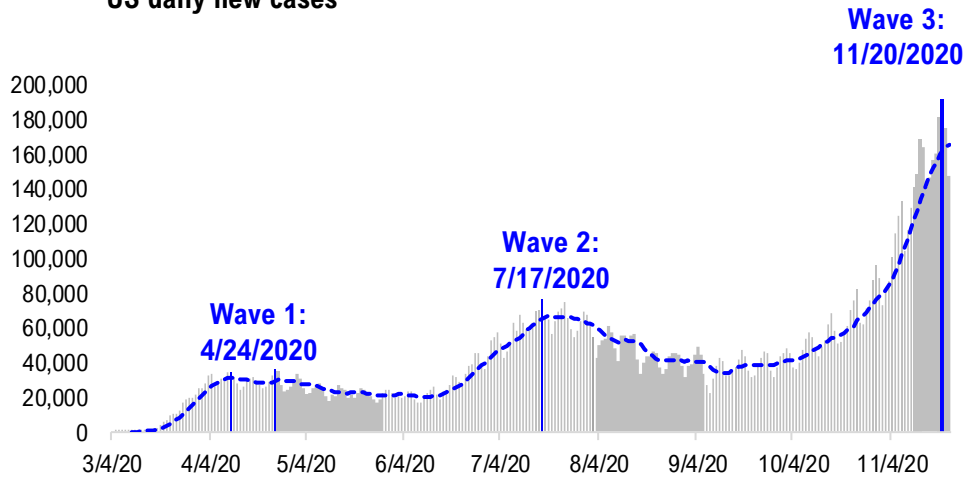


FSInsight Daily COVID-19 Chartbook

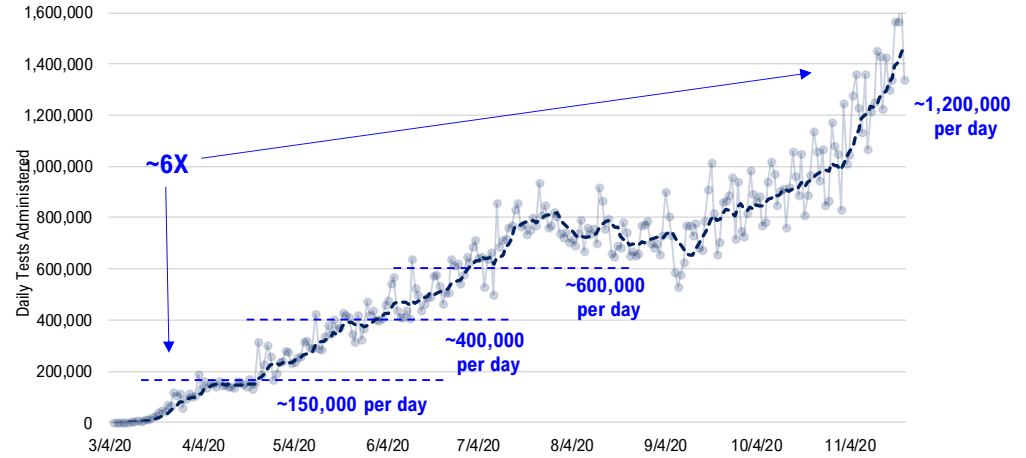


#1: USA COVID-19 Situation at a Glance...

