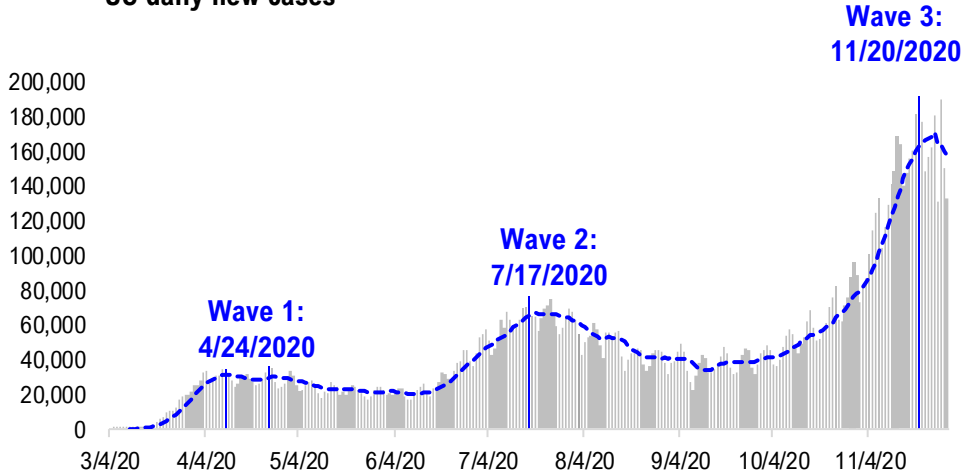


FSInsight Daily COVID-19 Chartbook

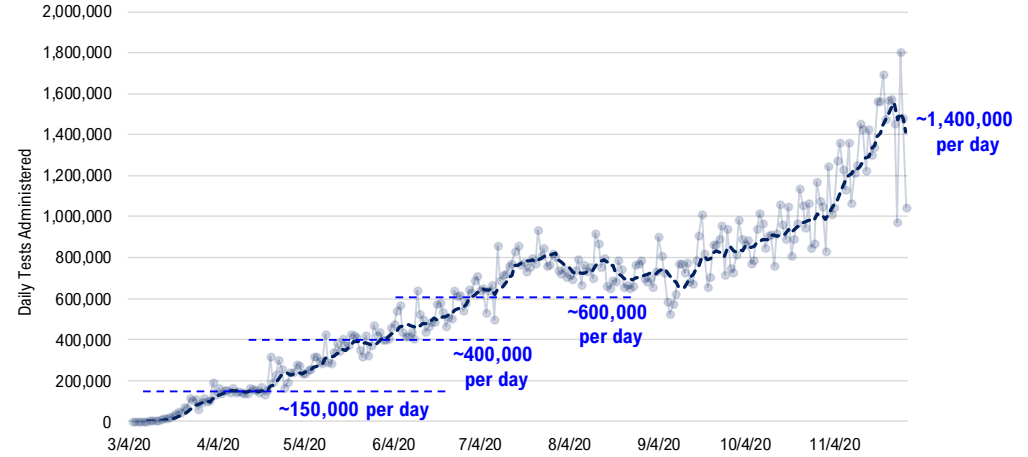


#1: USA COVID-19 Situation at a Glance...

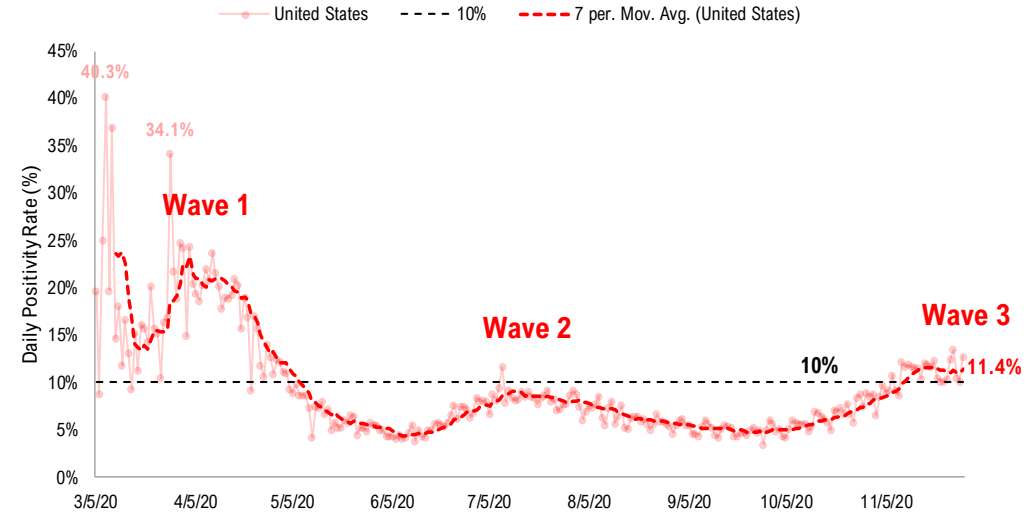
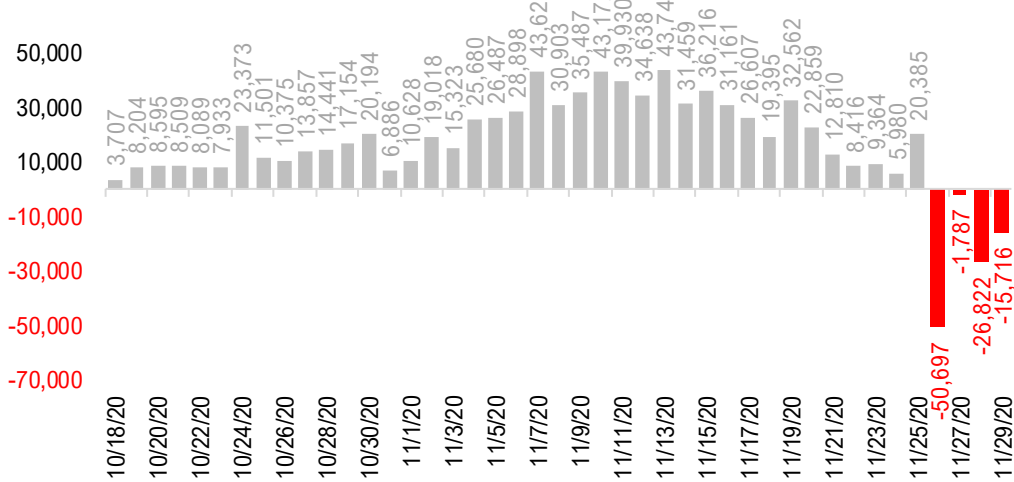
US daily new cases



