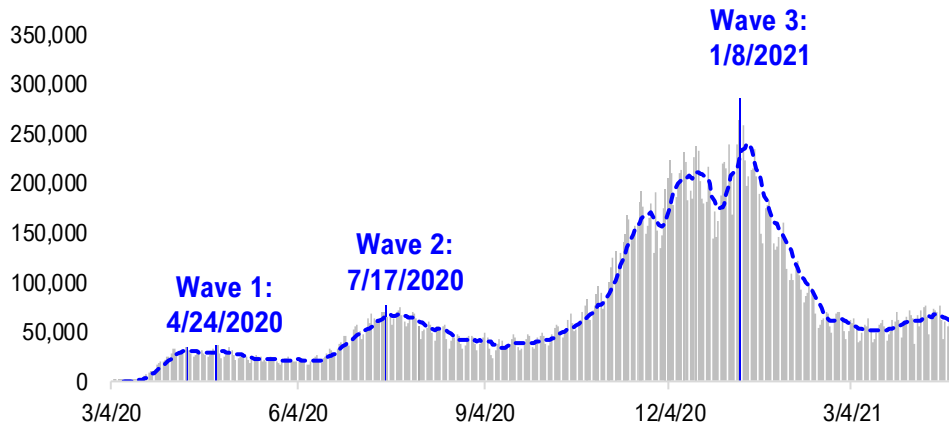


FSInsight Daily COVID-19 Chartbook

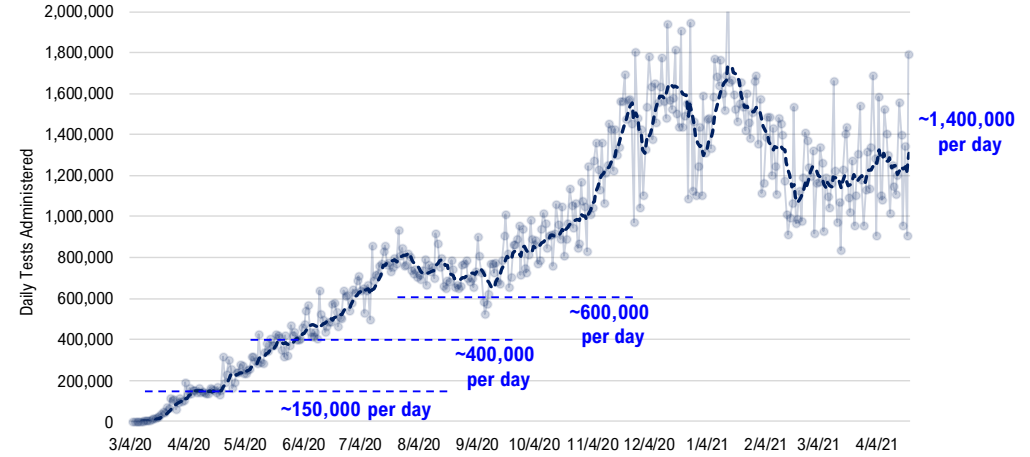


#1: USA COVID-19 Situation at a Glance...

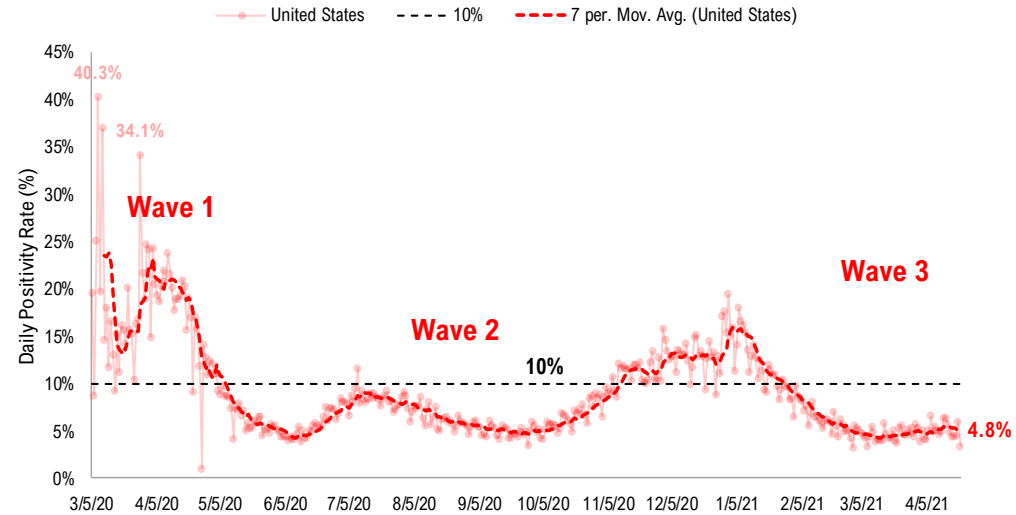
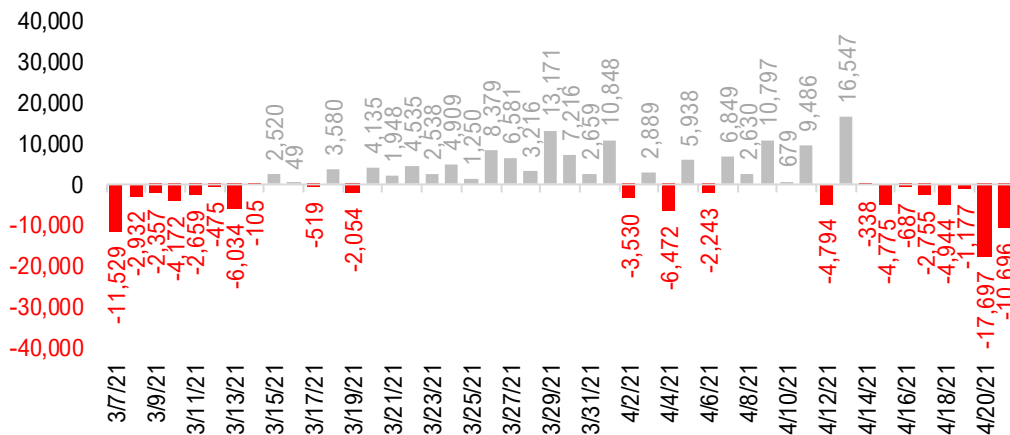
US daily new cases



USA total COVID-19 tests administered

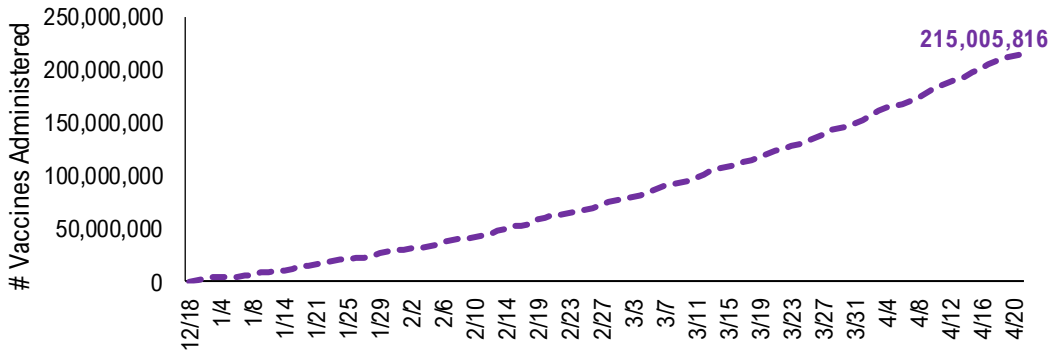


US daily new cases rolling 7D delta

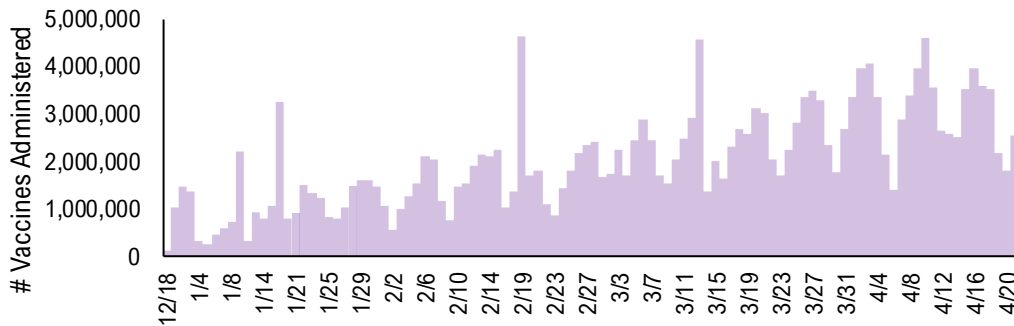


#2: USA COVID-19 Vaccination Progress at a Glance...

