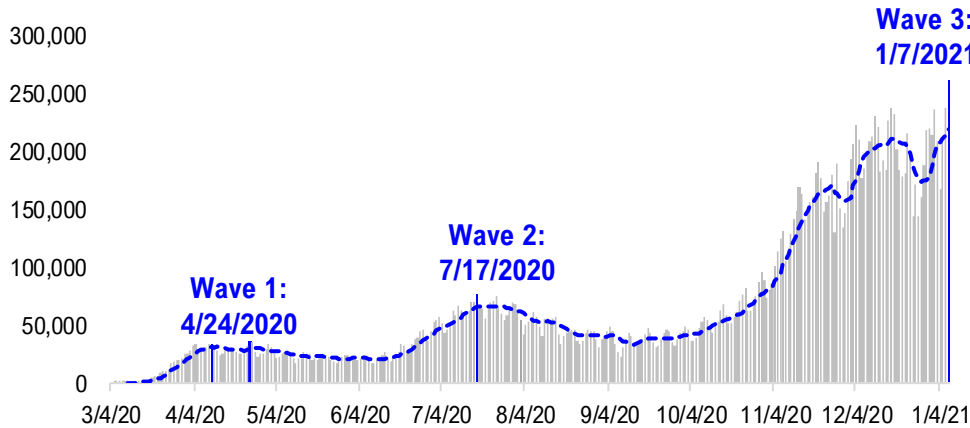


FSInsight Daily COVID-19 Chartbook

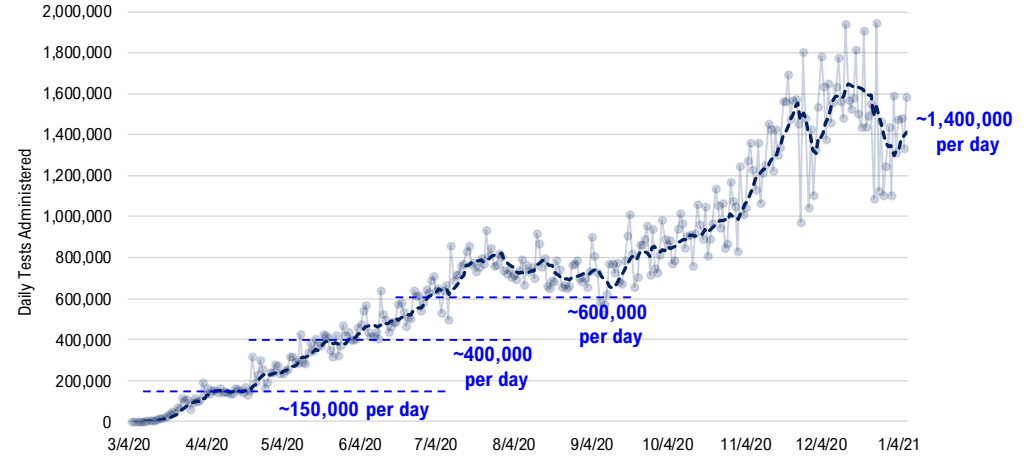


#1: USA COVID-19 Situation at a Glance...

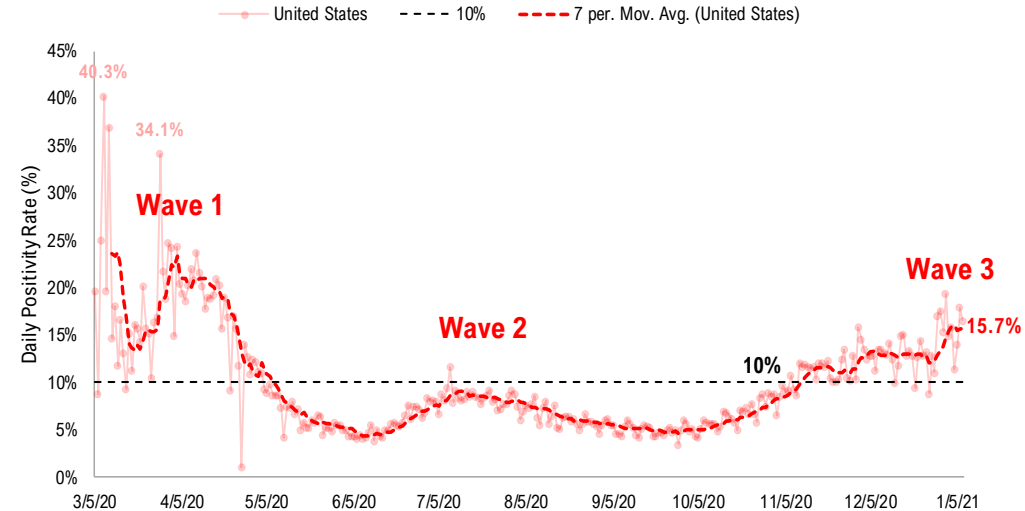
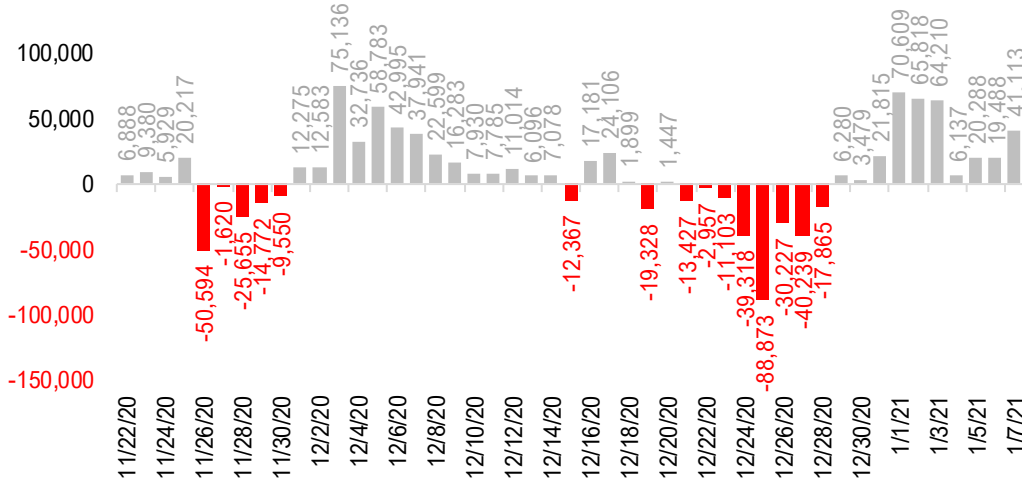
US daily new cases



