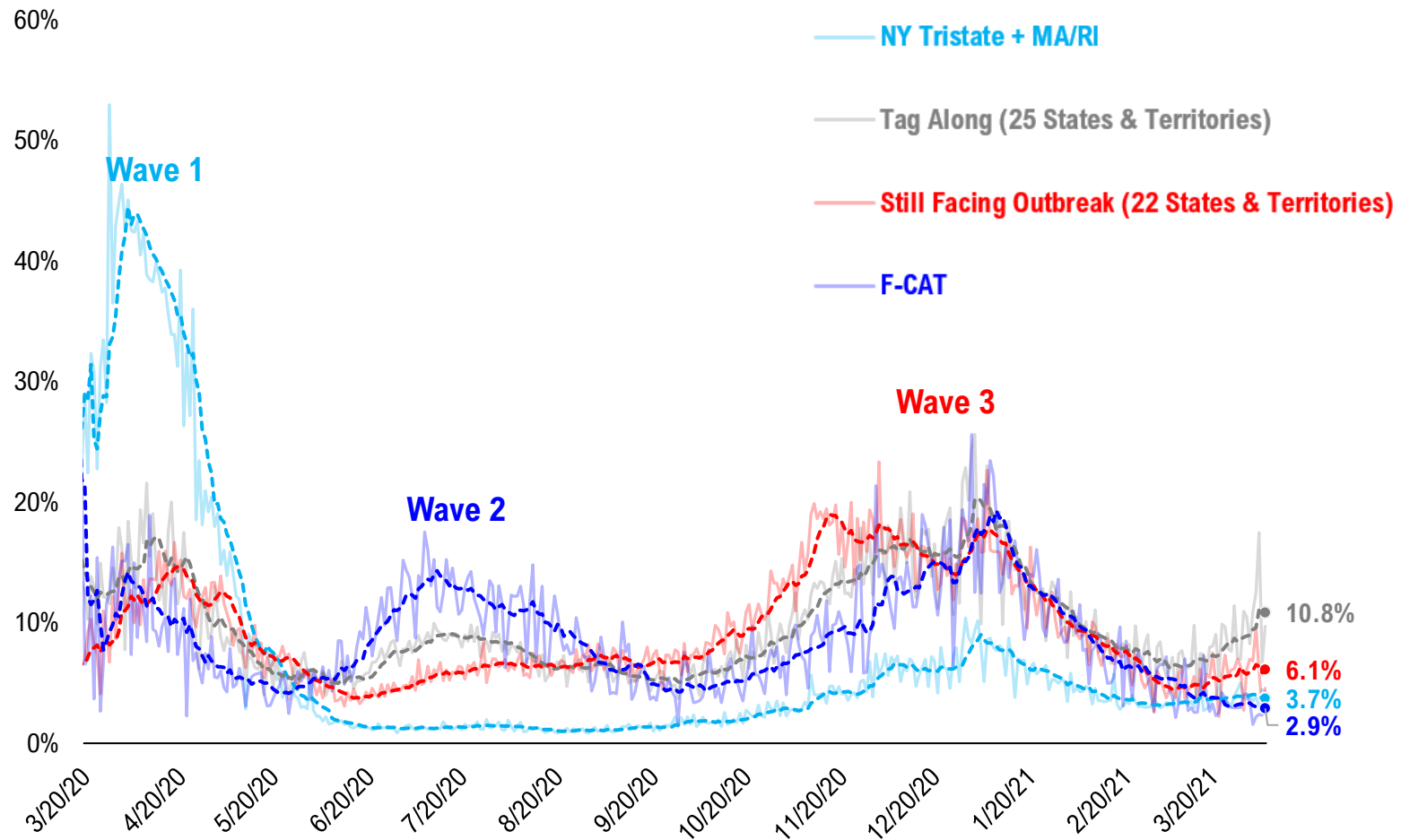
# #15: State COVID-19 situation by Tier...