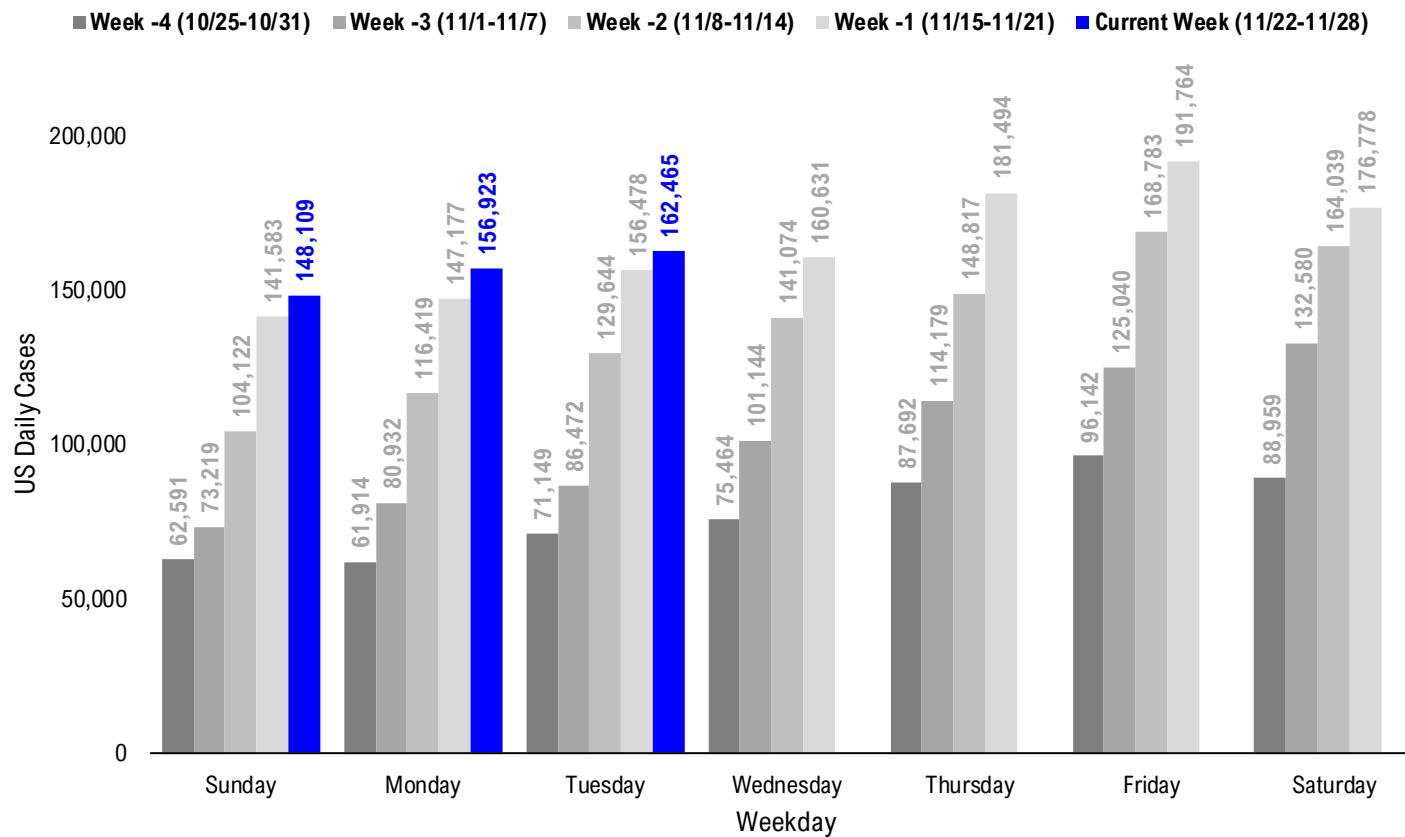
USA total COVID-19 tests administered



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		7D		# Days	% Decline in Daily Cases	7D Net Hospitalization	7D Net Hospitalization / 7D New Cases
			11/29	Delta	11/29	Delta				
United States	100%	100%	133.038	-15,716	480	-45	8	-14%	9,261	0.8%

	Sorted Daily Cases		Daily Cases (3D avg) per 1mm residents				Hospitalization			
	% US Pop	% US GDP	7D		7D		# Days	% Decline in Daily Cases	7D Net Hospitalization	7D Net Hospitalization / 7D New Cases
			11/29	Delta	11/29	Delta				
United States	100%	100%	133.038	-15,716	480	-45	8	-14%	9,261	0.8%

States:

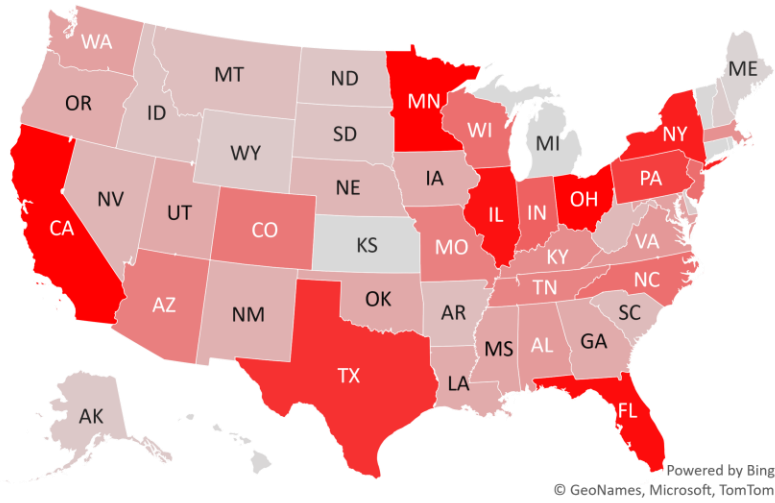
1 California	11.9%	14.6%	15,614	+1,295	340	-21	3	-17%	2,280	2.4%
2 Minnesota	1.7%	1.8%	8,946	+1,741	1399	+202	13	-0%	1	0.0%
3 Ohio	3.5%	3.3%	7,729	-404	904	+196	0	0%	727	1.2%
4 Florida	6.5%	5.0%	7,363	+776	324	-50	139	-46%	446	0.8%
5 Illinois	3.8%	4.2%	7,178	-2,834	595	-323	16	-45%	-214	(0.3%)
6 New York	5.9%	8.1%	6,723	+1,331	359	+71	233	-34%	810	1.8%
7 Texas	8.7%	8.8%	6,041	-2,513	143	-235	3	-70%	460	0.8%
8 Pennsylvania	3.9%	3.8%	5,529	-1,546	545	+7	1	-12%	1,026	2.2%
9 Indiana	2.0%	1.8%	4,304	-1,870	714	-269	8	-31%	248	0.7%
10 New Jersey	2.7%	3.0%	3,839	-129	440	-20	3	-8%	309	1.1%
11 Wisconsin	1.8%	1.6%	3,831	+324	582	-346	16	-54%	-233	(0.8%)
12 North Carolina	3.2%	2.7%	3,820	-694	485	+116	0	0%	314	1.3%
13 Colorado	1.7%	1.8%	3,489	-432	700	-215	8	-33%	177	0.6%
14 Arizona	2.2%	1.7%	3,221	-1,110	534	-35	150	-9%	526	2.0%
15 Missouri	1.8%	1.5%	3,193	-1,022	471	-273	15	-42%	-163	(0.7%)
16 Tennessee	2.1%	1.8%	3,052	-1,537	690	+86	13	-23%	142	0.5%
17 Kentucky	1.3%	1.0%	2,743	+551	805	+80	8	-3%	208	1.1%
18 Massachusetts	2.1%	2.8%	2,606	-115	507	+104	0	0%	188	1.0%
19 Virginia	2.6%	2.6%	2,325	+208	275	+1	4	-17%	159	0.9%
20 Alabama	1.5%	1.1%	2,236	+438	358	-90	3	-33%	277	1.9%
21 Washington	2.3%	2.7%	2,066	+2,066	385	+216	4	-30%	0	0.0%
22 Maryland	1.8%	2.0%	1,999	-169	329	-79	8	-27%	224	1.6%
23 Mississippi	0.9%	0.6%	1,845	+1,066	493	+2	8	-12%	59	0.7%
24 Utah	1.0%	0.9%	1,722	-1,475	1030	-132	8	-17%	-4	(0.0%)
25 Oklahoma	1.2%	1.0%	1,721	-1,685	944	+102	0	0%	148	0.7%
26 Georgia	3.2%	2.9%	1,665	-311	210	-34	127	-48%	300	1.9%
27 Louisiana	1.4%	1.3%	1,641	-1,837	480	-114	9	-27%	229	1.9%
28 Oregon	1.3%	1.2%	1,614	+112	325	-14	7	-4%	111	1.2%

States:

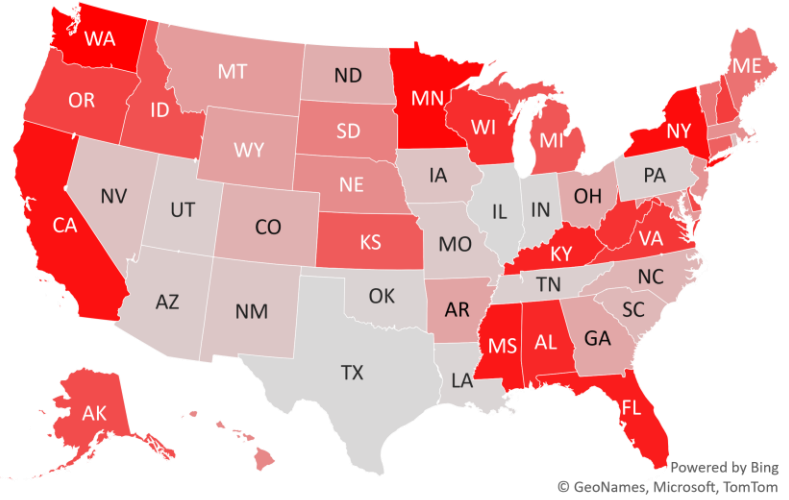
29 Iowa	1.0%	0.9%	1,584	-953	442	-529	16	-65%	-165	(1.2%)
30 New Mexico	0.6%	0.5%	1,435	-1,021	894	-343	9	-41%	74	0.5%
31 Nevada	0.9%	0.8%	1,298	-857	622	-29	3	-33%	187	1.1%
32 Nebraska	0.6%	0.6%	1,257	-111	904	-201	10	-38%	-52	(0.4%)
33 West Virginia	0.5%	0.4%	1,152	+272	524	-49	8	-15%	123	1.9%
34 South Carolina	1.6%	1.1%	1,061	-706	307	-33	120	-42%	70	0.7%
35 Arkansas	0.9%	0.6%	1,019	-258	348	-130	8	-34%	68	0.8%
36 Montana	0.3%	0.2%	956	-182	661	-544	14	-49%	-16	(0.3%)
37 Idaho	0.5%	0.4%	824	+5	743	+57	4	-18%	28	0.3%
38 South Dakota	0.3%	0.3%	801	-50	1416	+164	15	-31%	-33	(0.5%)
39 North Dakota	0.2%	0.3%	723	-420	969	-811	15	-60%	-42	(0.7%)
40 Alaska	0.2%	0.3%	612	+69	877	+112	14	-3%	26	0.6%
41 Delaware	0.3%	0.4%	581	+94	572	+6	1	-0%	34	1.0%
42 Wyoming	0.2%	0.2%	561	-198	995	-157	10	-42%	-10	(0.2%)
43 New Hampshire	0.4%	0.4%	478	+161	418	+94	0	0%	29	1.0%
44 Maine	0.4%	0.3%	220	-16	60	-95	3	-66%	31	2.7%
45 District of Columbia	0.2%	0.7%	140	-50	336	+113	1	-10%	9	0.7%
46 Puerto Rico	1.0%	0.5%	116	-851	245	-51	7	-17%	0	0.0%
47 Vermont	0.2%	0.2%	67	-19	104	-67	8	-49%	-1	(0.2%)
48 Hawaii	0.4%	0.5%	56	-67	52	-37	92	-75%	-12	(1.3%)
49 Guam	0.0%	0.0%	36	-37	141	-127	19	-87%	-6	(3.3%)
50 U.S. Virgin Islands	0.0%	0.0%	6	-7	72	-37	100	-83%	0	0.0%
51 Rhode Island	0.3%	0.3%	0	-738	515	-490	8	-53%	31	0.8%
52 Northern Mariana	0.0%	0.0%	0	-1	0	-6	42	-100%	0	
53 Michigan	3.0%	2.6%	0	+0	843	+265	11	-3%	210	0.4%
54 Kansas	0.9%	0.8%	0	+0	598	-82	4	-61%	-246	(1.3%)
55 Connecticut	1.1%	1.3%	0	+0	321	+125	11	-59%	169	1.5%
56 American Samoa	0.0%	0.0%	0	+0	0	+0	0	0%	0	