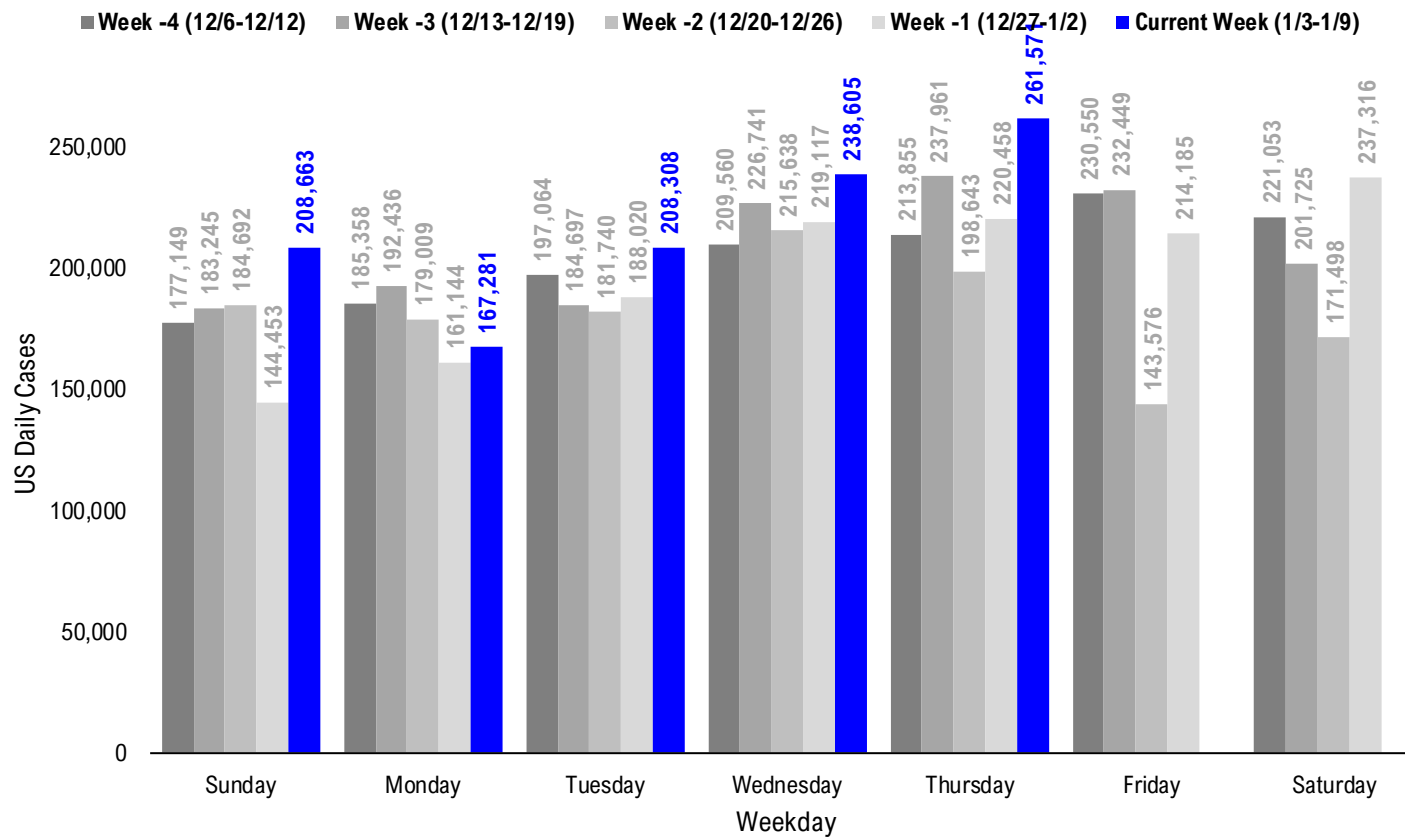
USA total COVID-19 tests administered



US daily new cases rolling 7D delta



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



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

	Sorted Daily Cases		Daily Cases (3D avg) per 1mm residents				Hospitalization			
	% US Pop	% US GDP	7D		Since Peak		% Decline in Daily Cases		7D Net Hospitalization	
			1/7	Delta	1/7	Delta	# Days	%	7D Net Hospitalization	7D Net Hospitalization / 7D New Cases
United States	100%	100%	261,571	+41,113	719	+82	0	0%	6,991	0.5%

	Sorted Daily Cases		Daily Cases (3D avg) per 1mm residents				Hospitalization			
	% US Pop	% US GDP	7D		Since Peak		% Decline in Daily Cases		7D Net Hospitalization	
			1/7	Delta	1/7	Delta	# Days	%	7D Net Hospitalization	7D Net Hospitalization / 7D New Cases
United States	100%	100%	261,571	+41,113	719	+82	0	0%	6,991	0.5%

States:

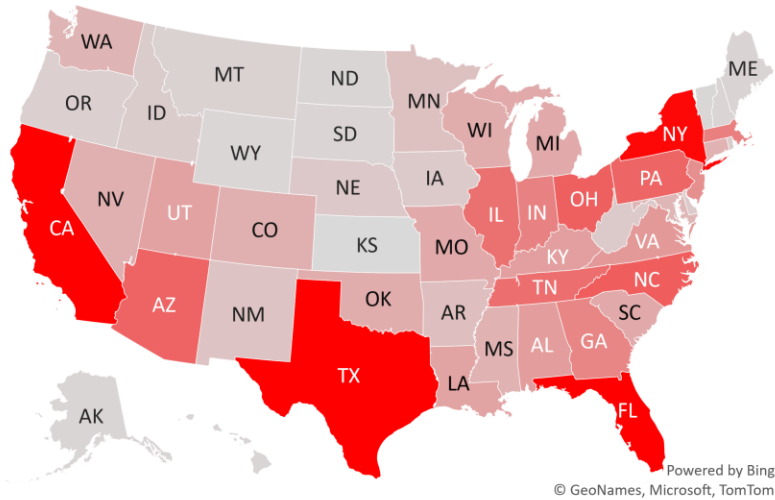
1 California	11.9%	14.6%	36,385	+9,148	824	+70	20	-34%	1,402	0.5%
2 Florida	6.5%	5.0%	19,816	+2,624	823	+154	0	0%	964	0.9%
3 Texas	8.7%	8.8%	19,598	+4,994	755	+76	0	0%	1,516	1.3%
4 New York	5.9%	8.1%	17,636	+834	804	+91	5	-3%	613	0.6%
5 North Carolina	3.2%	2.7%	10,398	+3,683	719	+121	10	-14%	488	0.9%
6 Ohio	3.5%	3.3%	10,251	+619	731	+9	28	-26%	-187	(0.4%)
7 Arizona	2.2%	1.7%	9,913	+2,195	1056	+333	4	-36%	356	0.6%
8 Pennsylvania	3.9%	3.8%	9,698	+706	729	+38	33	-22%	-186	(0.4%)
9 Tennessee	2.1%	1.8%	9,000	+3,007	1073	+145	20	-29%	104	0.2%
10 Illinois	3.8%	4.2%	8,757	+748	609	+56	55	-43%	-172	(0.4%)
11 Massachusetts	2.1%	2.8%	7,548	+288	920	+38	0	0%	115	0.3%
12 Indiana	2.0%	1.8%	7,270	+802	832	+81	33	-30%	-30	(0.1%)
13 Georgia	3.2%	2.9%	7,072	-1,427	589	-33	5	-21%	814	1.9%
14 New Jersey	2.7%	3.0%	6,192	+1,096	620	+117	32	-3%	-5	(0.0%)
15 Virginia	2.6%	2.6%	5,379	+140	591	+68	0	0%	256	0.8%
16 Alabama	1.5%	1.1%	5,046	+640	1029	+123	0	0%	200	0.7%
17 Kentucky	1.3%	1.0%	4,889	+4,889	917	+413	3	-11%	71	0.3%
18 Utah	1.0%	0.9%	4,597	-75	1215	+173	47	-2%	29	0.1%
19 Louisiana	1.4%	1.3%	4,526	+475	1137	+80	0	0%	302	1.3%
20 Michigan	3.0%	2.6%	4,015	+4,015	355	+100	50	-59%	-180	(0.7%)
21 South Carolina	1.6%	1.1%	4,004	-8	727	+98	4	-17%	400	1.4%
22 Missouri	1.8%	1.5%	3,983	+269	514	+28	54	-37%	7	0.0%
23 Wisconsin	1.8%	1.6%	3,791	-19	607	+95	55	-53%	54	0.3%
24 Oklahoma	1.2%	1.0%	3,781	-125	723	+20	3	-46%	63	0.3%
25 Colorado	1.7%	1.8%	3,473	+235	549	+119	47	-47%	-132	(0.7%)
26 Nevada	0.9%	0.8%	3,402	+1,265	840	+152	33	-10%	-9	(0.1%)
27 Connecticut	1.1%	1.3%	3,304	+1,259	759	+338	29	-37%	-49	(0.3%)
28 Mississippi	0.9%	0.6%	3,255	+499	875	+10	6	-6%	32	0.2%

States:

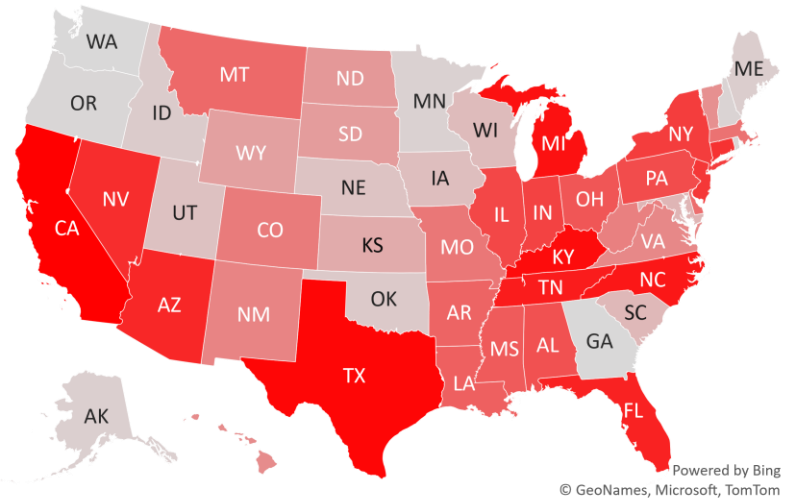
29 Washington	2.3%	2.7%	3,095	-1,077	308	-20	43	-44%	71	0.4%
30 Maryland	1.8%	2.0%	2,970	-3	445	+33	32	-16%	61	0.3%
31 Arkansas	0.9%	0.6%	2,277	+440	759	+140	6	-1%	131	1.0%
32 Minnesota	1.7%	1.8%	1,983	-212	348	+42	38	-75%	-108	(0.8%)
33 New Mexico	0.6%	0.5%	1,835	+157	716	+48	48	-53%	-81	(0.9%)
34 Nebraska	0.6%	0.6%	1,436	-80	598	+25	49	-59%	-38	(0.5%)
35 West Virginia	0.5%	0.4%	1,324	+215	766	+41	4	-28%	-12	(0.1%)
36 Iowa	1.0%	0.9%	1,294	-29	457	+132	55	-64%	13	0.2%
37 Delaware	0.3%	0.4%	1,220	+360	895	+222	24	-1%	42	0.8%
38 Rhode Island	0.3%	0.3%	1,128	-464	1222	-18	33	-21%	-29	(0.4%)
39 Idaho	0.5%	0.4%	1,067	-146	721	-37	28	-37%	-9	(0.1%)
40 Oregon	1.3%	1.2%	862	-787	208	-58	32	-49%	6	0.1%
41 Montana	0.3%	0.2%	690	+435	651	+165	53	-49%	5	0.2%
42 Maine	0.4%	0.3%	535	-167	411	-56	14	-15%	25	0.7%
43 South Dakota	0.3%	0.3%	448	+4	561	-7	54	-73%	-33	(1.1%)
44 New Hampshire	0.4%	0.4%	423	-363	474	-104	3	-41%	-3	(0.1%)
45 Alaska	0.2%	0.3%	326	-169	386	-94	33	-65%	10	0.5%
46 North Dakota	0.2%	0.3%	324	+31	401	-9	54	-83%	-11	(0.7%)
47 Hawaii	0.4%	0.5%	321	+133	138	+51	131	-33%	24	1.9%
48 Wyoming	0.2%	0.2%	278	+2	530	+124	49	-69%	-1	(0.1%)
49 District of Columbia	0.2%	0.7%	268	+43	400	+97	33	-18%	44	2.5%
50 Vermont	0.2%	0.2%	245	+109	283	+127	0	0%	8	0.8%
51 Puerto Rico	1.0%	0.5%	211	-97	105	-102	19	-70%	-29	(0.9%)
52 U.S. Virgin Islands	0.0%	0.0%	23	+2	199	+37	139	-53%	0	0.0%
53 Guam	0.0%	0.0%	8	-1	84	+12	58	-92%	-2	(2.9%)
54 Northern Mariana	0.0%	0.0%	1	+1	18	+18	72	-75%	0	0.0%
55 Kansas	0.9%	0.8%	0	+0	629	-100	43	-59%	71	0.5%
56 American Samoa	0.0%	0.0%	0	+0	0	+0	0	0%	0	0.0%

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

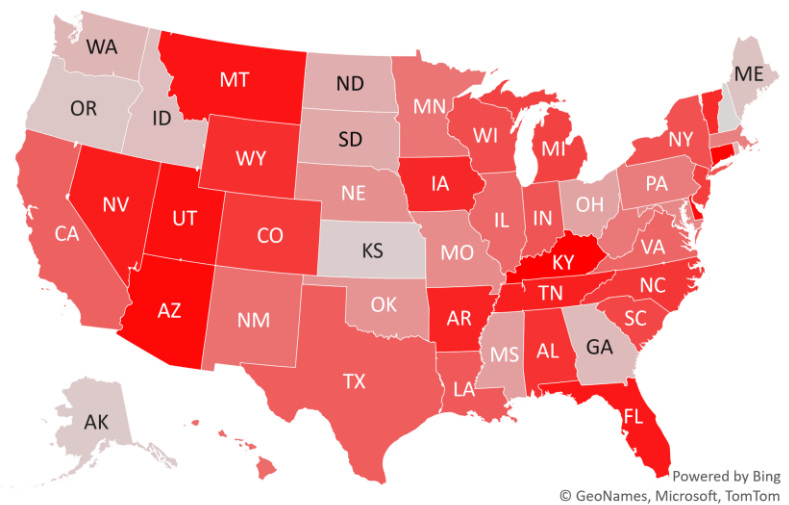
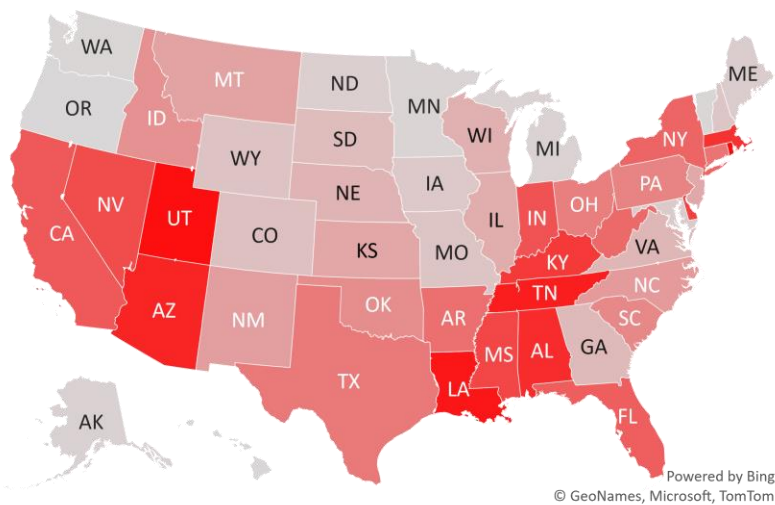
Daily Case Increases



7D Delta in Daily New Cases



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



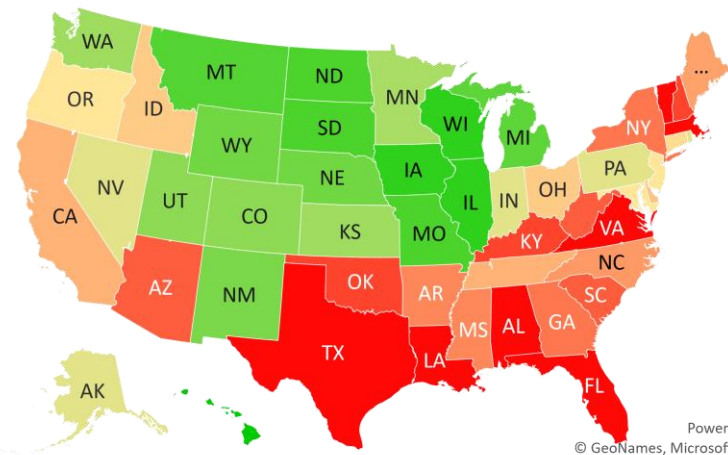
#5: # of Days since Daily Case Peaked by States...

Days since Daily Cases (3D Avg) Peak (as of 1/7)

	Sorted			
	Peak Date	1/7/21	% off the Peak	% US Pop
United States	1/7/21	0	0%	100%
States:				
U.S. Virgin Islands	8/21/20	139	-53%	0.0%
Hawaii	8/29/20	131	-33%	0.4%
Northern Mariana Island	10/27/20	72	-75%	0.0%
Guam	11/10/20	58	-92%	0.0%
Wisconsin	11/13/20	55	-53%	1.8%
Illinois	11/13/20	55	-43%	3.8%
Iowa	11/13/20	55	-64%	1.0%
South Dakota	11/14/20	54	-73%	0.3%
North Dakota	11/14/20	54	-83%	0.2%
Missouri	11/14/20	54	-37%	1.8%
Montana	11/15/20	53	-49%	0.3%
Michigan	11/18/20	50	-59%	3.0%
Wyoming	11/19/20	49	-69%	0.2%
Nebraska	11/19/20	49	-59%	0.6%
New Mexico	11/20/20	48	-53%	0.6%
Utah	11/21/20	47	-2%	1.0%
Colorado	11/21/20	47	-47%	1.7%
Washington	11/25/20	43	-44%	2.3%
Kansas	11/25/20	43	-59%	0.9%
Minnesota	11/30/20	38	-75%	1.7%
Rhode Island	12/5/20	33	-21%	0.3%
Pennsylvania	12/5/20	33	-22%	3.9%
Nevada	12/5/20	33	-10%	0.9%
Indiana	12/5/20	33	-30%	2.0%
District of Columbia	12/5/20	33	-18%	0.2%
Alaska	12/5/20	33	-65%	0.2%
Oregon	12/6/20	32	-49%	1.3%
New Jersey	12/6/20	32	-3%	2.7%