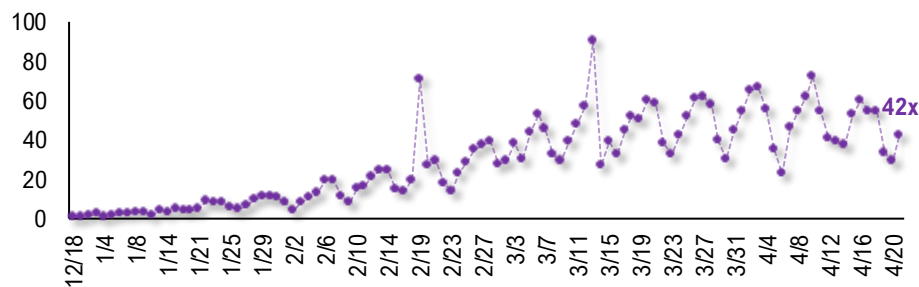
Cumulative Vaccines Administered



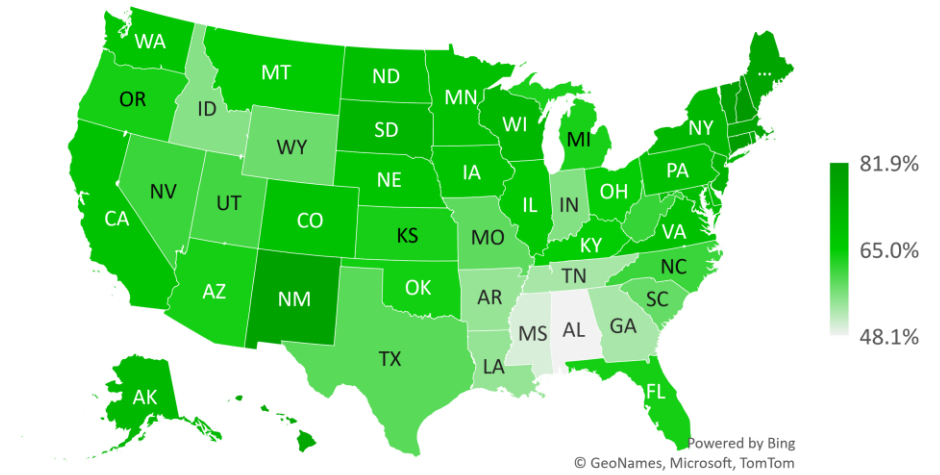
Daily Vaccines Administered



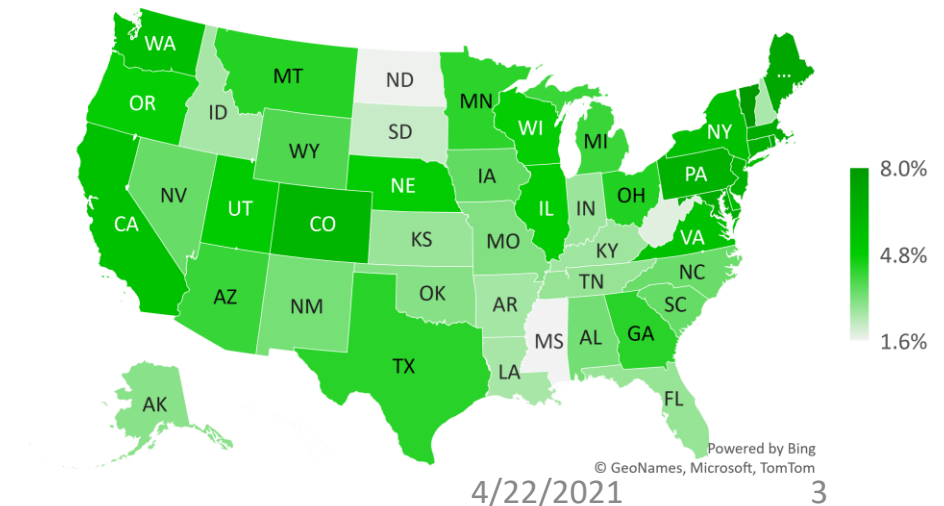
Daily Vaccinations / Daily Cases (7D Avg)



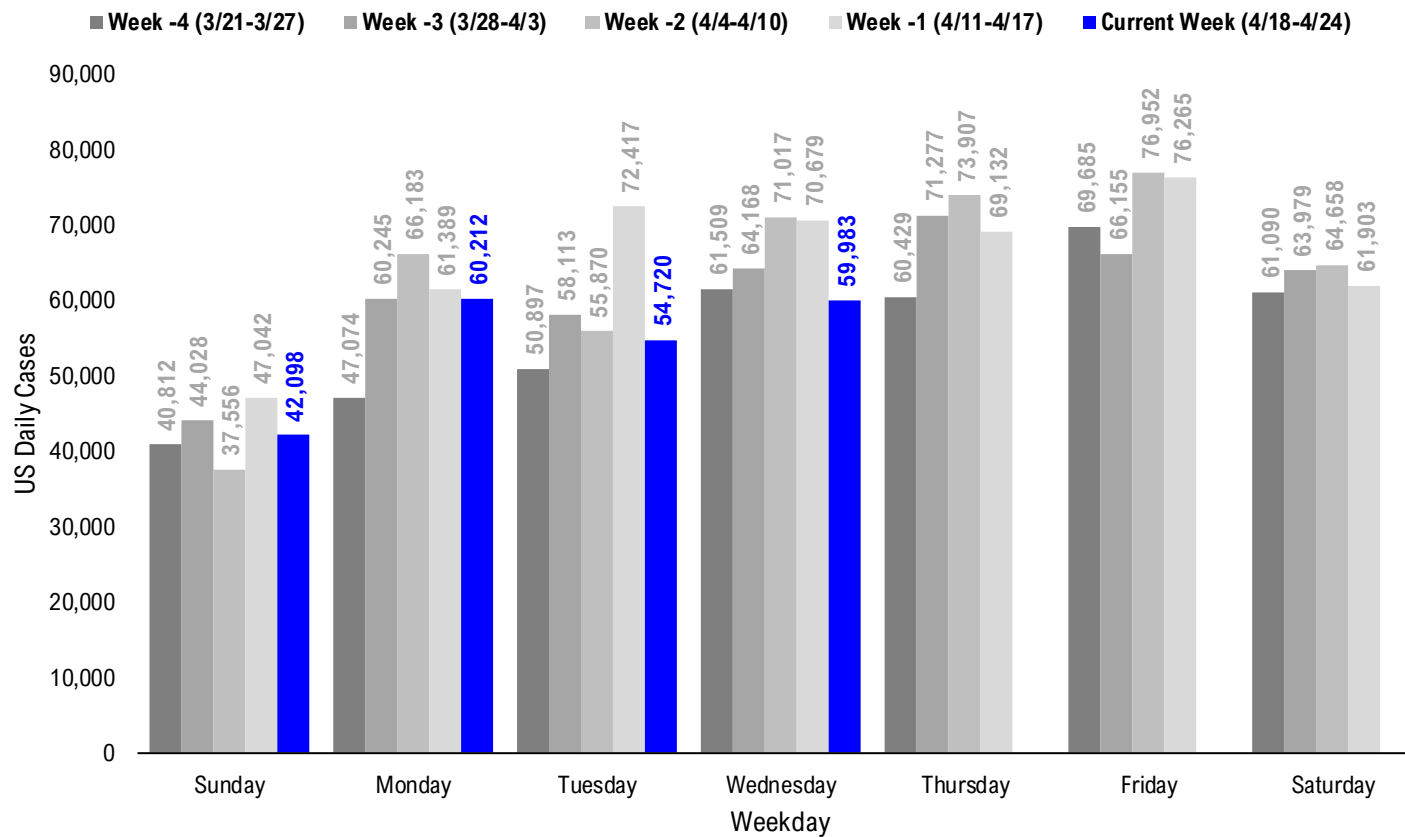
Cumulative Vaccines Administered as % State Population



Implied Weekly Vaccines Administered as % State Population



#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	4/21	7D Delta	4/21	7D Delta	# Days	% Decline in Daily Cases	7D Net Hospitalization	7D Net Hospitalization / 7D New Cases	
	United States	100%	100%	59.983	-10,696	178	-30	102	-78%	548	0.1%

	Sorted Daily Cases		Daily Cases (3D avg) per 1mm residents				Since Peak		Hospitalization		
	% US Pop	% US GDP	4/21	7D Delta	4/21	7D Delta	# Days	% Decline in Daily Cases	7D Net Hospitalization	7D Net Hospitalization / 7D New Cases	
	United States	100%	100%	59.983	-10,696	178	-30	102	-78%	548	0.1%

States:

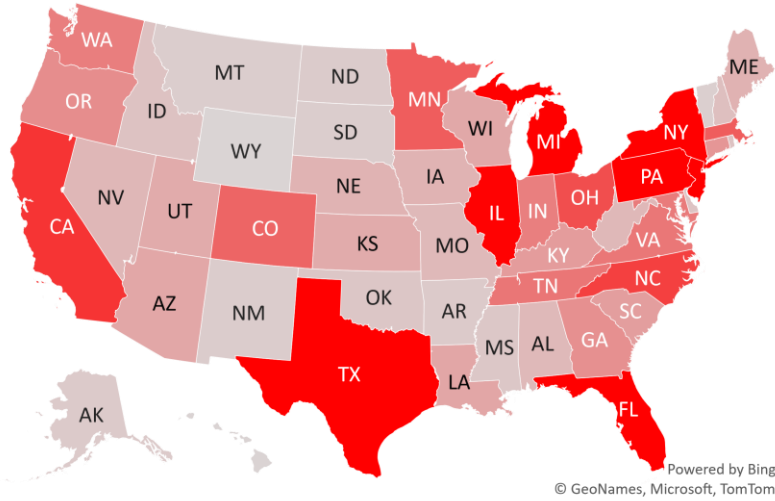
1 Michigan	3.0%	2.6%	5,584	-2,371	648	-236	7	-27%	-91	(0.2%)
2 Florida	6.5%	5.0%	5,571	-1,201	240	-31	103	-73%	235	0.6%
3 Pennsylvania	3.9%	3.8%	4,602	-1,128	289	-114	137	-69%	262	0.9%
4 New York	5.9%	8.1%	4,326	-1,866	216	-61	102	-76%	-334	(0.8%)
5 Texas	8.7%	8.8%	3,503	+1,236	93	+1	104	-88%	-73	(0.5%)
6 New Jersey	2.7%	3.0%	2,922	+129	271	-35	102	-61%	-167	(0.8%)
7 Illinois	3.8%	4.2%	2,765	-771	192	-49	159	-82%	115	0.6%
8 California	11.9%	14.6%	2,126	-361	48	-9	101	-96%	-135	(0.9%)
9 North Carolina	3.2%	2.7%	1,963	-396	281	-17	102	-72%	123	0.9%
10 Ohio	3.5%	3.3%	1,789	-427	149	-36	132	-85%	-59	(0.5%)
11 Minnesota	1.7%	1.8%	1,600	-97	241	-58	142	-83%	-5	(0.0%)
12 Massachusetts	2.1%	2.8%	1,596	-648	198	-62	102	-82%	-25	(0.2%)
13 Colorado	1.7%	1.8%	1,492	-832	245	-53	151	-76%	92	0.9%
14 Tennessee	2.1%	1.8%	1,270	+62	359	+91	124	-76%	105	1.0%
15 Virginia	2.6%	2.6%	1,261	-40	136	-46	93	-85%	60	0.6%
16 Maryland	1.8%	2.0%	1,205	-347	152	-47	101	-74%	43	0.5%
17 Washington	2.3%	2.7%	1,172	+118	161	+19	147	-71%	-1	(0.0%)
18 Indiana	2.0%	1.8%	1,152	-44	126	-37	137	-89%	-45	(0.5%)
19 Oregon	1.3%	1.2%	977	+169	159	+30	136	-61%	72	1.5%
20 Georgia	3.2%	2.9%	943	-138	81	-5	101	-90%	78	1.2%
21 Connecticut	1.1%	1.3%	856	-753	368	-166	98	-73%	-11	(0.2%)
22 Kentucky	1.3%	1.0%	780	+6	120	-17	103	-89%	-3	(0.1%)
23 South Carolina	1.6%	1.1%	763	-40	135	-10	101	-90%	-32	(0.5%)
24 Louisiana	1.4%	1.3%	661	+275	174	+43	104	-85%	11	0.3%
25 Arizona	2.2%	1.7%	649	+230	94	+16	108	-94%	53	1.2%
26 Wisconsin	1.8%	1.6%	626	-303	103	-26	159	-92%	47	1.0%
27 Kansas	0.9%	0.8%	593	-8	117	-7	147	-92%	-13	(0.8%)
28 Utah	1.0%	0.9%	590	+60	115	+3	103	-91%	-2	(0.1%)

States:

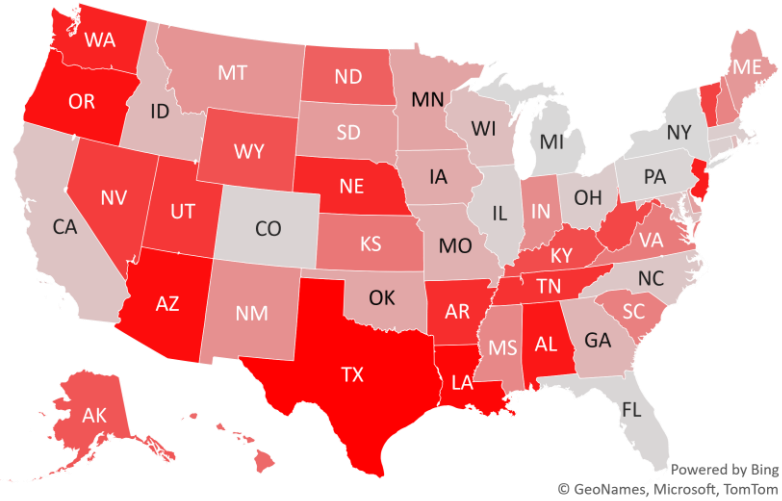
29 Maine	0.4%	0.3%	500	-47	293	-58	96	-52%	12	0.4%
30 Iowa	1.0%	0.9%	490	-120	109	-1	159	-91%	1	0.0%
31 Nebraska	0.6%	0.6%	488	+96	194	+44	153	-87%	-3	(0.1%)
32 Nevada	0.9%	0.8%	436	+41	164	+42	102	-83%	13	0.5%
33 West Virginia	0.5%	0.4%	426	+13	186	-6	108	-83%	10	0.4%
34 Puerto Rico	1.0%	0.5%	418	-404	233	-12	123	-34%	106	2.0%
35 Alabama	1.5%	1.1%	412	+135	134	+6	104	-87%	39	1.1%
36 Missouri	1.8%	1.5%	411	-129	62	-2	158	-92%	-61	(2.1%)
37 New Hampshire	0.4%	0.4%	338	-40	197	-79	107	-76%	6	0.2%
38 Idaho	0.5%	0.4%	294	-143	151	-31	132	-87%	9	0.6%
39 Rhode Island	0.3%	0.3%	289	-188	471	-206	137	-70%	17	0.7%
40 Delaware	0.3%	0.4%	286	-94	286	-38	102	-70%	13	0.5%
41 Oklahoma	1.2%	1.0%	238	-108	93	-27	101	-93%	7	0.4%
42 Mississippi	0.9%	0.6%	233	-42	71	-3	102	-93%	0	0.0%
43 Alaska	0.2%	0.3%	199	+4	334	+8	137	-70%	5	0.5%
44 Arkansas	0.9%	0.6%	198	+67	42	+9	101	-95%	24	2.5%
45 North Dakota	0.2%	0.3%	176	+0	203	-3	158	-92%	21	2.1%
46 New Mexico	0.6%	0.5%	168	-46	145	-15	152	-90%	10	0.7%
47 Montana	0.3%	0.2%	158	-47	122	-17	157	-91%	12	1.3%
48 South Dakota	0.3%	0.3%	157	-68	174	-80	158	-92%	2	0.2%
49 Vermont	0.2%	0.2%	126	+26	119	-34	19	-66%	-2	(0.3%)
50 District of Columbia	0.2%	0.7%	72	-121	132	-47	101	-73%	11	1.5%
51 Hawaii	0.4%	0.5%	71	+0	42	-6	235	-80%	-1	(0.2%)
52 Wyoming	0.2%	0.2%	62	+5	145	-2	153	-92%	-3	(0.8%)
53 U.S. Virgin Islands	0.0%	0.0%	0	+0	0	-187	24	-100%	0	0.0%
54 Northern Mariana	0.0%	0.0%	0	+0	0	+0	176	-100%	0	0.0%
55 Guam	0.0%	0.0%	0	+0	0	+0	162	-100%	0	0.0%
56 American Samoa	0.0%	0.0%	0	+0	0	+0	0	0%	0	0.0%

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

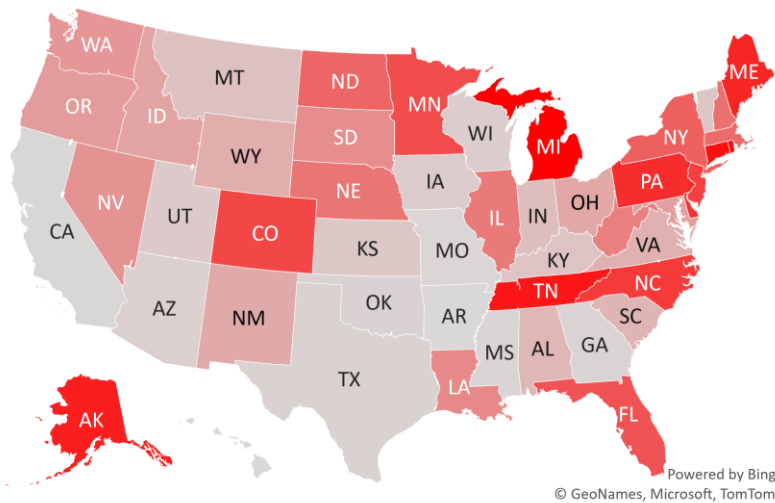
Daily Case Increases



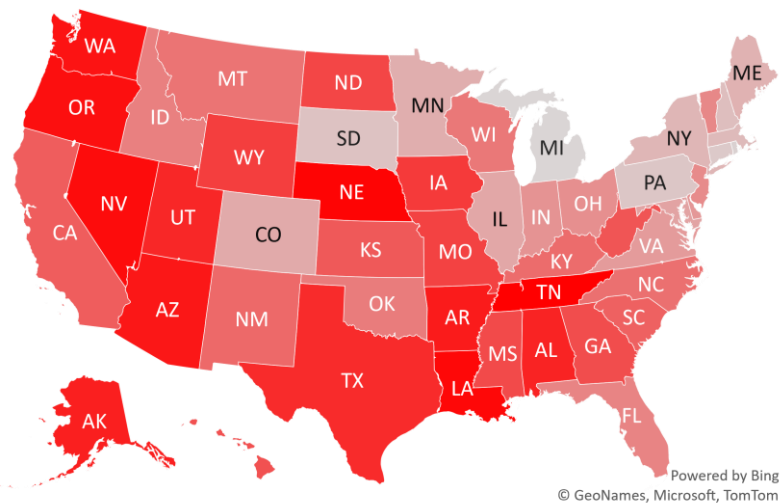
7D Delta in Daily New Cases



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



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



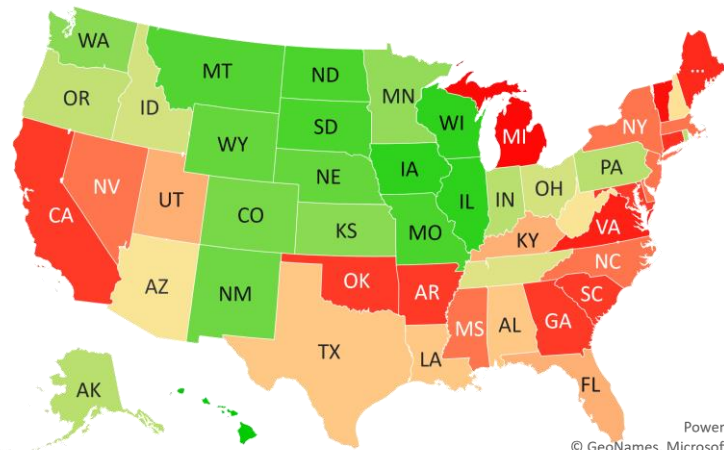
#6: # of Days since Daily Case Peaked by States...