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

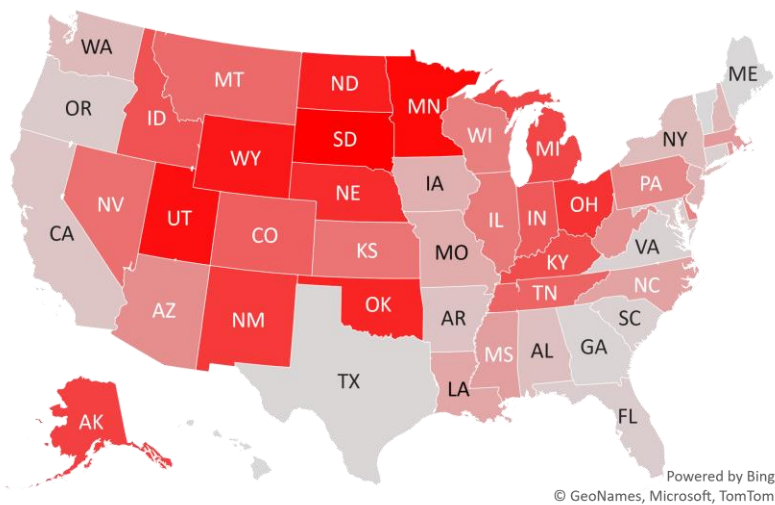
Daily Case Increases



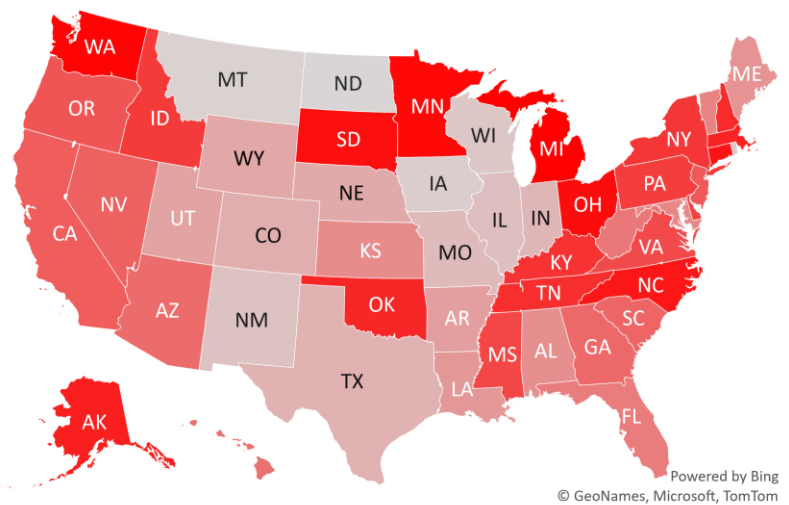
7D Delta in Daily New Cases



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



7D Delta in Daily New Cases per 1mm (3D Avg)



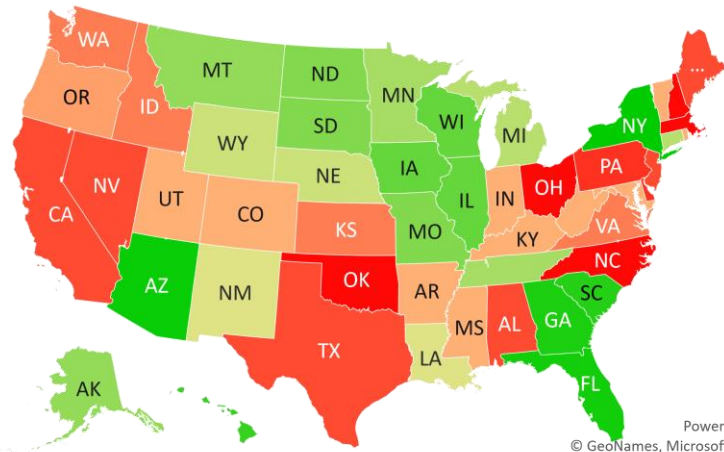
#5: # of Days since Daily Case Peaked by States...

Days since Daily Cases (3D Avg) Peak (as of 11/29)

	Sorted			
	Peak Date	11/29/20	% off the Peak	% US Pop
United States	11/21/20	8	-14%	100%
States:				
New York	4/10/20	233	-34%	5.9%
Arizona	7/2/20	150	-9%	2.2%
Florida	7/13/20	139	-46%	6.5%
Georgia	7/25/20	127	-48%	3.2%
South Carolina	8/1/20	120	-42%	1.6%
U.S. Virgin Islands	8/21/20	100	-83%	0.0%
Hawaii	8/29/20	92	-75%	0.4%
Northern Mariana Island	10/18/20	42	-100%	0.0%
Guam	11/10/20	19	-87%	0.0%
Wisconsin	11/13/20	16	-54%	1.8%
Illinois	11/13/20	16	-45%	3.8%
Iowa	11/13/20	16	-65%	1.0%
South Dakota	11/14/20	15	-31%	0.3%
North Dakota	11/14/20	15	-60%	0.2%
Missouri	11/14/20	15	-42%	1.8%
Montana	11/15/20	14	-49%	0.3%
Alaska	11/15/20	14	-3%	0.2%
Tennessee	11/16/20	13	-23%	2.1%
Minnesota	11/16/20	13	-0%	1.7%
Michigan	11/18/20	11	-3%	3.0%
Connecticut	11/18/20	11	-59%	1.1%
Wyoming	11/19/20	10	-42%	0.2%
Nebraska	11/19/20	10	-38%	0.6%
New Mexico	11/20/20	9	-41%	0.6%
Louisiana	11/20/20	9	-27%	1.4%
West Virginia	11/21/20	8	-15%	0.5%
Vermont	11/21/20	8	-49%	0.2%
Utah	11/21/20	8	-17%	1.0%

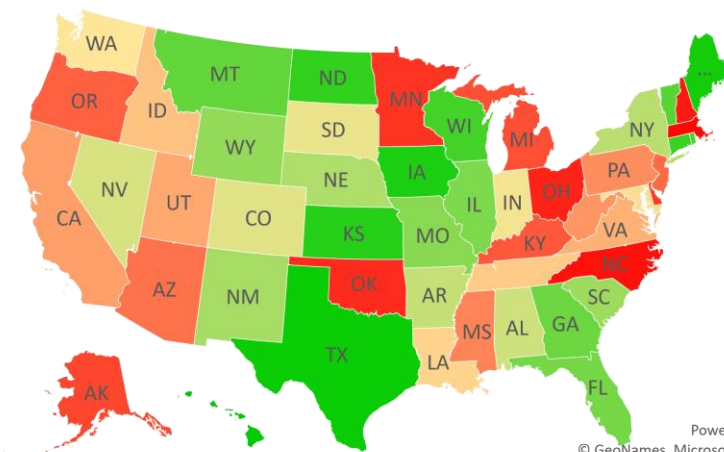
	Sorted			
	Peak Date	11/29/20	% off the Peak	% US Pop
United States	11/21/20	8	-14%	100%
States:				
Rhode Island	11/21/20	8	-53%	0.3%
Mississippi	11/21/20	8	-12%	0.9%
Maryland	11/21/20	8	-27%	1.8%
Kentucky	11/21/20	8	-3%	1.3%
Indiana	11/21/20	8	-31%	2.0%
Colorado	11/21/20	8	-33%	1.7%
Arkansas	11/21/20	8	-34%	0.9%
Puerto Rico	11/22/20	7	-17%	1.0%
Oregon	11/22/20	7	-4%	1.3%
Washington	11/25/20	4	-30%	2.3%
Virginia	11/25/20	4	-17%	2.6%
Kansas	11/25/20	4	-61%	0.9%
Idaho	11/25/20	4	-18%	0.5%
Texas	11/26/20	3	-70%	8.7%
Nevada	11/26/20	3	-33%	0.9%
New Jersey	11/26/20	3	-8%	2.7%
Maine	11/26/20	3	-66%	0.4%
California	11/26/20	3	-17%	11.9%
Alabama	11/26/20	3	-33%	1.5%
Pennsylvania	11/28/20	1	-12%	3.9%
Delaware	11/28/20	1	-0%	0.3%
District of Columbia	11/28/20	1	-10%	0.2%
Oklahoma	11/29/20	0	0%	1.2%
Ohio	11/29/20	0	0%	3.5%
New Hampshire	11/29/20	0	0%	0.4%
North Carolina	11/29/20	0	0%	3.2%
Massachusetts	11/29/20	0	0%	2.1%