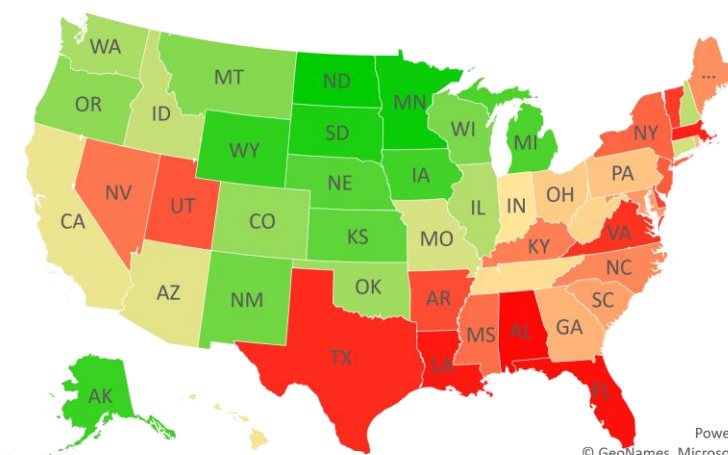
	Sorted			
	Peak Date	1/7/21	% off the Peak	% US Pop
United States	1/7/21	0	0%	100%
States:				
Maryland	12/6/20	32	-16%	1.8%
Connecticut	12/9/20	29	-37%	1.1%
Ohio	12/10/20	28	-26%	3.5%
Idaho	12/10/20	28	-37%	0.5%
Delaware	12/14/20	24	-1%	0.3%
Tennessee	12/18/20	20	-29%	2.1%
California	12/18/20	20	-34%	11.9%
Puerto Rico	12/19/20	19	-70%	1.0%
Maine	12/24/20	14	-15%	0.4%
North Carolina	12/28/20	10	-14%	3.2%
Mississippi	1/1/21	6	-6%	0.9%
Arkansas	1/1/21	6	-1%	0.9%
New York	1/2/21	5	-3%	5.9%
Georgia	1/2/21	5	-21%	3.2%
West Virginia	1/3/21	4	-28%	0.5%
South Carolina	1/3/21	4	-17%	1.6%
Arizona	1/3/21	4	-36%	2.2%
Oklahoma	1/4/21	3	-46%	1.2%
New Hampshire	1/4/21	3	-41%	0.4%
Kentucky	1/4/21	3	-11%	1.3%
Vermont	1/7/21	0	0%	0.2%
Virginia	1/7/21	0	0%	2.6%
Texas	1/7/21	0	0%	8.7%
Massachusetts	1/7/21	0	0%	2.1%
Louisiana	1/7/21	0	0%	1.4%
Florida	1/7/21	0	0%	6.5%
Alabama	1/7/21	0	0%	1.5%

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



Powered by Bing
© GeoNames, Microsoft, TomTom

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



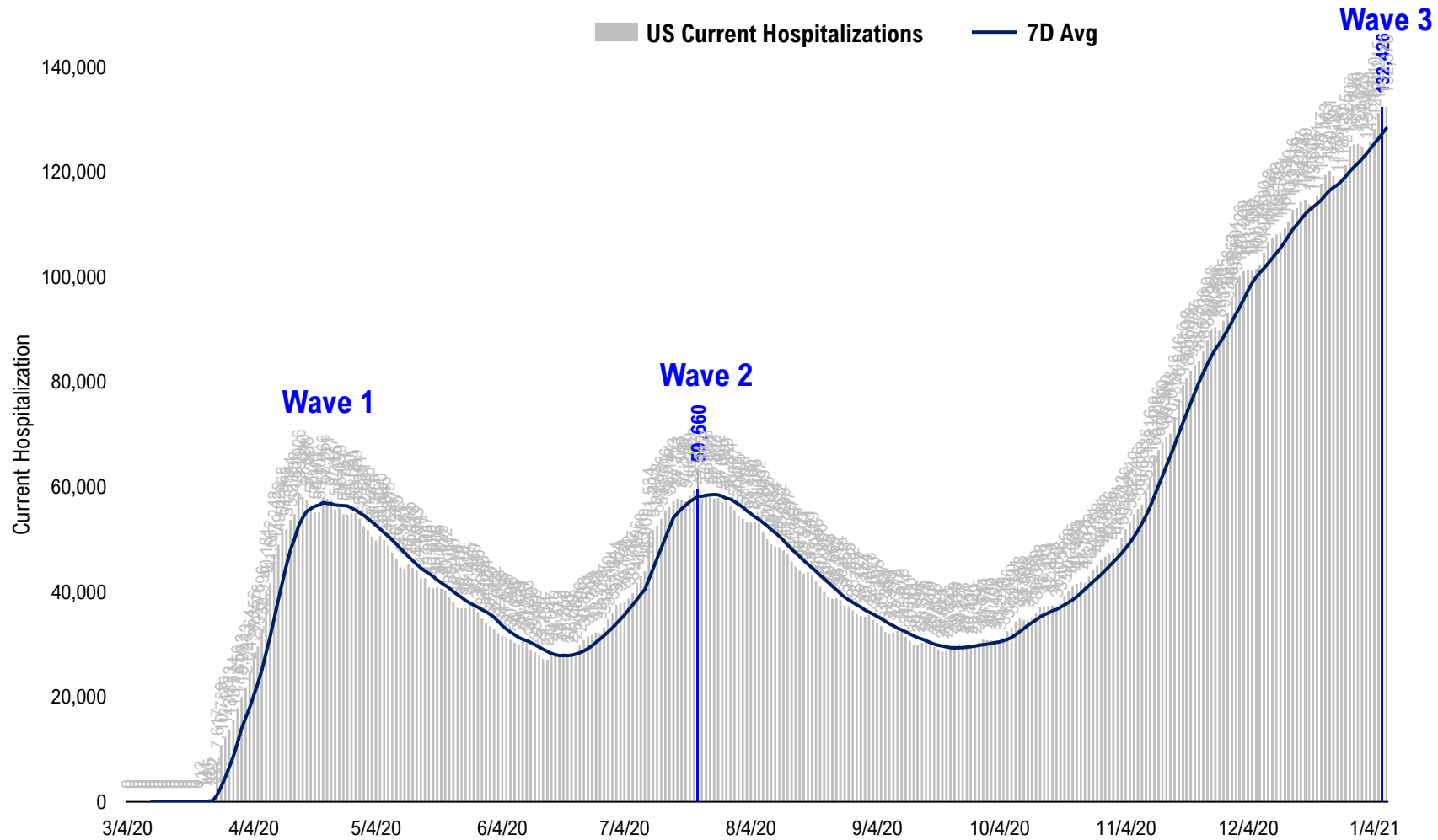
Powered by Bing
© GeoNames, Microsoft, TomTom

#6: 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			
	12/31/20	1/5/21	1/6/21	1/7/21	vs 7D ago		12/31/20	1/5/21	1/6/21	1/7/21	vs 7D ago
United States	220,458	208,308	238,605	261,571	+41,113	United States	220,458	208,308	238,605	261,571	+41,113
States:						States:					
California	27,237	31,440	29,892	36,385	<--higher	Washington	4,172	2,204	1,726	3,095	
Florida	17,192	15,431	17,783	19,816		Maryland	2,973	1,956	3,146	2,970	
Texas	14,604	26,543	19,535	19,598	<--higher	Arkansas	1,837	2,275	2,324	2,277	<--higher
New York	16,802	12,666	16,648	17,636		Minnesota	2,195	1,573	2,326	1,983	
North Carolina	6,715	5,285	6,952	10,398	<--higher	New Mexico	1,678	1,184	1,485	1,835	
Ohio	9,632	7,580	7,814	10,251		Nebraska	1,516	585	1,448	1,436	
Arizona	7,718	5,932	7,206	9,913	<--higher	West Virginia	1,109	1,276	1,516	1,324	
Pennsylvania	8,992	8,818	9,474	9,698		Iowa	1,323	1,021	2,010	1,294	
Tennessee	5,993	5,399	7,588	9,000	<--higher	Delaware	860	767	629	1,220	<--higher
Illinois	8,009	6,839	7,569	8,757		Rhode Island	1,592	1,144	1,611	1,128	
Massachusetts	7,260	4,634	6,851	7,548		Idaho	1,213	1,538	1,263	1,067	
Indiana	6,468	3,395	6,146	7,270		Oregon	1,649	1,035	735	862	
Georgia	8,499	6,102	5,588	7,072		Montana	255	714	682	690	<--higher
New Jersey	5,096	5,319	5,011	6,192	<--higher	Maine	702	597	525	535	
Virginia	5,239	4,377	5,387	5,379		South Dakota	444	433	608	448	
Alabama	4,406	5,498	4,591	5,046		New Hampshire	786	664	846	423	
Kentucky	0	1,693	5,705	4,889		Alaska	495	194	328	326	
Utah	4,672	3,318	3,769	4,597		North Dakota	293	254	338	324	
Louisiana	4,051	4,454	6,882	4,526		Hawaii	188	123	142	321	<--higher
Michigan	0	2,291	4,326	4,015		Wyoming	276	322	321	278	
South Carolina	4,012	2,969	4,256	4,004		District of Columbia	225	262	316	268	
Missouri	3,714	2,632	2,854	3,983		Vermont	136	165	120	245	<--higher
Wisconsin	3,810	3,403	3,406	3,791		Puerto Rico	308	501	298	211	
Oklahoma	3,906	1,497	3,305	3,781		U.S. Virgin Islands	21	13	28	23	
Colorado	3,238	3,458	2,557	3,473		Guam	9	13	21	8	
Nevada	2,137	2,423	1,938	3,402	<--higher	Northern Mariana Islands	0	0	2	1	
Connecticut	2,045	2,332	2,486	3,304	<--higher	Kansas	0	0	5,501	0	
Mississippi	2,756	1,767	2,791	3,255		American Samoa	0	0	0	0	