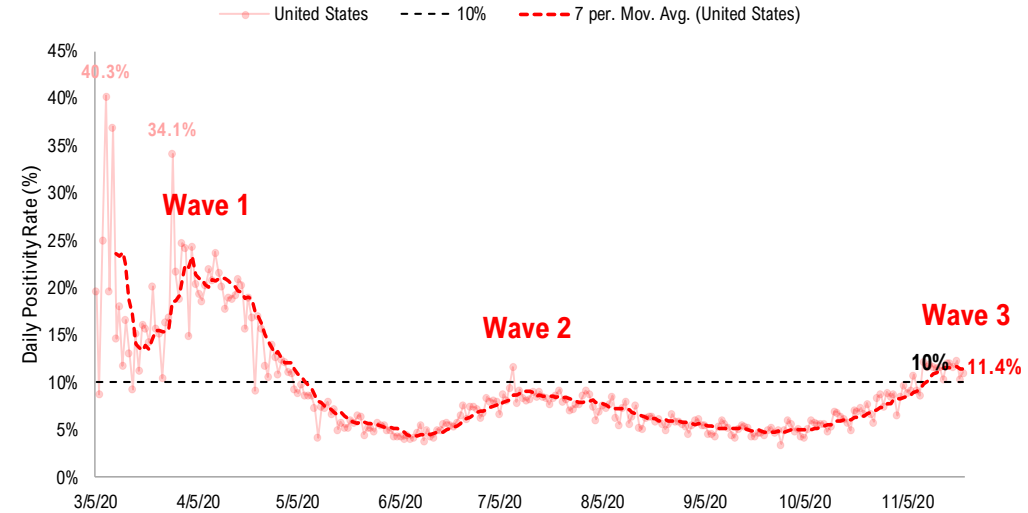
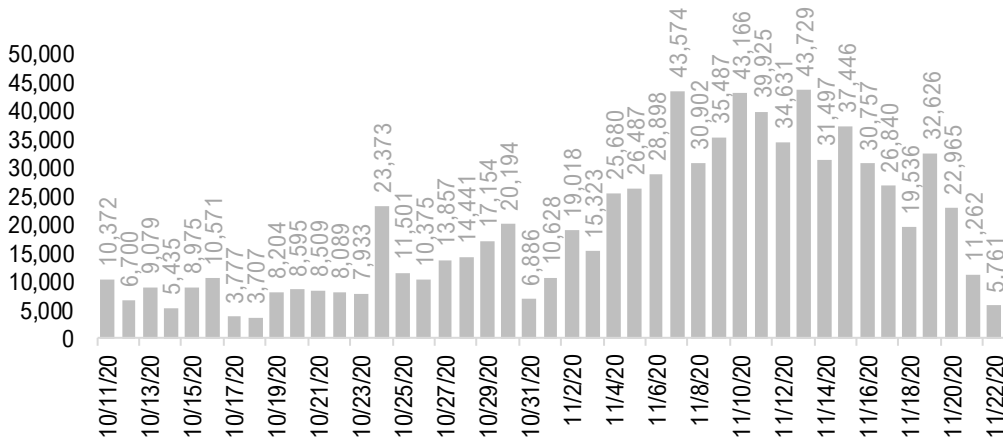
US daily new cases