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



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



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

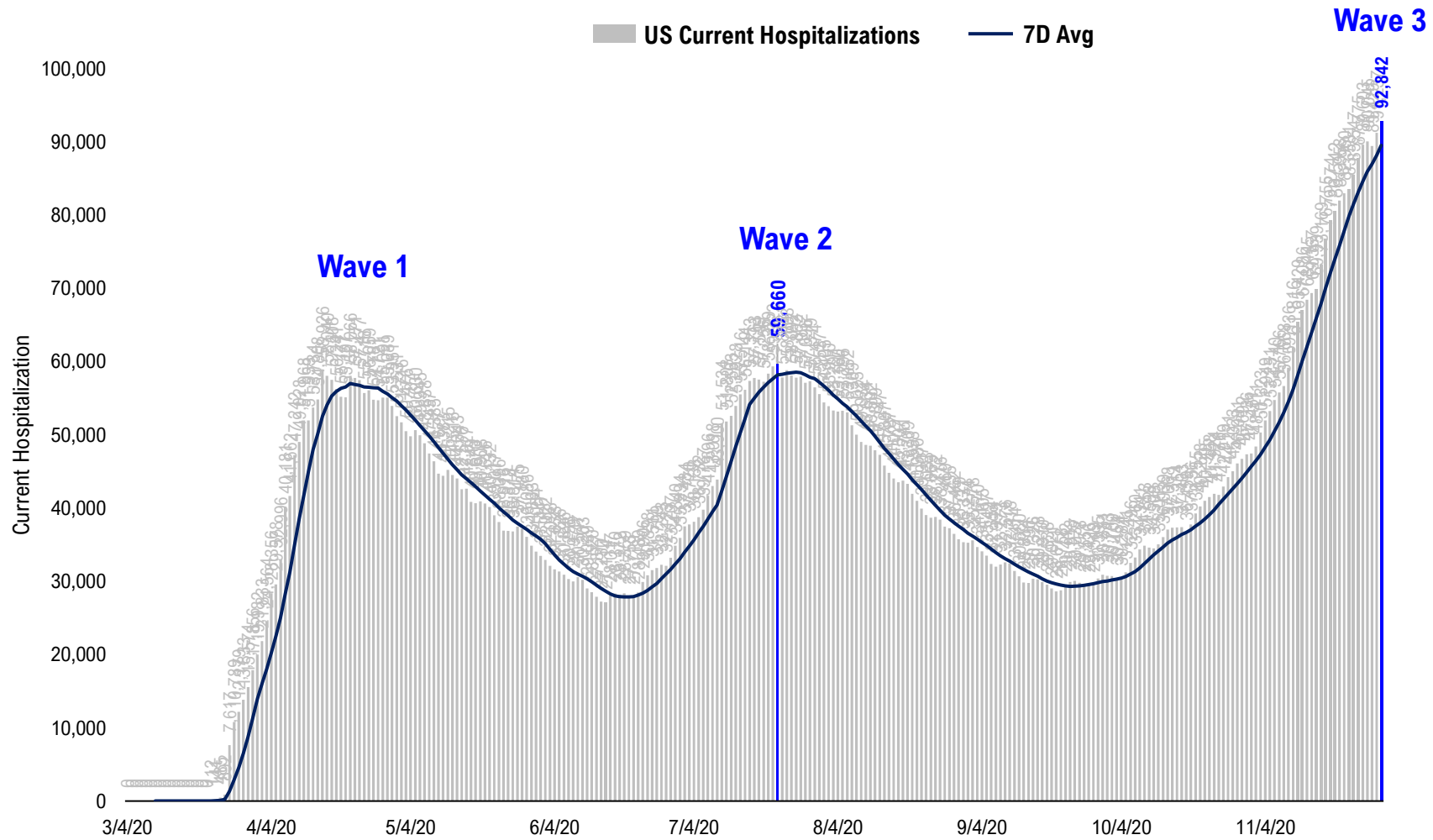
	Sorted				
	7D Ago	Last 3-day Trend			
	11/22/20	11/27/20	11/28/20	11/29/20	vs 7D ago
United States	148,754	189,855	150,027	133,038	-15,716
States:					
California	14,319	12,635	11,996	15,614	
Minnesota	7,205	5,698	9,022	8,946	<--higher
Ohio	8,133	17,065	6,895	7,729	
Florida	6,587	7,224	6,277	7,363	
Illinois	10,012	7,574	7,873	7,178	
New York	5,392	8,176	6,063	6,723	<--higher
Texas	8,554	2,473	3,954	6,041	
Pennsylvania	7,075	7,360	8,053	5,529	
Indiana	6,174	5,643	4,471	4,304	
New Jersey	3,968	4,095	3,802	3,839	
Wisconsin	3,507	1,300	5,033	3,831	
North Carolina	4,514	8,008	3,444	3,820	
Colorado	3,921	4,270	4,330	3,489	
Arizona	4,331	4,312	4,136	3,221	
Missouri	4,215	3,273	2,204	3,193	
Tennessee	4,589	4,340	6,750	3,052	
Kentucky	2,192	5,616	2,427	2,743	<--higher
Massachusetts	2,721	4,658	3,217	2,606	
Virginia	2,117	1,544	3,173	2,325	
Alabama	1,798	917	2,119	2,236	<--higher
Washington	0	4,261	2,467	2,066	
Maryland	2,168	2,378	1,590	1,999	
Mississippi	779	1,005	1,553	1,845	<--higher
Utah	3,197	6,142	2,043	1,722	
Oklahoma	3,406	3,225	6,257	1,721	
Georgia	1,976	2,394	2,633	1,665	
Louisiana	3,478	5,058	0	1,641	
Oregon	1,502	826	1,674	1,614	

	Sorted				
	7D Ago	Last 3-day Trend			
	11/22/20	11/27/20	11/28/20	11/29/20	vs 7D ago
United States	148,754	189,855	150,027	133,038	-15,716
States:					
Iowa	2,537	1,136	1,461	1,584	
New Mexico	2,456	2,056	2,130	1,435	
Nevada	2,155	1,536	2,912	1,298	
Nebraska	1,368	2,876	1,114	1,257	
West Virginia	880	866	799	1,152	<--higher
South Carolina	1,767	1,878	1,799	1,061	
Arkansas	1,277	962	1,167	1,019	
Montana	1,138	114	1,049	956	
Idaho	819	1,997	1,160	824	
South Dakota	851	2,138	819	801	
North Dakota	1,143	790	703	723	
Alaska	543	662	650	612	
Delaware	487	591	500	581	
Wyoming	759	1,012	155	561	
New Hampshire	317	537	689	478	<--higher
Maine	236	0	23	220	
District of Columbia	190	201	371	140	
Puerto Rico	967	1,372	855	116	
Vermont	86	99	28	67	
Hawaii	123	90	76	56	
Guam	73	20	14	36	
U.S. Virgin Islands	13	0	17	6	
Rhode Island	738	1,637	0	0	
Northern Mariana Islands	1	0	0	0	
Michigan	0	17,162	8,080	0	
Kansas	0	5,224	0	0	
Connecticut	0	3,429	0	0	
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