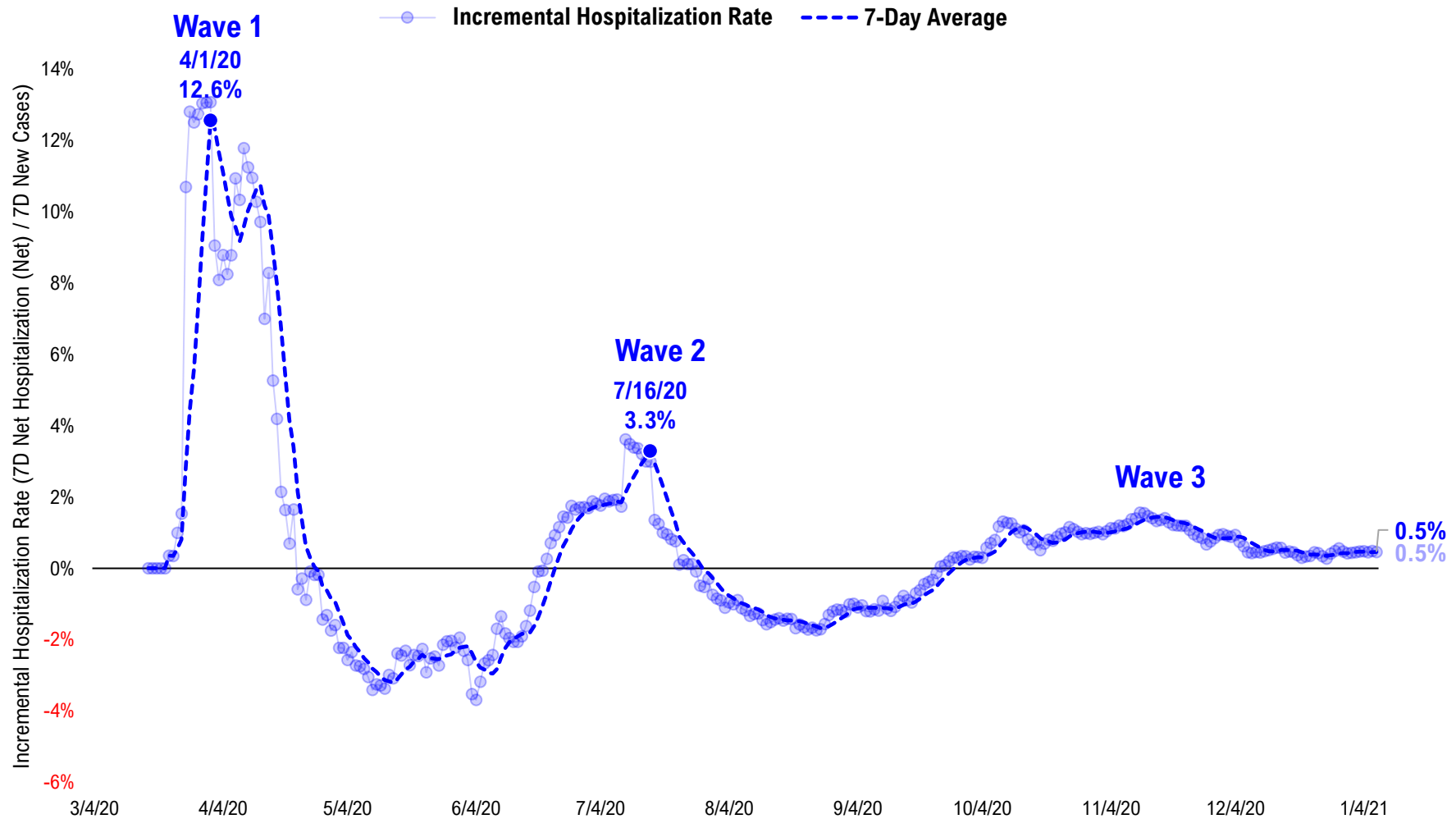
#7: US Daily Hospitalizations...

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



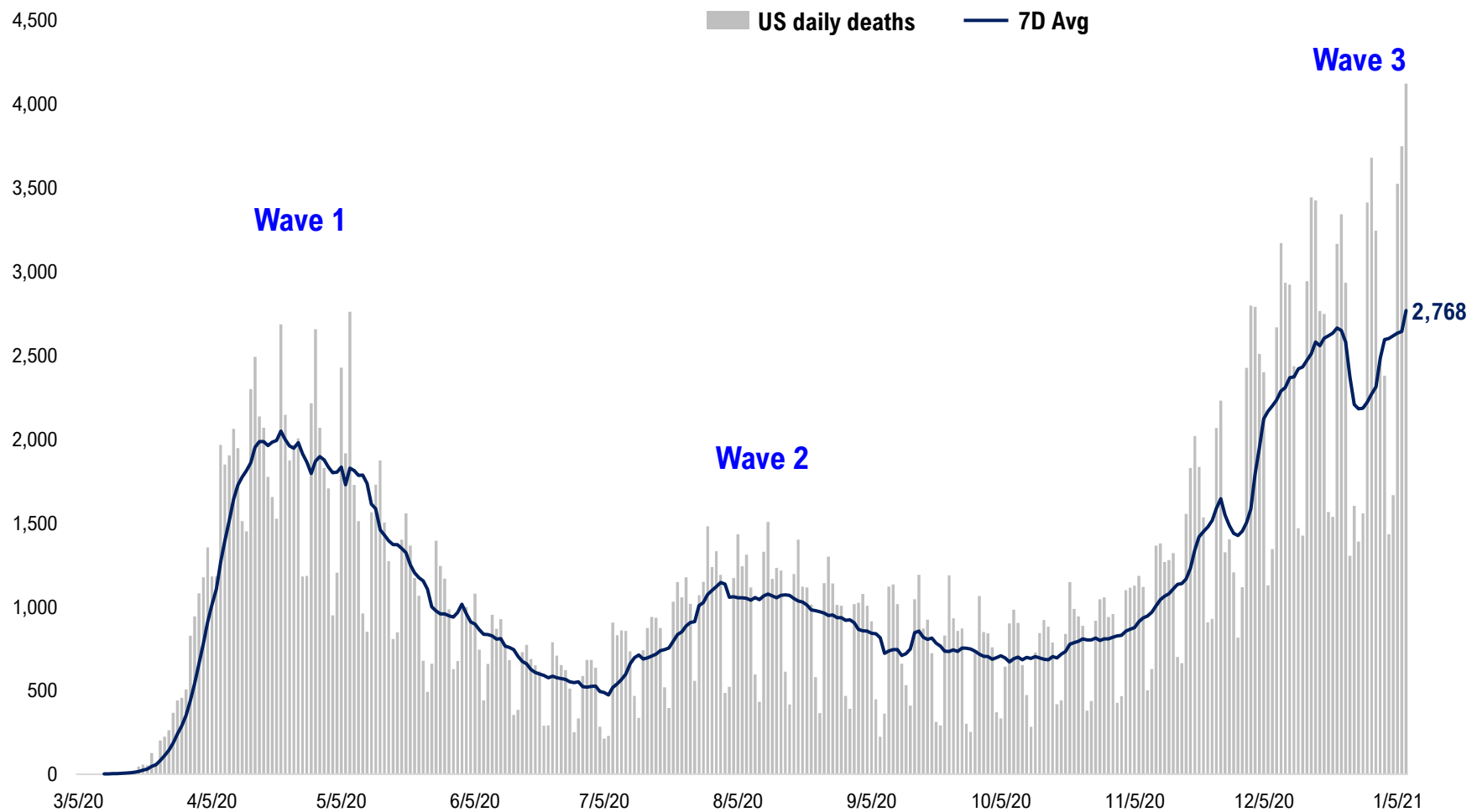
#8: Incremental Hospitalization Rate...