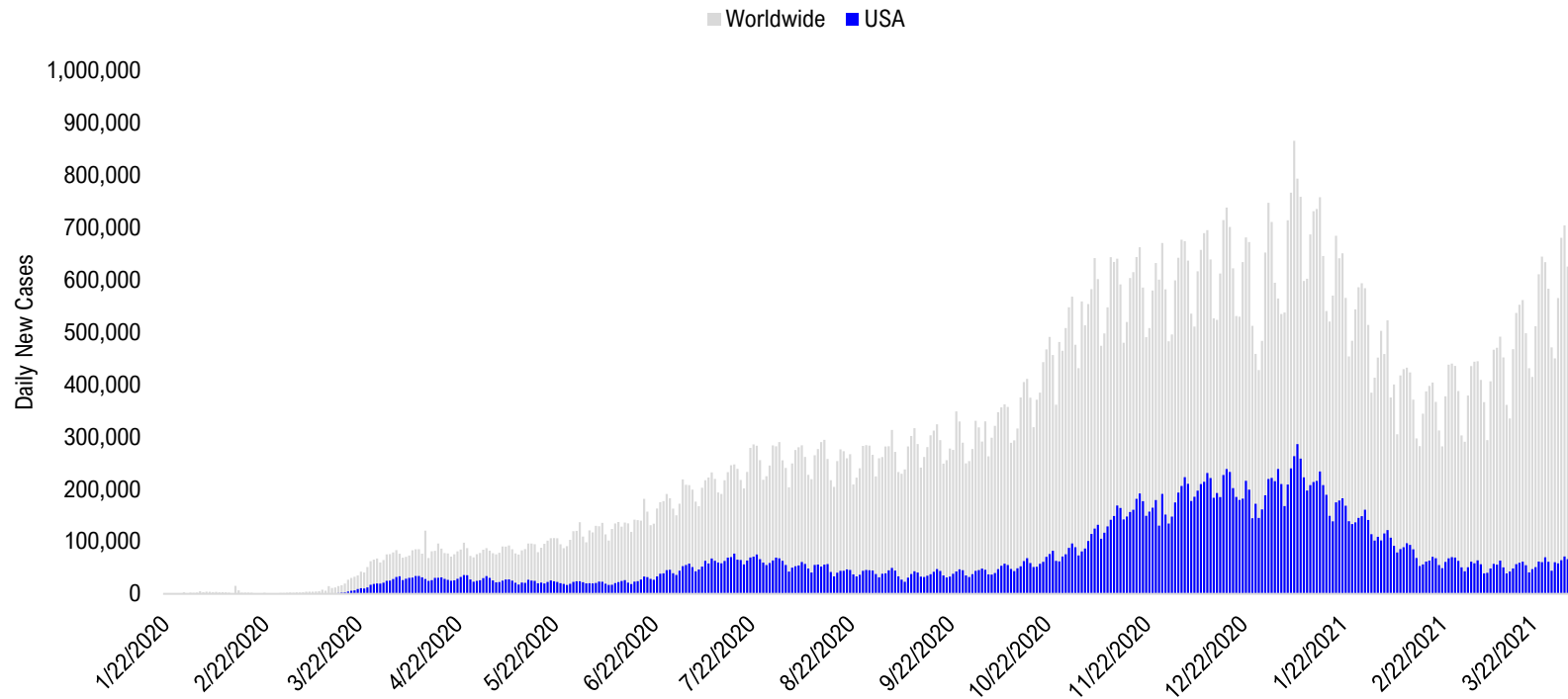


# #16: State COVID-19 Daily Positivity Rate by Tier...

## Composite Daily Positivity Rate



# #17: Global COVID-19 Situation at a Glance...



Nov 20	Dec 4	Dec 18	Jan 1	Jan 15	Jan 29	Feb 12	Feb 26	Mar 12	Mar 26	Apr 5
Europe 261,193	Europe 234,613	Europe 248,691	Europe 227,213	Europe 243,930	Europe 195,208	Europe 145,047	Europe 150,232	Europe 172,950	Europe 233,545	Europe 243,164
US + Canada 168,126	US + Canada 181,863	US + Canada 218,055	US + Canada 195,207	US + Canada 228,560	US + Canada 151,931	US + Canada 94,843	Latin America 90,723	Latin America 106,679	Latin America 121,478	Latin America 114,702
Latin America 59,427	Latin America 77,676	Latin America 85,341	Latin America 78,683	Latin America 118,362	Latin America 110,627	Latin America 87,199	US + Canada 65,753	US + Canada 54,551	US + Canada 59,138	Pakistan + India + Bangladesh 95,246
Pakistan + India + Bangladesh 44,091	Pakistan + India + Bangladesh 41,888	Pakistan + India + Bangladesh 29,698	Africa 23,274	Africa 31,292	Asia ex- India+Pakistan 26,451	Asia ex- India+Pakistan 19,467	Asia ex- India+Pakistan 16,429	Pakistan + India + Bangladesh 23,076	Pakistan + India + Bangladesh 57,373	US + Canada 66,891
Asia ex- India+Pakistan 14,176	Asia ex- India+Pakistan 16,452	Africa 17,772	Pakistan + India + Bangladesh 19,958	Asia ex- India+Pakistan 25,115	Africa 20,287	Pakistan + India + Bangladesh 12,778	Pakistan + India + Bangladesh 16,328	Asia ex- India+Pakistan 14,244	Asia ex- India+Pakistan 19,058	Asia ex- India+Pakistan 23,383
Africa 13,534	Africa 13,958	Asia ex- India+Pakistan 17,001	Asia ex- India+Pakistan 18,156	Pakistan + India + Bangladesh 21,782	Pakistan + India + Bangladesh 15,623	Africa 12,288	Africa 9,945	Africa 10,142	Africa 11,175	Africa 12,189

# Disclosures

This research is for the clients of FS Insight only. For important disclosures and rating histories regarding sectors or companies that are the subject of this report, please contact your sales representative or FS Insight at 150 East 52nd Street, New York, NY, 10022 USA.