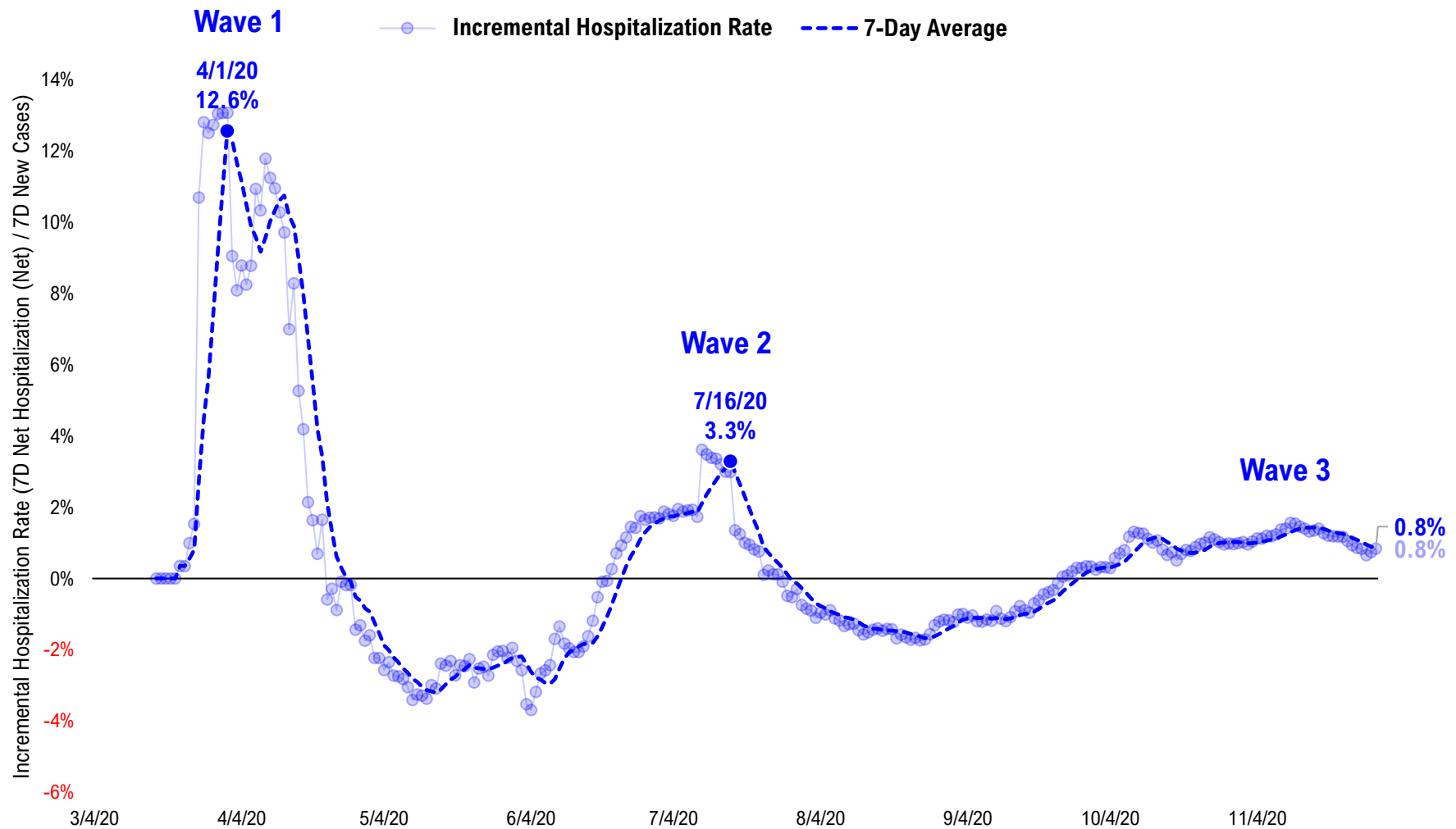
#7: US Daily Hospitalizations...

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

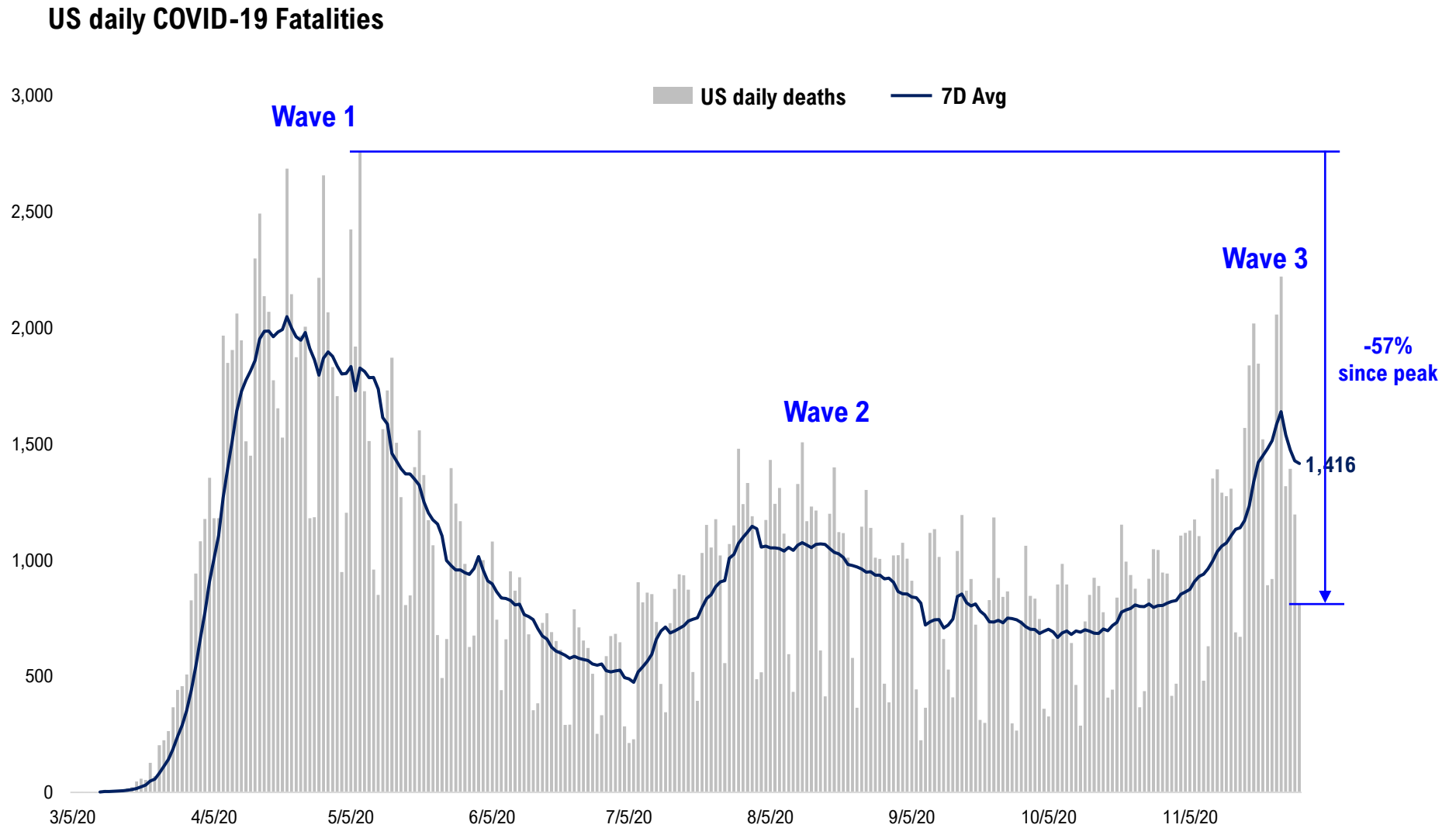


#8: Incremental Hospitalization Rate...

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

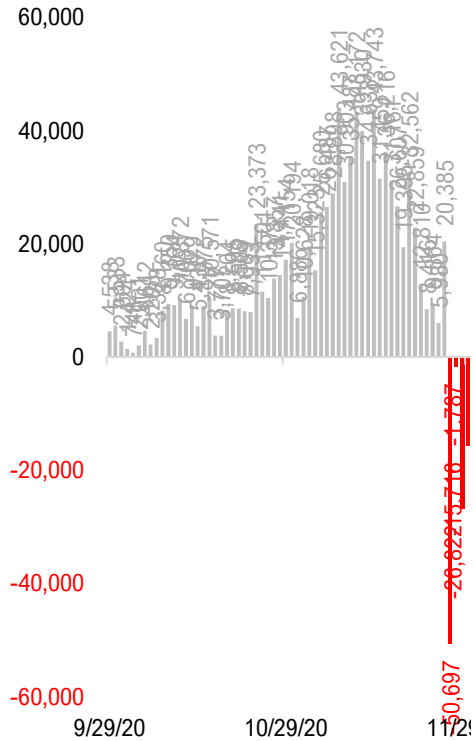


#9: US Daily New Fatalities...

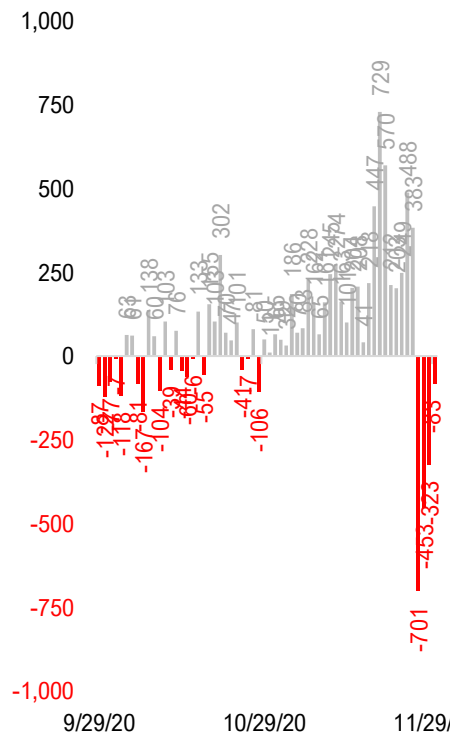


#10: Rolling 7-Day Change in the Key Metrics... (Past 8 Weeks)