Days since Daily Cases (3D Avg) Peak (as of 4/21)

	Sorted			
	Peak Date	4/21/21	% off the Peak	% US Pop
United States	1/9/21	102	-78%	100%
States:				
Hawaii	8/29/20	235	-80%	0.4%
Northern Mariana Island	10/27/20	176	-100%	0.0%
Guam	11/10/20	162	-100%	0.0%
Wisconsin	11/13/20	159	-92%	1.8%
Illinois	11/13/20	159	-82%	3.8%
Iowa	11/13/20	159	-91%	1.0%
South Dakota	11/14/20	158	-92%	0.3%
North Dakota	11/14/20	158	-92%	0.2%
Missouri	11/14/20	158	-92%	1.8%
Montana	11/15/20	157	-91%	0.3%
Wyoming	11/19/20	153	-92%	0.2%
Nebraska	11/19/20	153	-87%	0.6%
New Mexico	11/20/20	152	-90%	0.6%
Colorado	11/21/20	151	-76%	1.7%
Washington	11/25/20	147	-71%	2.3%
Kansas	11/25/20	147	-92%	0.9%
Minnesota	11/30/20	142	-83%	1.7%
Rhode Island	12/5/20	137	-70%	0.3%
Pennsylvania	12/5/20	137	-69%	3.9%
Indiana	12/5/20	137	-89%	2.0%
Alaska	12/5/20	137	-70%	0.2%
Oregon	12/6/20	136	-61%	1.3%
Ohio	12/10/20	132	-85%	3.5%
Idaho	12/10/20	132	-87%	0.5%
Tennessee	12/18/20	124	-76%	2.1%
Puerto Rico	12/19/20	123	-34%	1.0%
West Virginia	1/3/21	108	-83%	0.5%
Arizona	1/3/21	108	-94%	2.2%

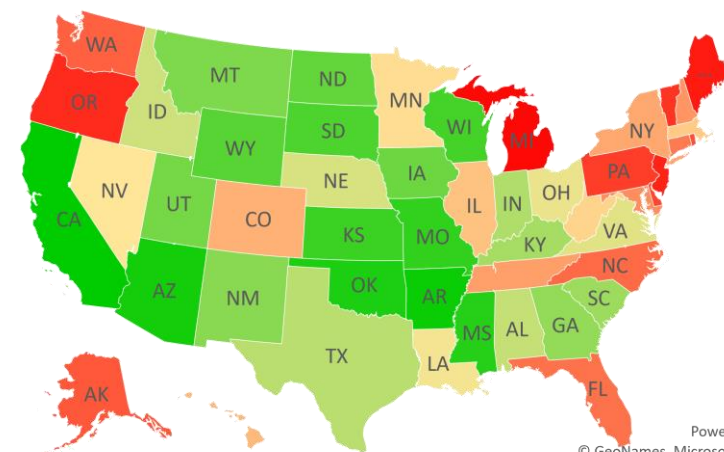
	Sorted			
	Peak Date	4/21/21	% off the Peak	% US Pop
United States	1/9/21	102	-78%	100%
States:				
New Hampshire	1/4/21	107	-76%	0.4%
Texas	1/7/21	104	-88%	8.7%
Louisiana	1/7/21	104	-85%	1.4%
Alabama	1/7/21	104	-87%	1.5%
Utah	1/8/21	103	-91%	1.0%
Kentucky	1/8/21	103	-89%	1.3%
Florida	1/8/21	103	-73%	6.5%
New York	1/9/21	102	-76%	5.9%
Nevada	1/9/21	102	-83%	0.9%
New Jersey	1/9/21	102	-61%	2.7%
North Carolina	1/9/21	102	-72%	3.2%
Mississippi	1/9/21	102	-93%	0.9%
Massachusetts	1/9/21	102	-82%	2.1%
Delaware	1/9/21	102	-70%	0.3%
South Carolina	1/10/21	101	-90%	1.6%
Oklahoma	1/10/21	101	-93%	1.2%
Maryland	1/10/21	101	-74%	1.8%
Georgia	1/10/21	101	-90%	3.2%
District of Columbia	1/10/21	101	-73%	0.2%
California	1/10/21	101	-96%	11.9%
Arkansas	1/10/21	101	-95%	0.9%
Connecticut	1/13/21	98	-73%	1.1%
Maine	1/15/21	96	-52%	0.4%
Virginia	1/18/21	93	-85%	2.6%
U.S. Virgin Islands	3/28/21	24	-100%	0.0%
Vermont	4/2/21	19	-66%	0.2%
Michigan	4/14/21	7	-27%	3.0%

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



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



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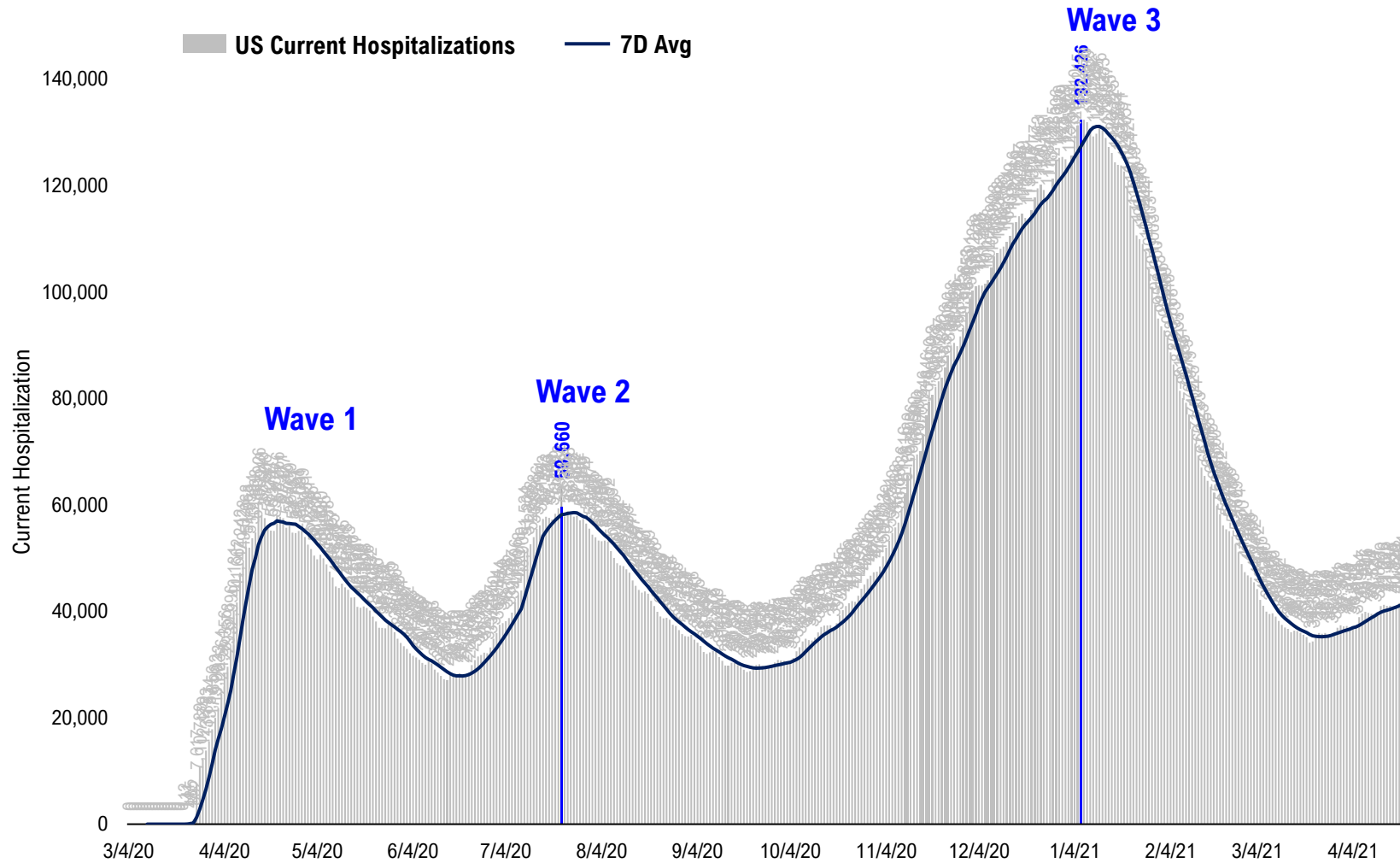
#7: US New Cases by States... (sorted by today's new cases)