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

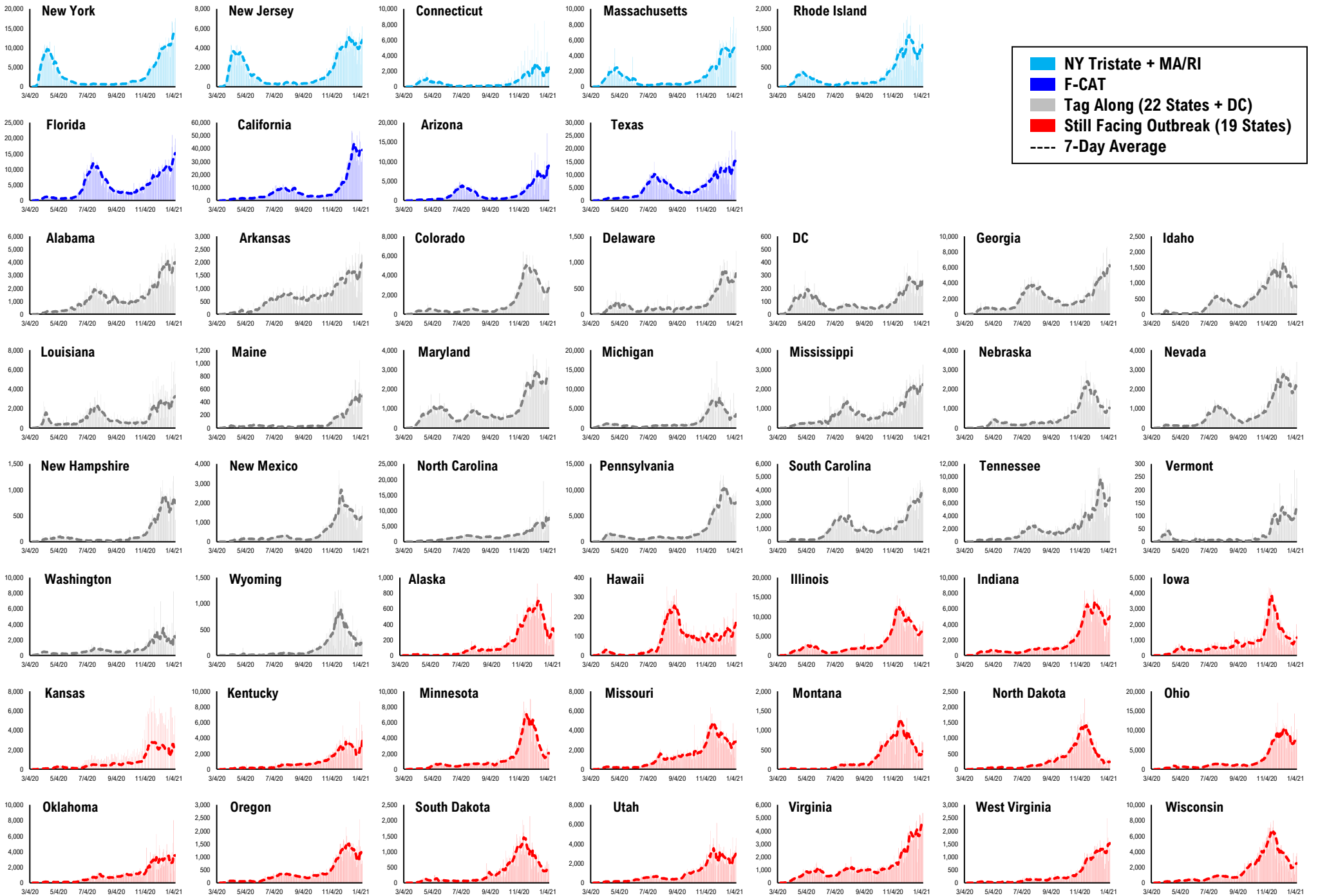


#9: US Daily New Fatalities...