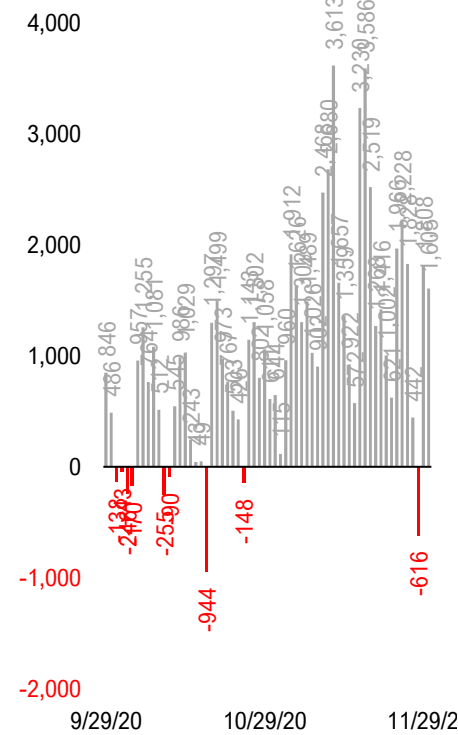
Daily New Cases
(8/10-8/23 ex-CA; 9/4-9/5 ex-IL)



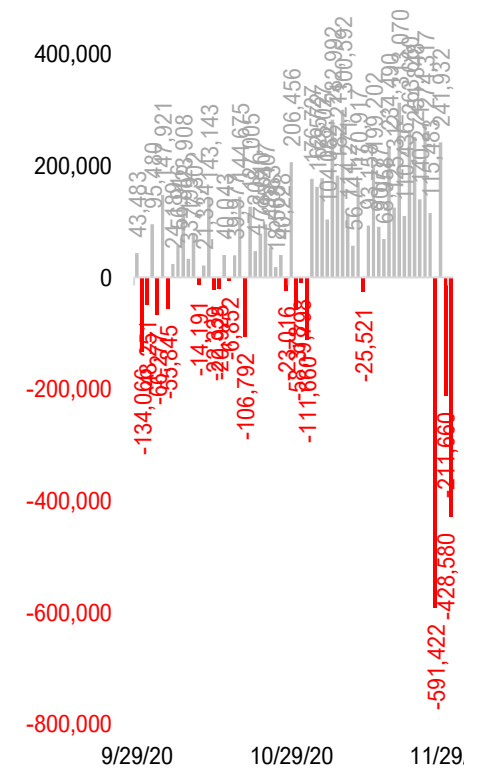
Daily Deaths



Daily Net Hospitalization
(Red = more discharge than admission)

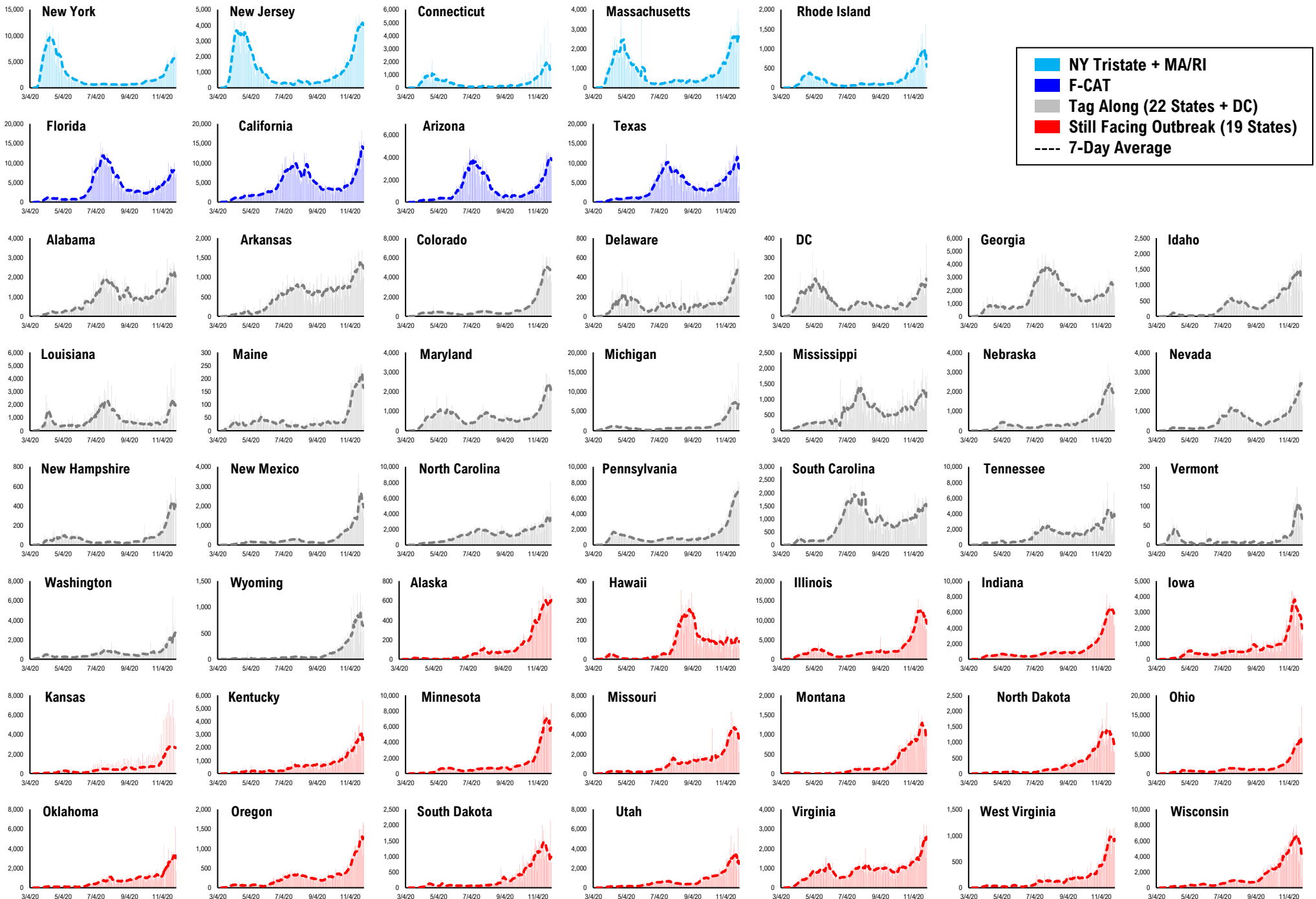


Daily Tests

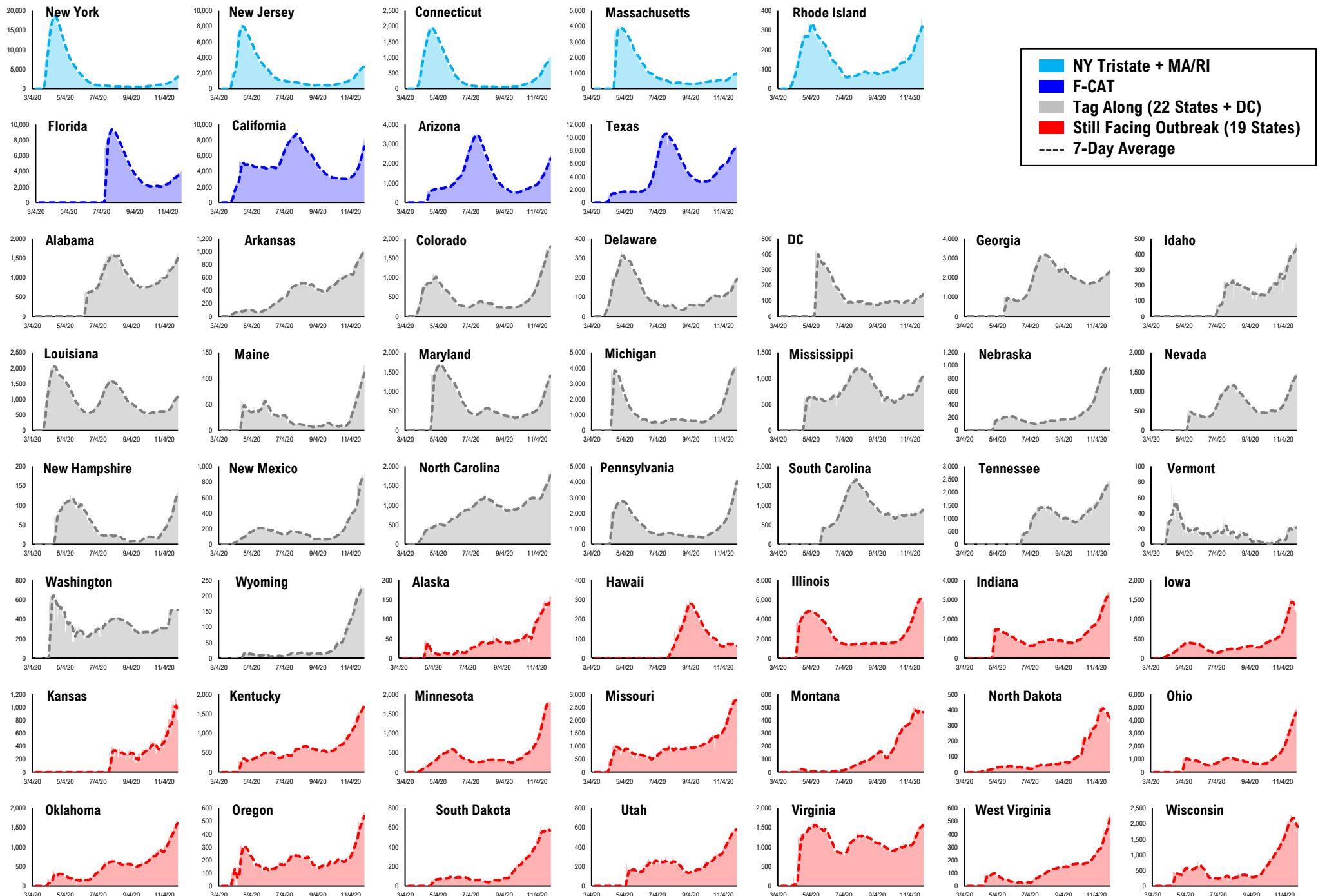


* Ignored California between 8/10 and 8/23, due to its data glitch caused 300,000-case backlog
Source: Fundstrat, COVID-19 Tracking Project, State Department of Health