## **Analyst Certification (Reg AC)**

Thomas J. Lee, the research analyst denoted by an “AC” on the cover of this report, hereby certifies that all of the views expressed in this report accurately reflect his personal views, which have not been influenced by considerations of the firm’s business or client relationships.

Neither I, nor a member of my household is an officer, director, or advisory board member of the issuer(s) or has another significant affiliation with the issuer(s) that is/are the subject of this research report. There is a possibility that we will from time to time have long or short positions in, and buy or sell, the securities or derivatives, if any, referred to in this research

## **Conflicts of Interest**

This research contains the views, opinions and recommendations of FS Insight . As of the time of writing and publication of this presentation, FS Insight does not know of, or have reason to know of any material conflicts of interest at the time of the publication of this presentation. The Company has no contractual relationship, nor have we received any compensation from any of the companies listed in this research report.

## **Analyst Industry/Sector Views**

Positive (+): The analyst expects the performance of his industry/sector coverage universe over the next 6-18 months to be attractive vs. the relevant broad market benchmark, being the S&P 500 for North America.

Neutral (N): The analyst expects the performance of his or her industry/sector coverage universe over the next 6-18 months to be in line with the relevant broad market benchmark, being the S&P 500 for North America.

Negative (-): The analyst expects his or her industry coverage universe over the next 6-18 months to underperform vs. the relevant broad market benchmark, being the S&P 500 for North America.

## **General Disclosures**

FS Insight is an independent research company and is not a registered investment advisor and is not acting as a broker dealer under any federal or state securities laws. FS Insight is a member of IRC Securities’ Research Prime Services Platform. IRC Securities is a FINRA registered broker-dealer that is focused on supporting the independent research industry. Certain personnel of FS Insight (i.e. Research Analysts) are registered representatives of IRC Securities, a FINRA member firm registered as a broker-dealer with the Securities and Exchange Commission and certain state securities regulators. As registered representatives and independent contractors of IRC Securities, such personnel may receive commissions paid to or shared with IRC Securities for transactions placed by FS Insight clients directly with IRC Securities or with securities firms that may share commissions with IRC Securities in accordance with applicable SEC and FINRA requirements. IRC Securities does not distribute the research of FS Insight , which is available to select institutional clients that have engaged FS Insight .

As registered representatives of IRC Securities our analysts must follow IRC Securities’ Written Supervisory Procedures. Notable compliance policies include (1) prohibition of insider trading or the facilitation thereof, (2) maintaining client confidentiality, (3) archival of electronic communications, and (4) appropriate use of electronic communications, amongst other compliance related policies.

FS Insight does not have the same conflicts that traditional sell-side research organizations have because FS Insight (1) does not conduct any investment banking activities, (2) does not manage any investment funds, and (3) our clients are only institutional investors.

This research is for the clients of FS Insight only. Additional information is available upon request. Information has been obtained from sources believed to be reliable but FS Insight does not warrant its completeness or accuracy except with respect to any disclosures relative to FS Insight and the analyst’s involvement (if any) with any of the subject companies of the research. All pricing is as of the market close for the securities discussed, unless otherwise stated. Opinions and estimates constitute our judgment as of the date of this material and are subject to change without notice. Past performance is not indicative of future results. This material is not intended as an offer or solicitation for the purchase or sale of any financial instrument. The opinions and recommendations herein do not take into account individual client circumstances, risk tolerance, objectives, or needs and are not intended as recommendations of particular securities, financial instruments or strategies. The recipient of this report must make its own independent decision regarding any securities or financial instruments mentioned herein. Except in circumstances where FS Insight expressly agrees otherwise in writing, FS Insight is not acting as a municipal advisor and the opinions or views contained herein are not intended to be, and do not constitute, advice, including within the meaning of Section 15B of the Securities Exchange Act of 1934. All research reports are disseminated and available to all clients simultaneously through electronic publication to our internal client website, FS Insight .com. Not all research content is redistributed to our clients or made available to third-party aggregators or the media. Please contact your sales representative if you would like to receive any of our research publications.

**Copyright 2021 FS Insight LLC. All rights reserved. No part of this material may be reprinted, sold or redistributed without the prior written consent of FS Insight LLC.**