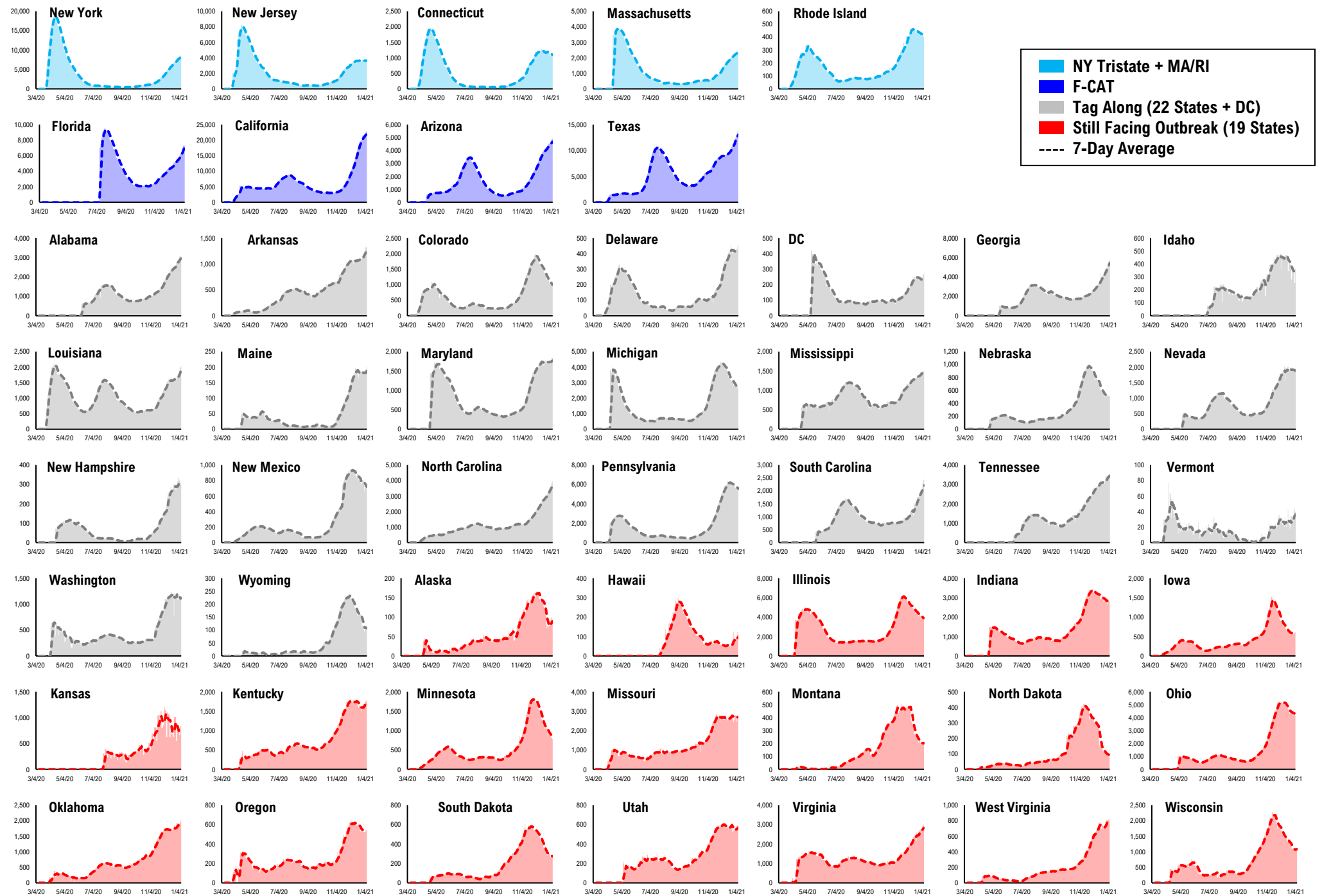
US daily COVID-19 Fatalities



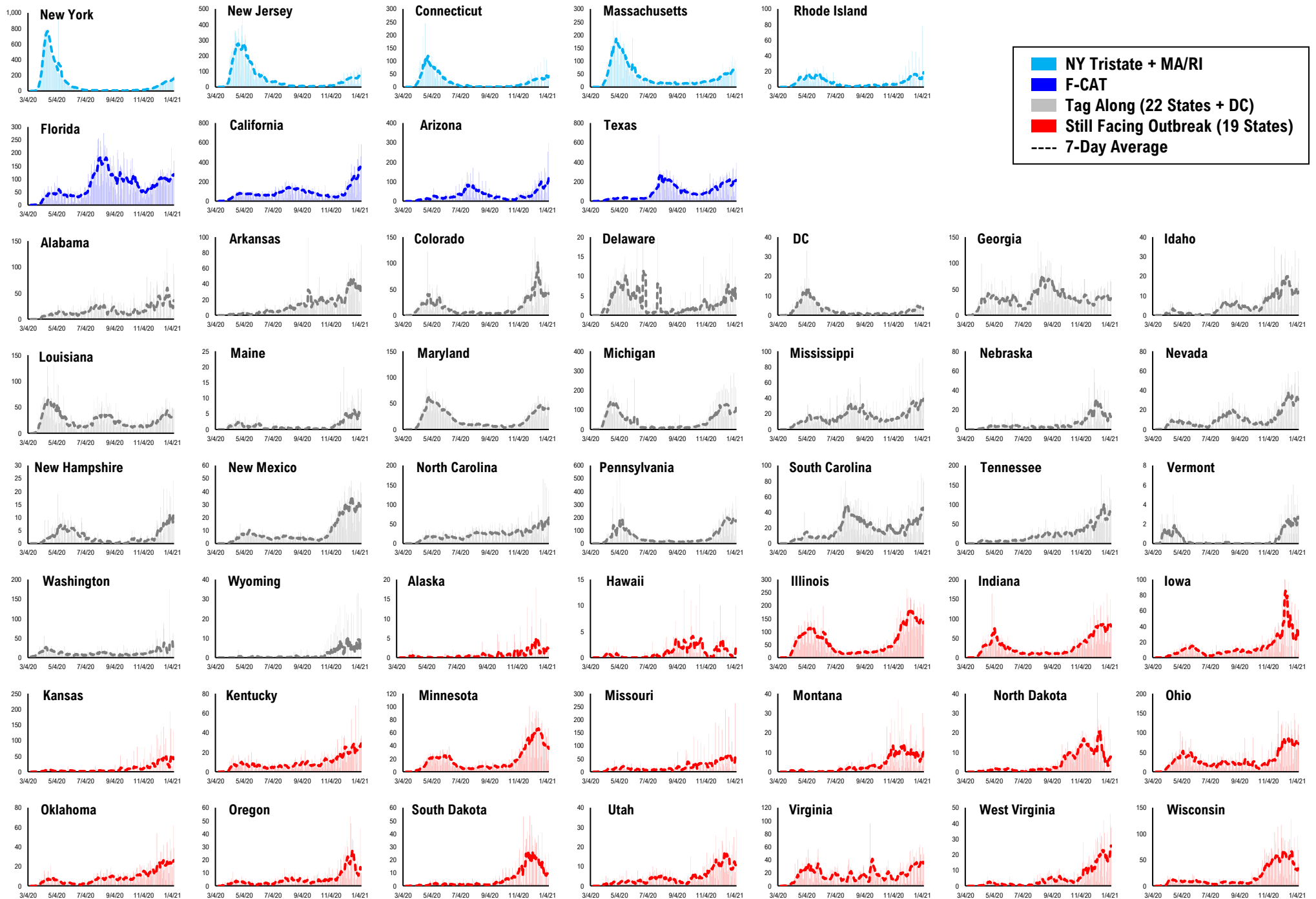
#11: Daily New Cases by States...



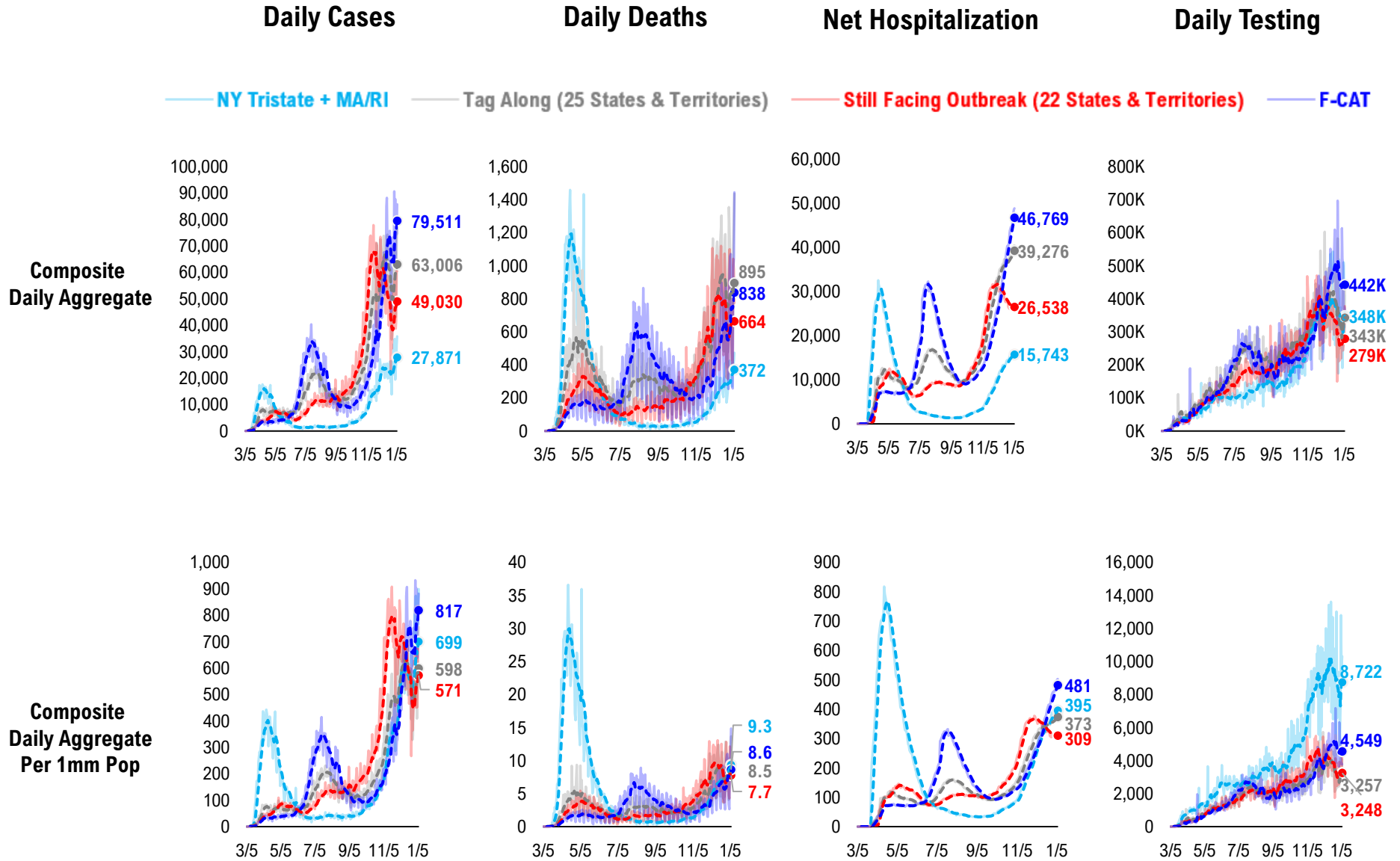
#12: Current Hospitalizations by States...



#13: Daily New Deaths by States...