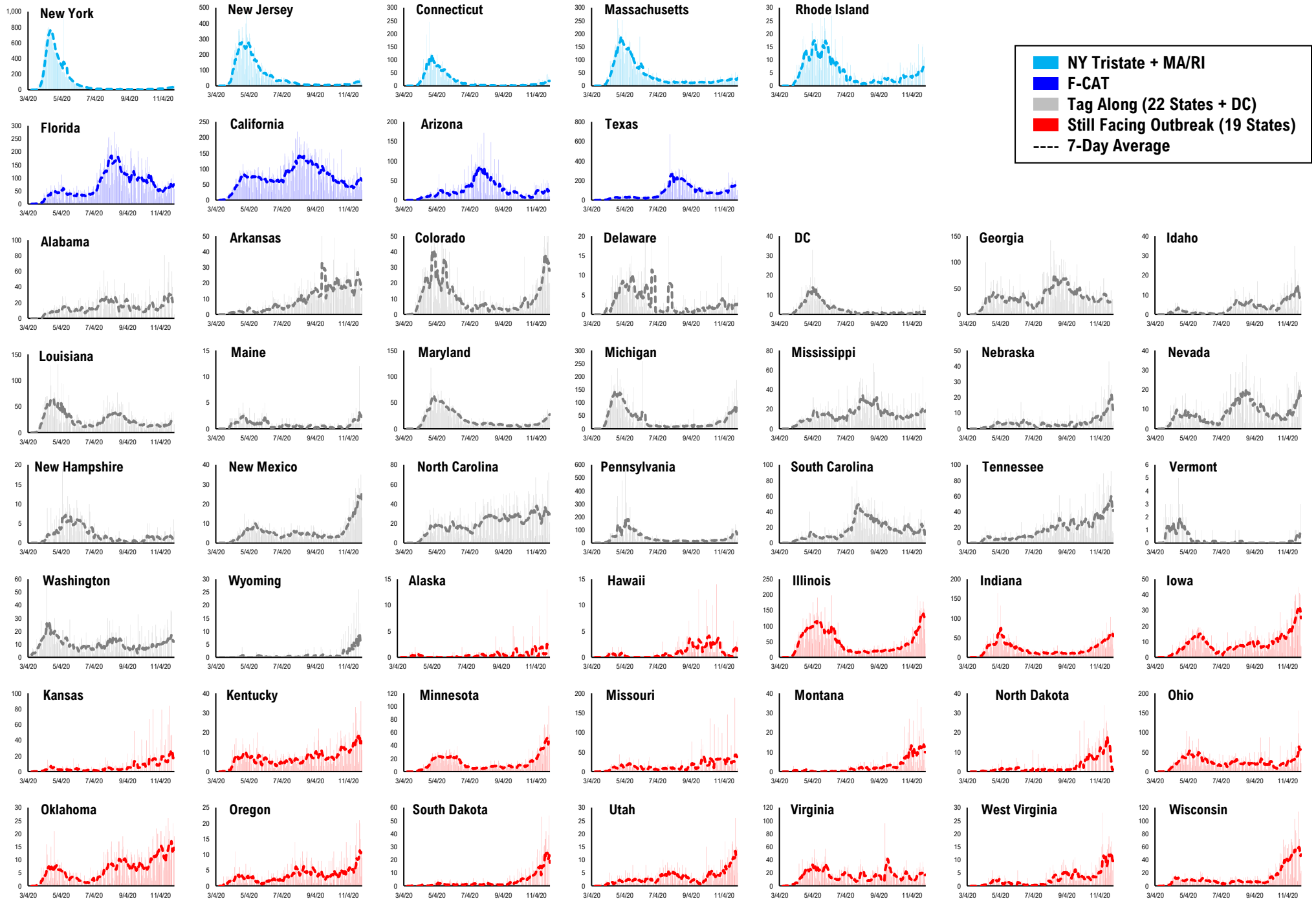
#11: Daily New Cases by States...



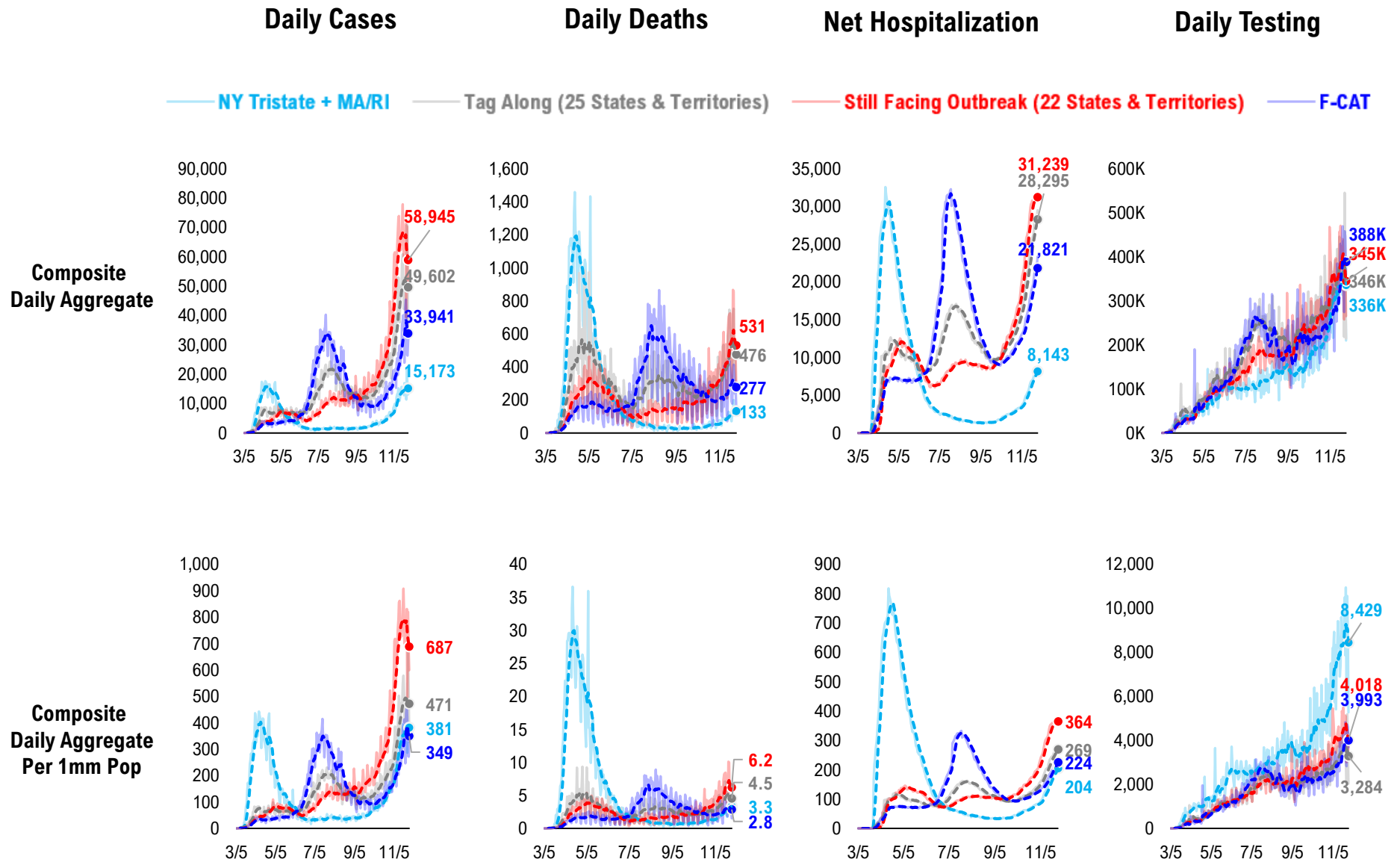
#12: Current Hospitalizations by States...



#13: Daily New Deaths by States...