	Sorted						Sorted				
	7D Ago	Last 3-day Trend					7D Ago	Last 3-day Trend			
	4/14/21	4/19/21	4/20/21	4/21/21	vs 7D ago		4/14/21	4/19/21	4/20/21	4/21/21	vs 7D ago
United States	70,679	60,212	54,720	59,983	-10,696	United States	70,679	60,212	54,720	59,983	-10,696
States:						States:					
Michigan	7,955	8,574	5,259	5,584		Maine	547	260	420	500	
Florida	6,772	4,237	5,645	5,571		Iowa	610	239	306	490	
Pennsylvania	5,730	1,914	4,577	4,602		Nebraska	392	140	495	488	<--higher
New York	6,192	4,339	3,922	4,326		Nevada	395	698	381	436	
Texas	2,267	1,073	3,554	3,503		West Virginia	413	260	315	426	
New Jersey	2,793	1,928	2,364	2,922		Puerto Rico	822	980	831	418	
Illinois	3,536	1,959	2,587	2,765		Alabama	277	111	1,443	412	<--higher
California	2,487	1,916	1,606	2,126		Missouri	540	189	534	411	
North Carolina	2,359	5,673	1,200	1,963		New Hampshire	378	197	270	338	
Ohio	2,216	1,632	1,799	1,789		Idaho	437	277	238	294	
Minnesota	1,697	1,284	1,185	1,600		Rhode Island	477	817	392	289	
Massachusetts	2,244	1,317	1,188	1,596		Delaware	380	389	160	286	
Colorado	2,324	777	1,963	1,492		Oklahoma	346	787	75	238	
Tennessee	1,208	5,358	721	1,270		Mississippi	275	37	362	233	
Virginia	1,301	978	1,236	1,261		Alaska	195	430	103	199	
Maryland	1,552	631	925	1,205		Arkansas	131	54	132	198	<--higher
Washington	1,054	1,218	1,294	1,172		North Dakota	176	51	237	176	
Indiana	1,196	712	676	1,152		New Mexico	214	610	137	168	
Oregon	808	471	565	977	<--higher	Montana	205	57	177	158	
Georgia	1,081	725	927	943		South Dakota	225	133	171	157	
Connecticut	1,609	2,339	738	856		Vermont	100	96	0	126	<--higher
Kentucky	774	231	604	780		District of Columbia	193	78	129	72	
South Carolina	803	753	574	763		Hawaii	71	65	44	71	
Louisiana	386	1,413	359	661	<--higher	Wyoming	57	111	78	62	
Arizona	419	692	702	649	<--higher	U.S. Virgin Islands	0	0	0	0	
Wisconsin	929	373	805	626		Northern Mariana Islands	0	0	0	0	
Kansas	601	429	0	593		Guam	0	0	0	0	
Utah	530	200	315	590		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

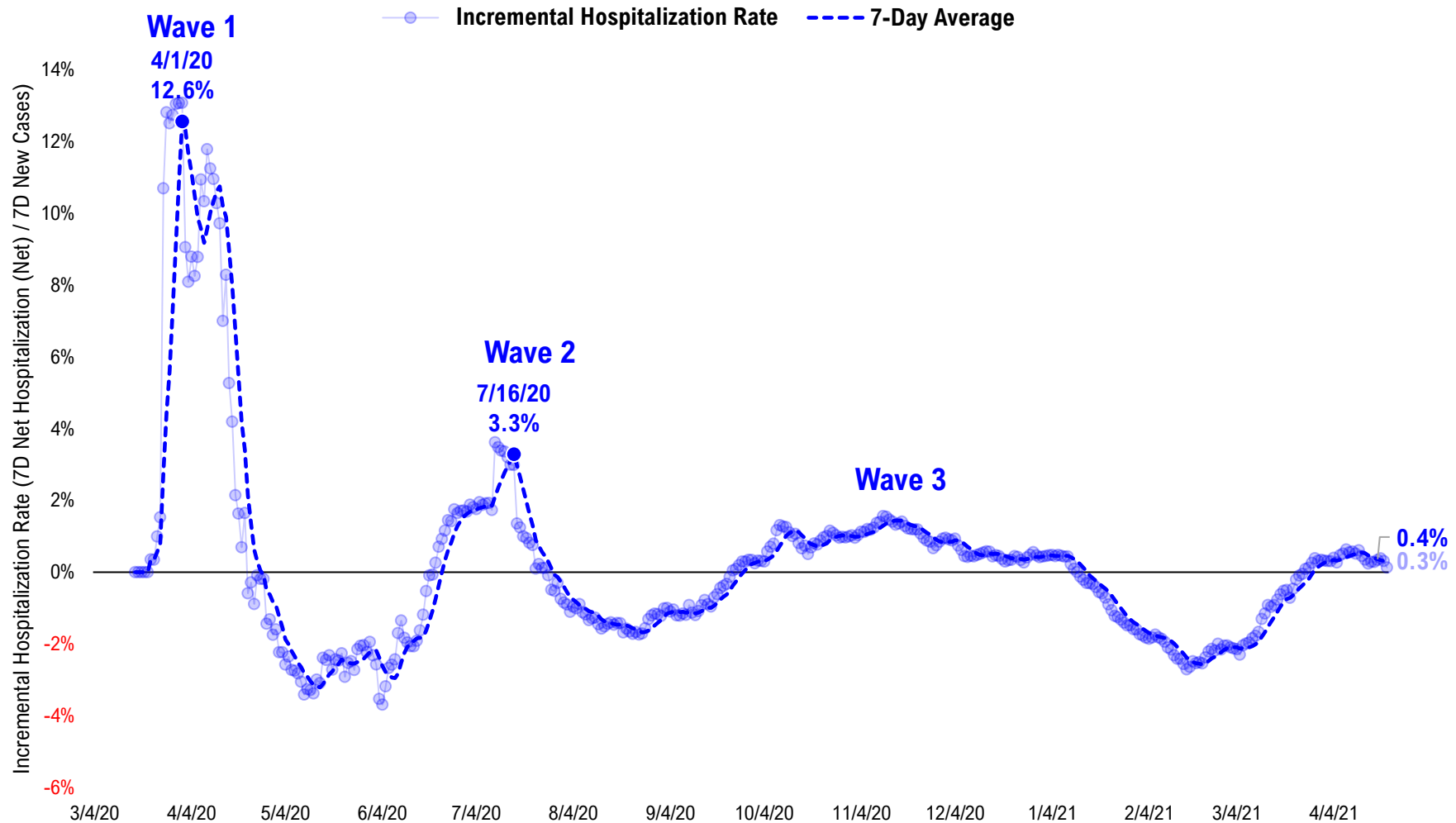
#8: US Daily Hospitalizations...

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



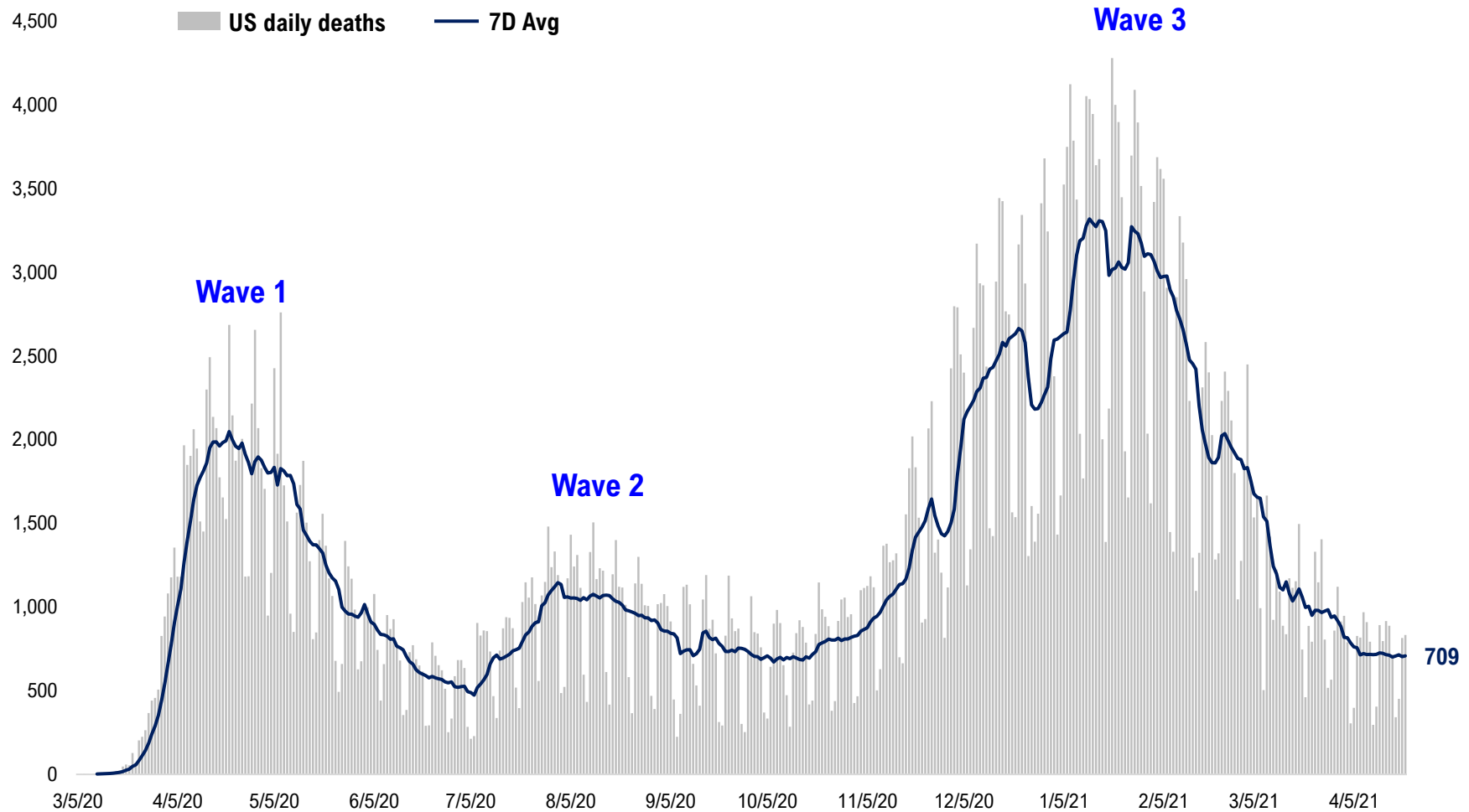
#9: Incremental Hospitalization Rate...