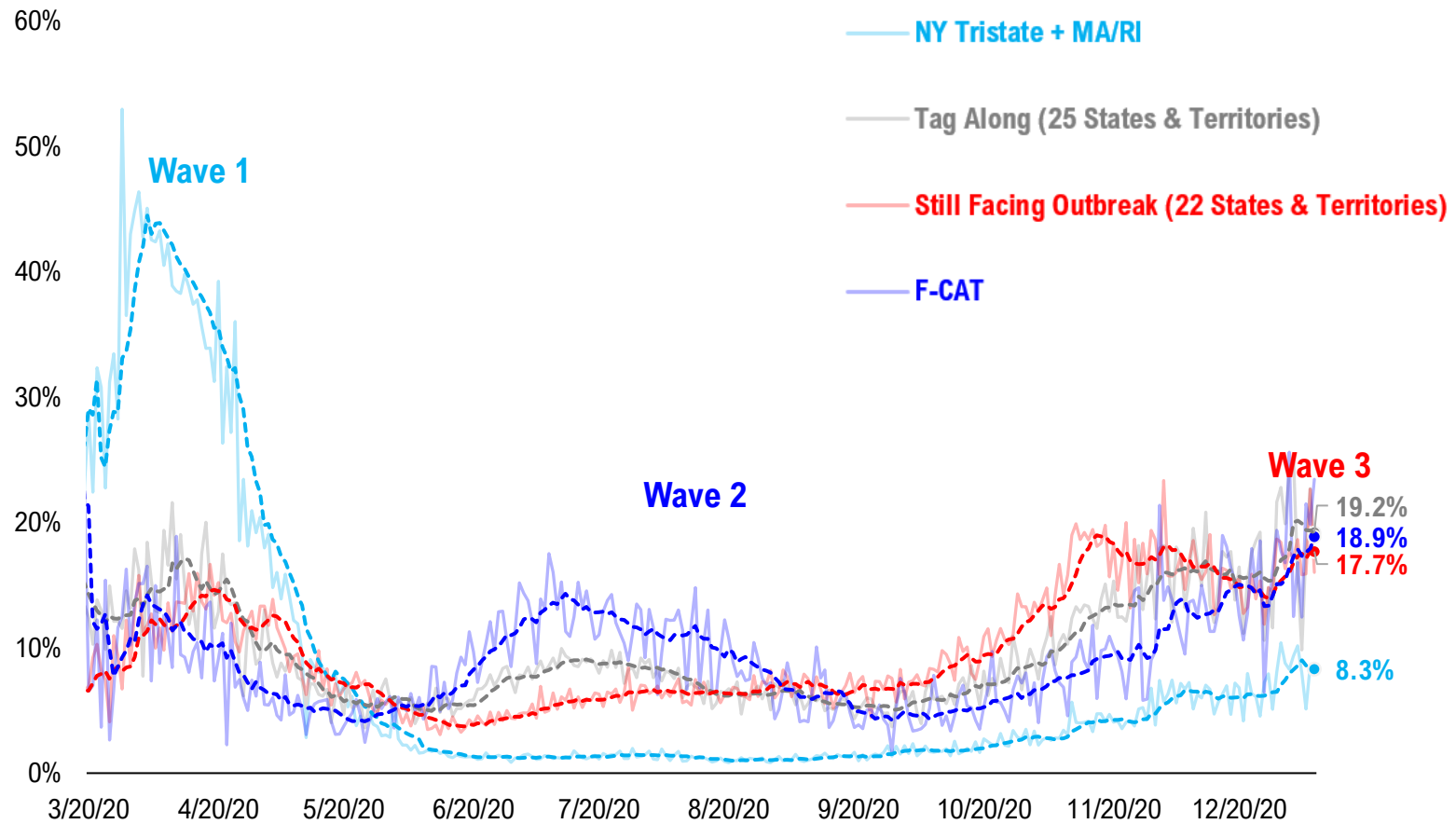


#14: State COVID-19 situation by Tier...

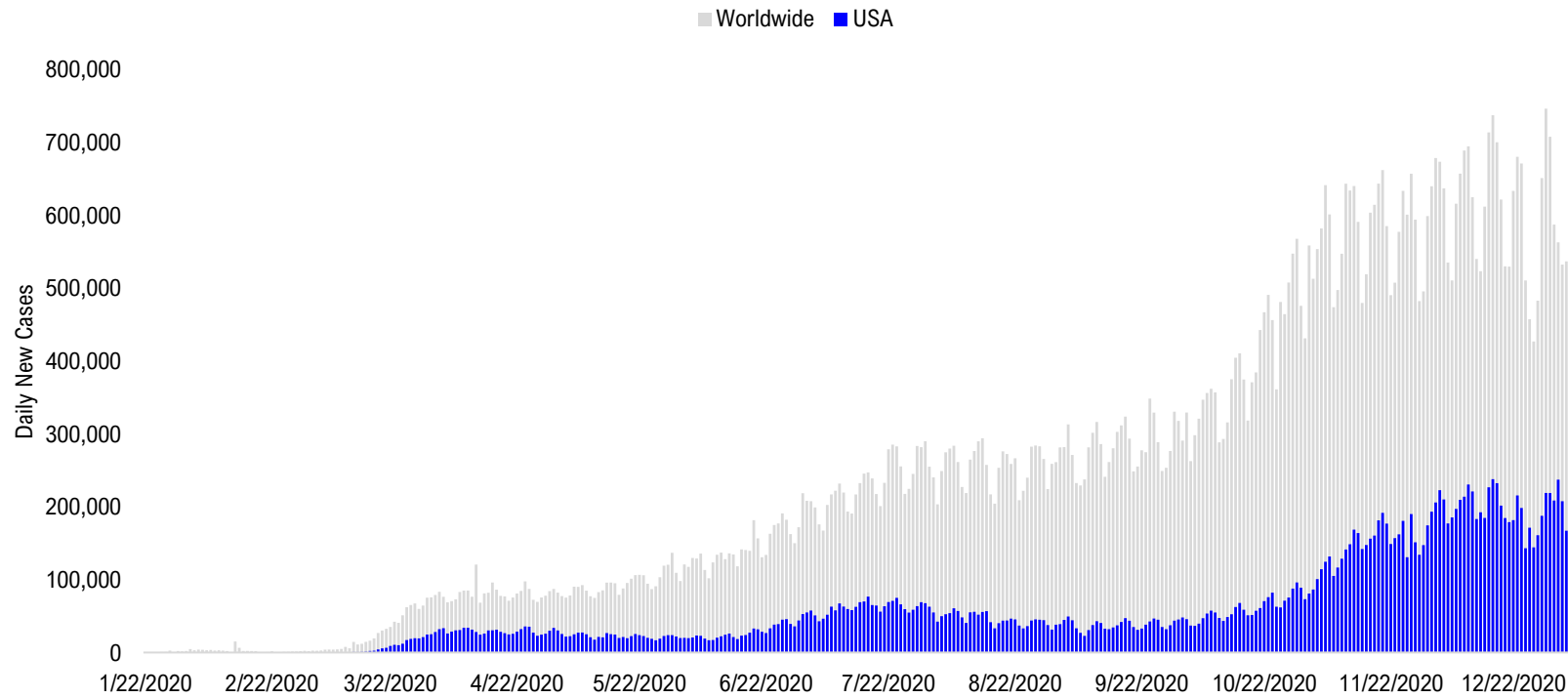


#15: State COVID-19 Daily Positivity Rate by Tier...

Composite Daily Positivity Rate



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



Aug 21	Sep 4	Sep 18	Oct 2	Oct 16	Oct 30	Nov 13	Nov 27	Dec 11	Dec 25	Jan 6
Latin America 85,471	Latin America 88,295	Pakistan + India + Bangladesh 98,115	Pakistan + India + Bangladesh 84,614	Europe 156,735	Europe 288,231	Europe 301,976	Europe 274,571	Europe 268,913	Europe 249,233	Europe 266,103
Pakistan + India + Bangladesh 72,740	Pakistan + India + Bangladesh 87,400	Latin America 76,730	Europe 77,882	Latin America 67,985	US + Canada 89,511	US + Canada 157,595	US + Canada 172,701	US + Canada 224,580	US + Canada 190,814	US + Canada 212,075
US + Canada 45,159	US + Canada 44,962	Europe 57,979	Latin America 61,017	Pakistan + India + Bangladesh 66,697	Latin America 65,611	Latin America 74,234	Latin America 75,171	Latin America 92,555	Latin America 89,562	Latin America 100,034
Europe 31,851	Europe 40,040	US + Canada 43,204	US + Canada 47,741	US + Canada 63,472	Pakistan + India + Bangladesh 51,456	Pakistan + India + Bangladesh 49,697	Pakistan + India + Bangladesh 48,359	Pakistan + India + Bangladesh 35,248	Pakistan + India + Bangladesh 26,828	Africa 27,648
Asia ex- India+Pakistan 10,921	Asia ex- India+Pakistan 9,069	Asia ex- India+Pakistan 11,067	Asia ex- India+Pakistan 11,658	Asia ex- India+Pakistan 13,788	Asia ex- India+Pakistan 12,846	Africa 14,829	Asia ex- India+Pakistan 16,287	Africa 19,264	Africa 25,863	Pakistan + India + Bangladesh 21,411
Africa 10,566	Africa 8,318	Africa 7,997	Africa 8,146	Africa 10,428	Africa 12,181	Asia ex- India+Pakistan 14,319	Africa 14,762	Asia ex- India+Pakistan 17,917	Asia ex- India+Pakistan 18,697	Asia ex- India+Pakistan 19,392

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 2020 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.