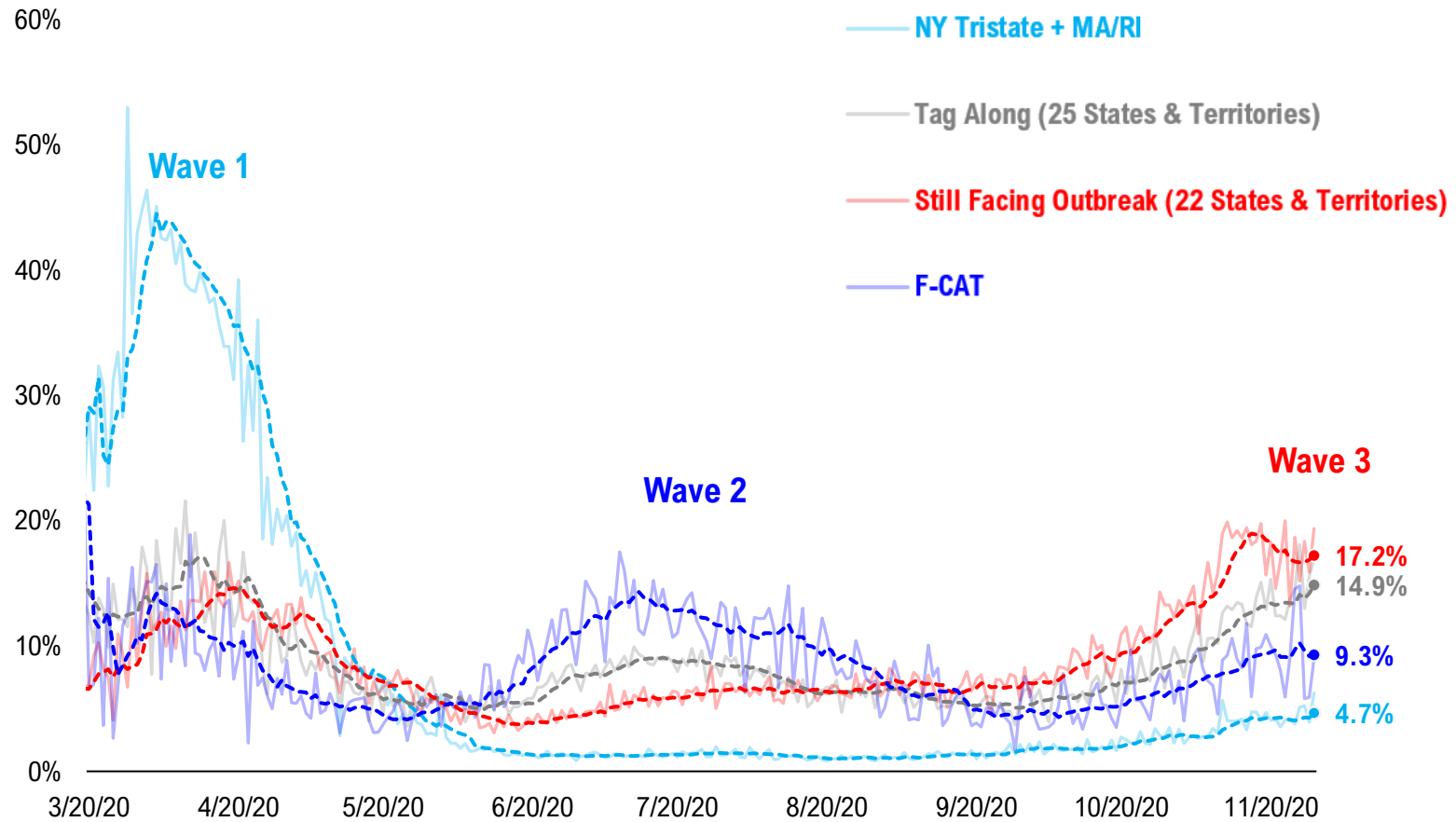


#14: State COVID-19 situation by Tier...

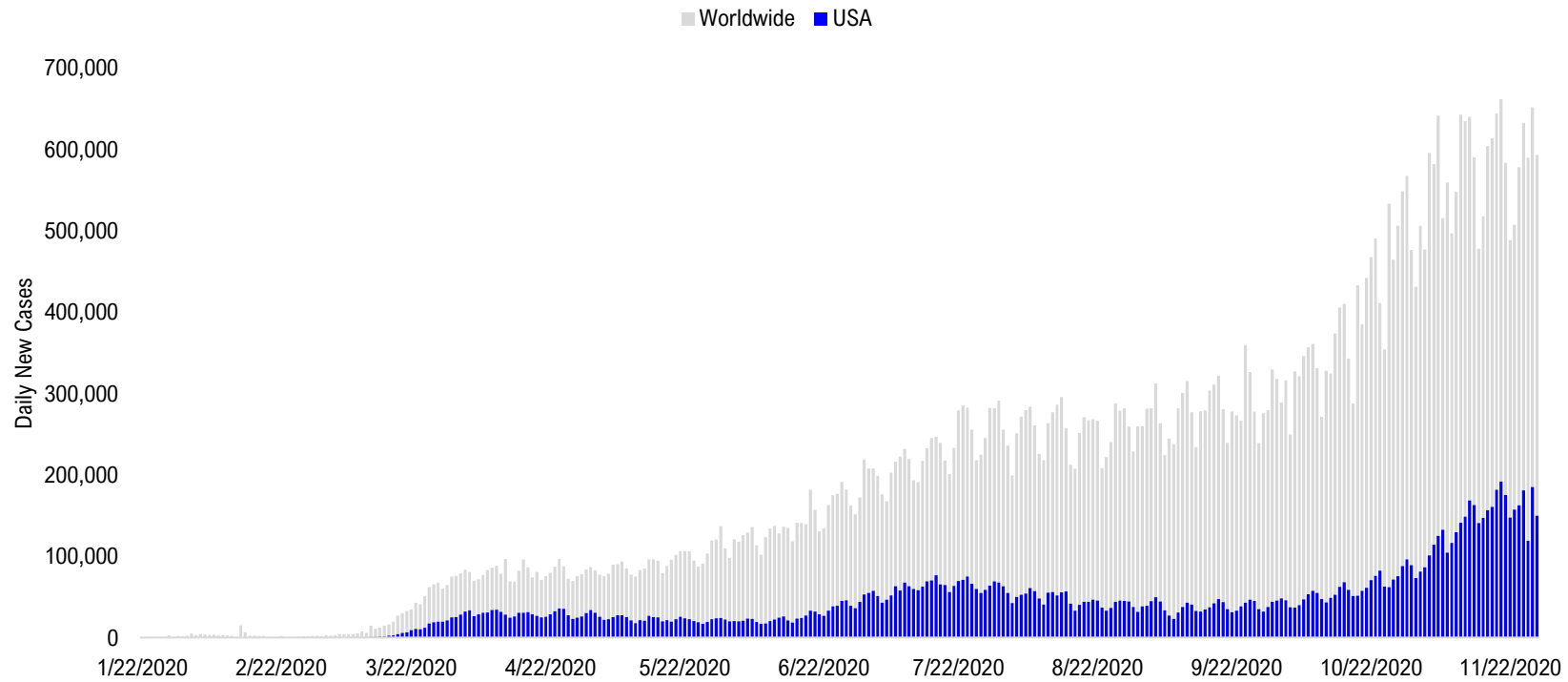


#15: State COVID-19 Daily Positivity Rate by Tier...

Composite Daily Positivity Rate



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



Jul 10	Jul 24	Aug 7	Aug 21	Sep 4	Sep 18	Oct 2	Oct 16	Oct 30	Nov 13	Nov 28
Latin America 73,176	Latin America 97,008	Latin America 97,310	Latin America 85,471	Latin America 88,295	Pakistan + India + Bangladesh 98,115	Pakistan + India + Bangladesh 84,614	Europe 156,633	Europe 288,054	Europe 302,160	Europe 268,418
US + Canada 63,055	US + Canada 72,289	Pakistan + India + Bangladesh 63,674	Pakistan + India + Bangladesh 72,740	Pakistan + India + Bangladesh 87,400	Latin America 76,730	Europe 77,734	Latin America 67,985	US + Canada 89,508	US + Canada 157,505	US + Canada 157,075
Pakistan + India + Bangladesh 32,386	Pakistan + India + Bangladesh 52,184	US + Canada 56,201	US + Canada 45,159	US + Canada 44,962	Europe 57,930	Latin America 61,017	Pakistan + India + Bangladesh 66,697	Latin America 65,611	Latin America 74,234	Latin America 80,678
Africa 17,127	Africa 20,063	Europe 23,878	Europe 32,466	Europe 40,116	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 47,225
Europe 16,204	Europe 18,765	Africa 14,390	Africa 10,566	Asia ex- India+Pakistan 8,720	Asia ex- India+Pakistan 10,763	Asia ex- India+Pakistan 11,417	Asia ex- India+Pakistan 13,578	Asia ex- India+Pakistan 12,736	Africa 14,829	Asia ex- India+Pakistan 16,276
Asia ex- India+Pakistan 7,373	Asia ex- India+Pakistan 8,636	Asia ex- India+Pakistan 10,424	Asia ex- India+Pakistan 10,047	Africa 8,318	Africa 7,997	Africa 8,146	Africa 10,428	Africa 12,181	Asia ex- India+Pakistan 14,162	Africa 14,443

Disclosures

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