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

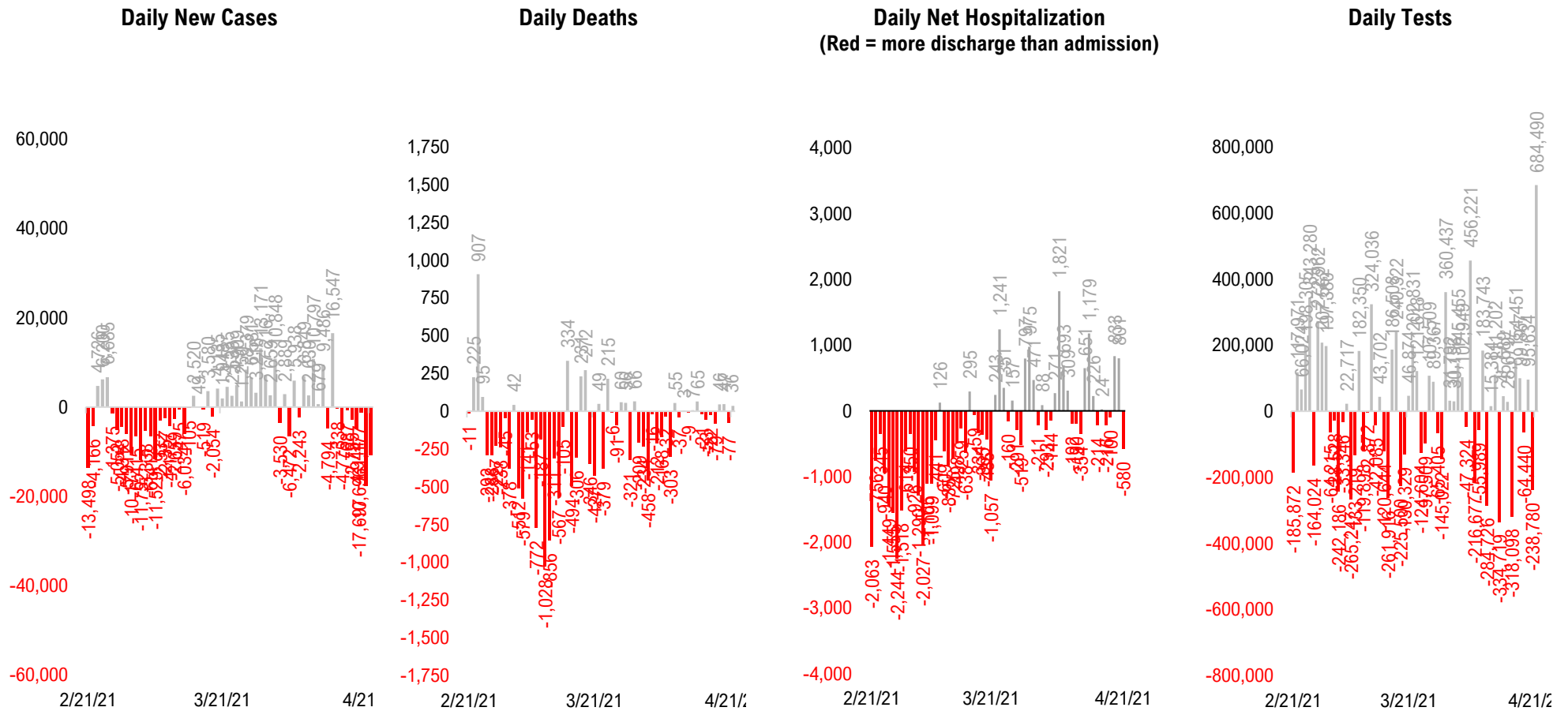


#10: US Daily New Fatalities...

US daily COVID-19 Fatalities

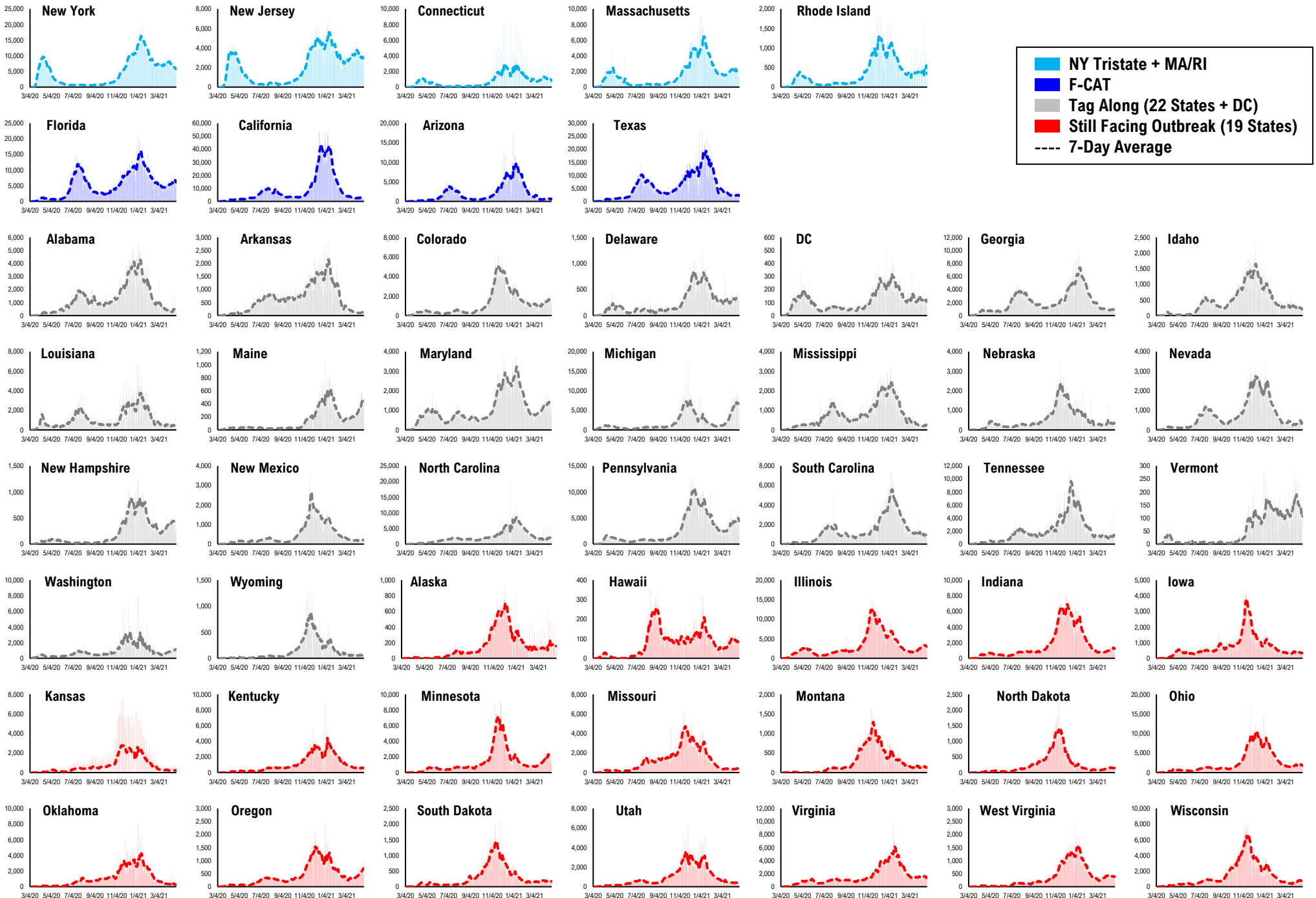


#11: Rolling 7-Day Change in the Key Metrics... (Past 8 Weeks)

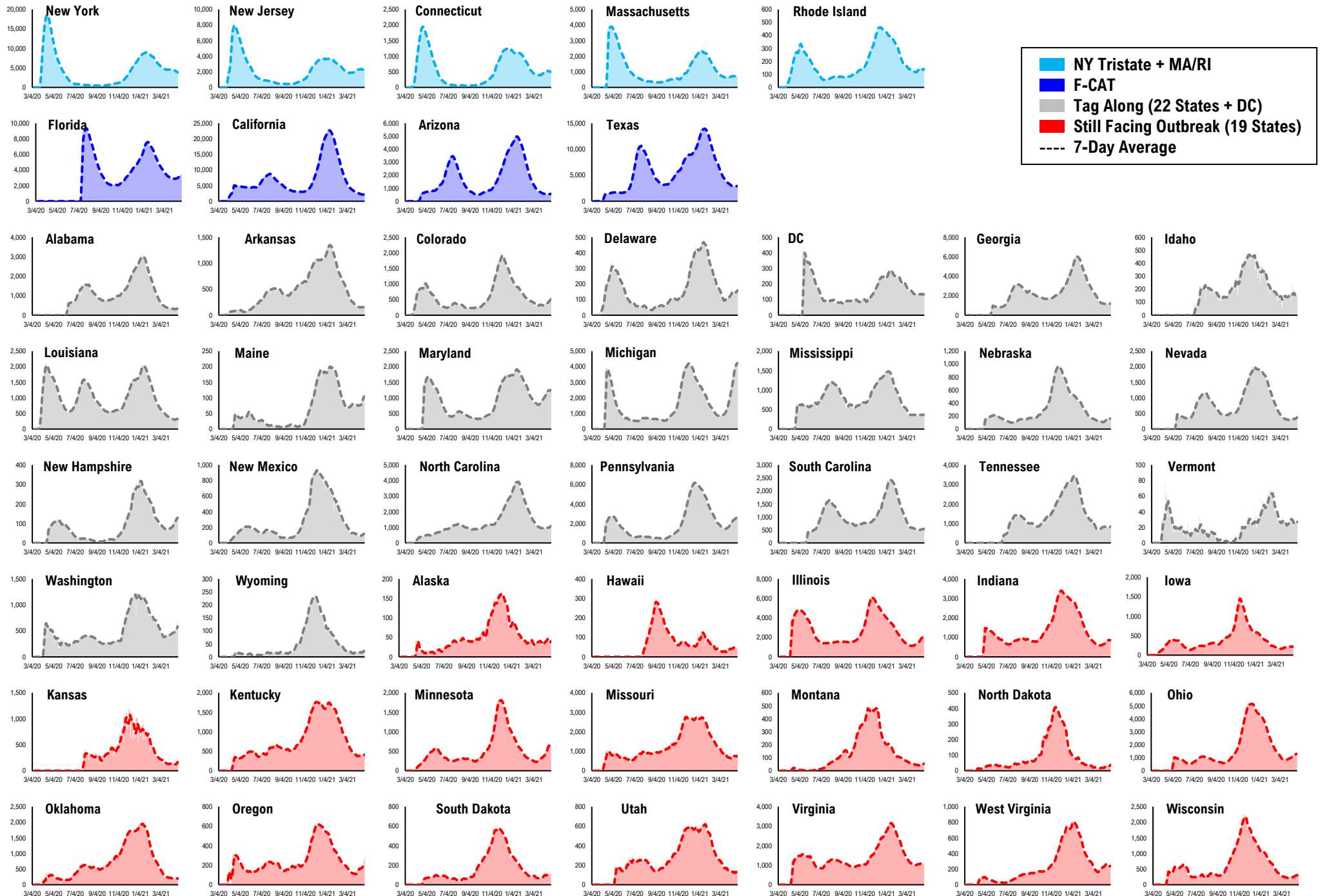


* Ignored California between 8/10 and 8/23, due to its data glitch caused 300,000-case backlog
Source: Fundstrat, COVID-19 Tracking Project, State Department of Health

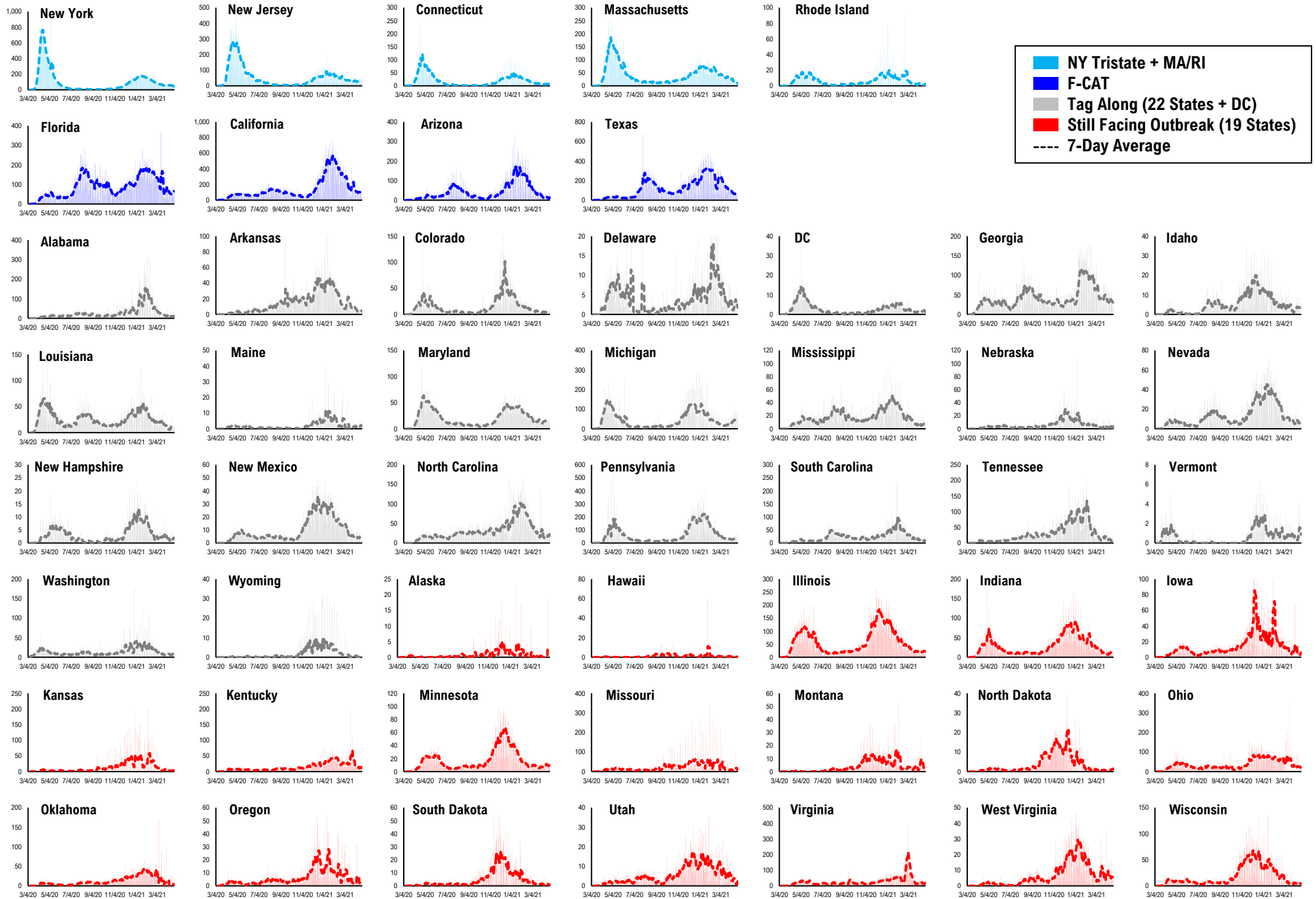
#12: Daily New Cases by States...



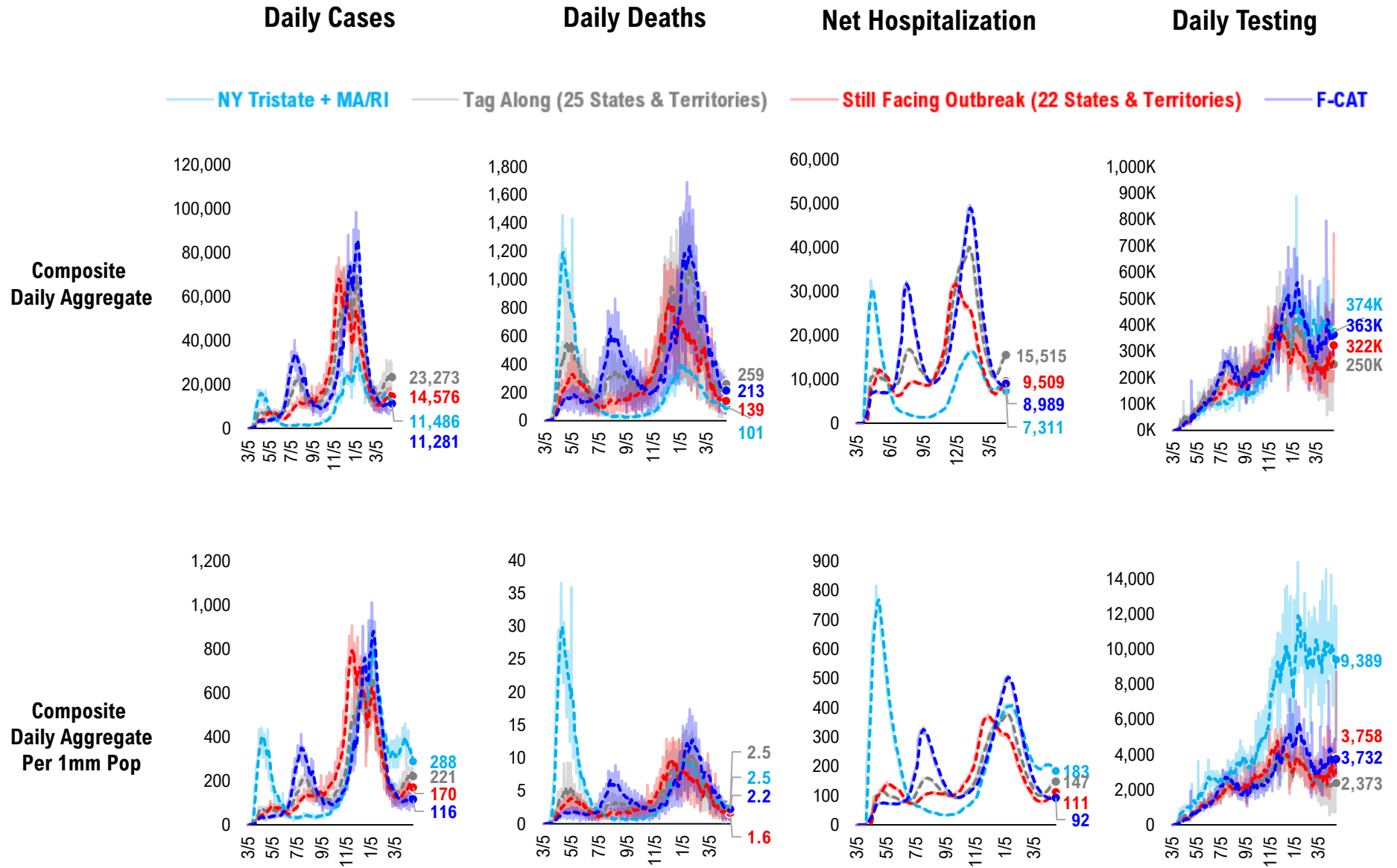
#13: Current Hospitalizations by States...



#14: Daily New Deaths by States...

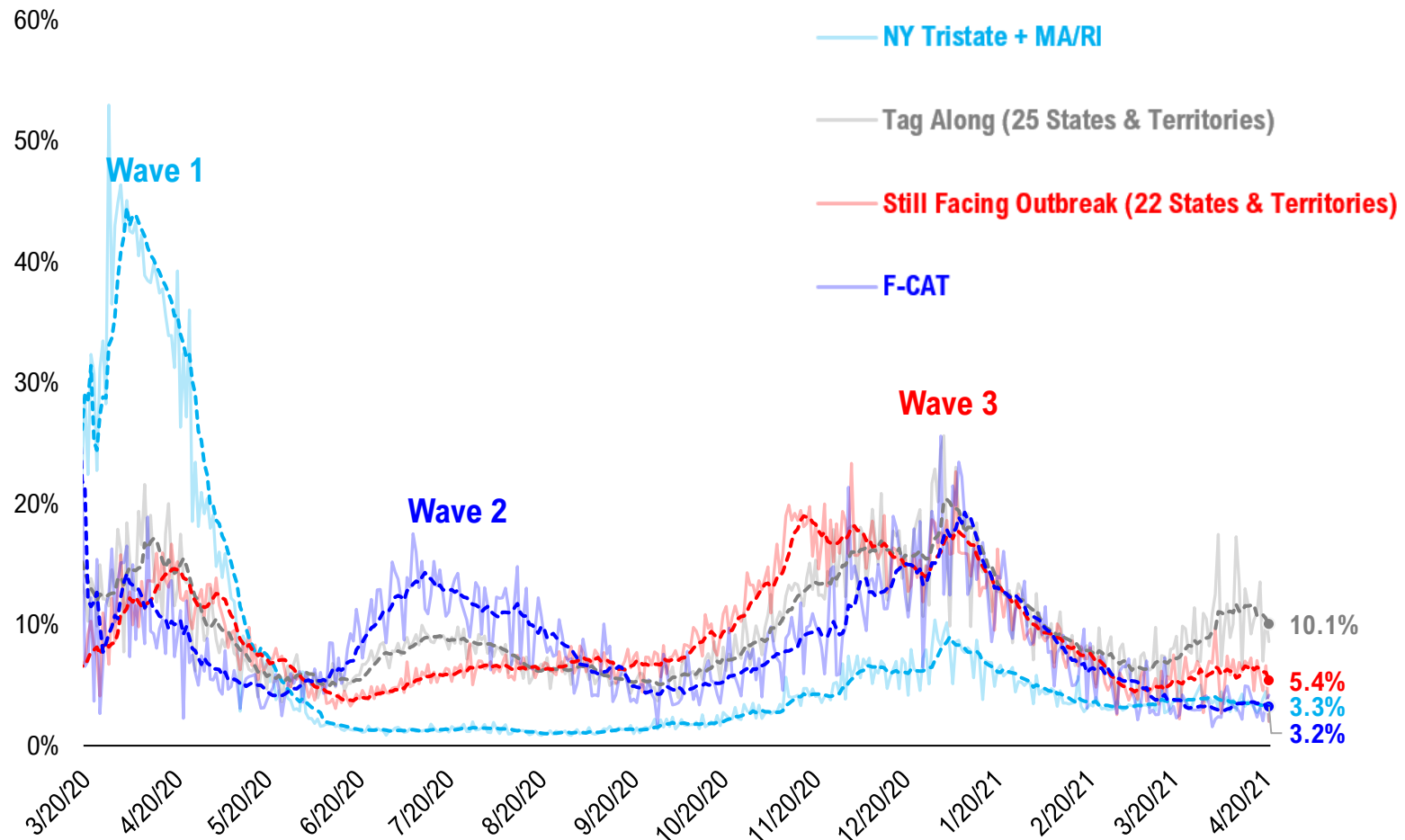


#15: State COVID-19 situation by Tier...

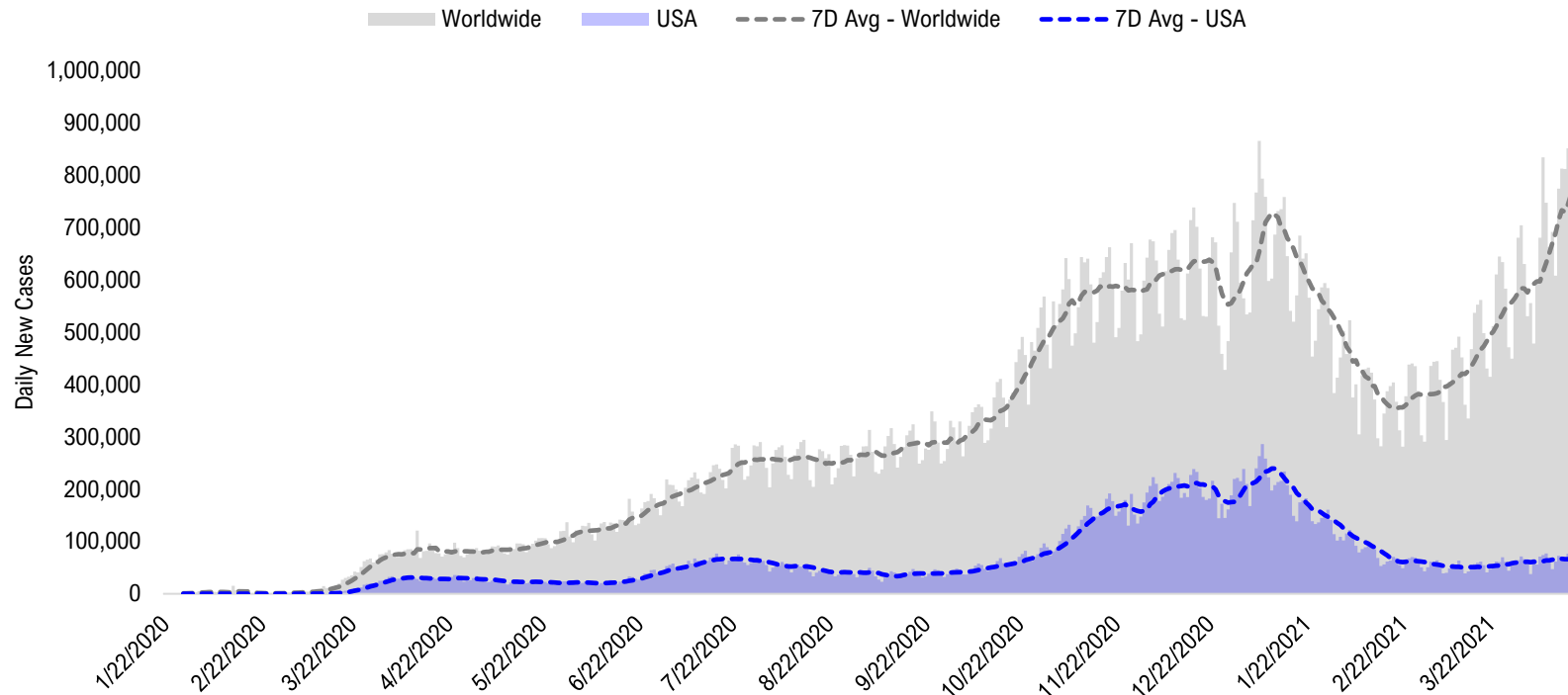


#16: State COVID-19 Daily Positivity Rate by Tier...

Composite Daily Positivity Rate



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



Dec 4	Dec 18	Jan 1	Jan 15	Jan 29	Feb 12	Feb 26	Mar 12	Mar 26	Apr 9	Apr 19
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 226,762	Pakistan + India + Bangladesh 242,821
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 90,697	Latin America 106,657	Latin America 121,448	Latin America 128,319	Europe 232,805
Latin America 77,676	Latin America 85,354	Latin America 78,723	Latin America 118,406	Latin America 110,698	Latin America 87,199	US + Canada 65,753	US + Canada 54,551	US + Canada 59,138	Pakistan + India + Bangladesh 127,964	Latin America 137,999
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 71,402	US + Canada 73,402
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 24,103	Asia ex-India+Pakistan 29,600
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 11,159	Africa 11,424

Disclosures

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