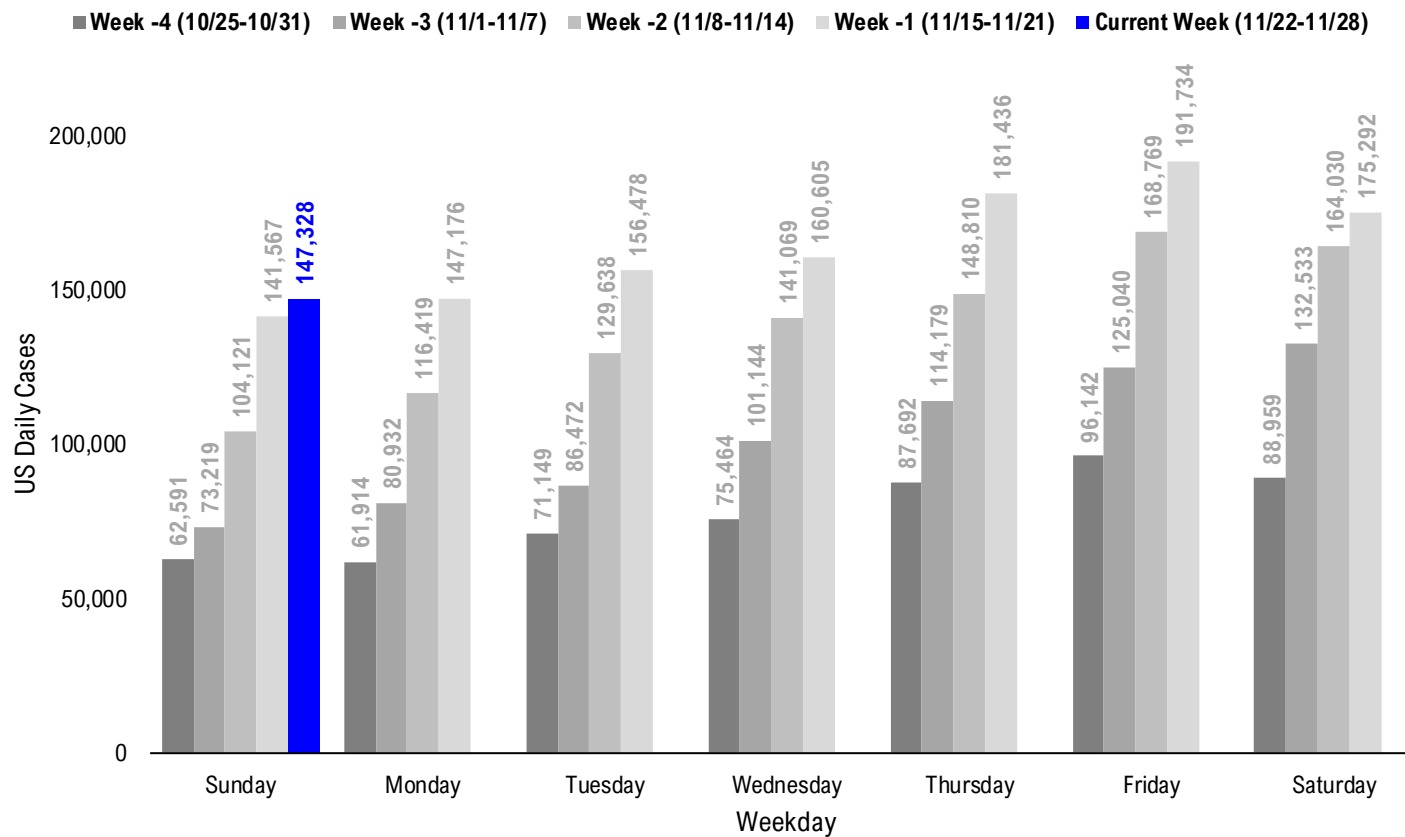
USA total COVID-19 tests administered



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				Since Peak		Hospitalization	
	% US Pop	% US GDP	11/22	7D Delta	11/22	7D Delta	# Days	% Decline in Daily Cases	7D Net Hospitalization	7D Net Hospitalization / 7D New Cases
	United States	100%	100%	147,328	+5,761	522	+41	1	-6%	13,642

	Sorted Daily Cases		Daily Cases (3D avg) per 1mm residents				Since Peak		Hospitalization	
	% US Pop	% US GDP	11/22	7D Delta	11/22	7D Delta	# Days	% Decline in Daily Cases	7D Net Hospitalization	7D Net Hospitalization / 7D New Cases
	United States	100%	100%	147,328	+5,761	522	+41	1	-6%	13,642

States:

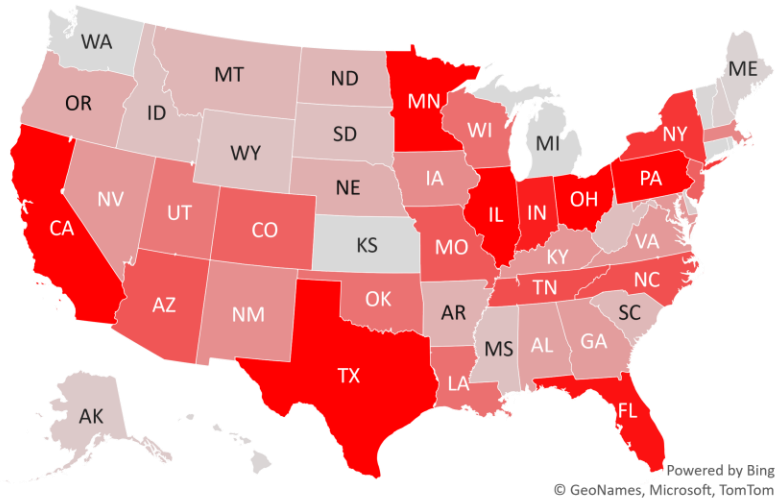
1 California	11.9%	14.6%	14,319	+3,351	361	+127	0	0%	1,464	1.8%
2 Illinois	3.8%	4.2%	10,012	-619	918	-57	9	-14%	598	0.7%
3 Texas	8.7%	8.8%	8,554	+2,164	378	+81	1	-10%	900	1.3%
4 Ohio	3.5%	3.3%	8,133	+280	707	+33	0	0%	1,006	1.9%
5 Minnesota	1.7%	1.8%	7,205	-348	1197	-91	6	-14%	360	0.8%
6 Pennsylvania	3.9%	3.8%	7,075	+1,876	538	+114	1	-0%	939	2.1%
7 Florida	6.5%	5.0%	6,587	-3,518	374	+39	132	-37%	495	0.9%
8 Indiana	2.0%	1.8%	6,174	-536	983	-39	1	-5%	516	1.2%
9 New York	5.9%	8.1%	5,392	+1,743	288	+41	226	-47%	717	2.0%
10 Tennessee	2.1%	1.8%	4,589	-1,228	605	-89	6	-33%	294	1.0%
11 North Carolina	3.2%	2.7%	4,514	+1,397	369	+90	0	0%	176	0.7%
12 Arizona	2.2%	1.7%	4,331	+1,948	570	+163	143	-4%	426	1.8%
13 Missouri	1.8%	1.5%	4,215	+486	744	-20	8	-8%	355	1.1%
14 New Jersey	2.7%	3.0%	3,968	-570	460	-1	1	-2%	564	2.1%
15 Colorado	1.7%	1.8%	3,921	-262	914	-1	1	-12%	345	1.0%
16 Wisconsin	1.8%	1.6%	3,507	-2,551	928	-159	9	-27%	-21	(0.0%)
17 Louisiana	1.4%	1.3%	3,478	+913	595	+160	2	-9%	214	1.4%
18 Oklahoma	1.2%	1.0%	3,406	-517	842	+47	0	0%	258	1.3%
19 Utah	1.0%	0.9%	3,197	+530	1162	+105	1	-6%	77	0.3%
20 Massachusetts	2.1%	2.8%	2,721	+588	403	+12	211	-20%	156	0.8%
21 Iowa	1.0%	0.9%	2,537	-1,017	971	-263	9	-23%	61	0.3%
22 New Mexico	0.6%	0.5%	2,456	+1,426	1237	+692	2	-18%	339	1.9%
23 Kentucky	1.3%	1.0%	2,192	+743	724	+135	1	-13%	136	0.7%
24 Maryland	1.8%	2.0%	2,168	+328	408	+76	1	-9%	299	1.8%
25 Nevada	0.9%	0.8%	2,155	+978	651	+77	1	-4%	248	1.8%
26 Virginia	2.6%	2.6%	2,117	+956	274	+120	0	0%	185	1.2%
27 Georgia	3.2%	2.9%	1,976	+24	244	+32	120	-40%	215	1.2%
28 Alabama	1.5%	1.1%	1,798	-181	448	-40	2	-12%	137	0.9%

States:

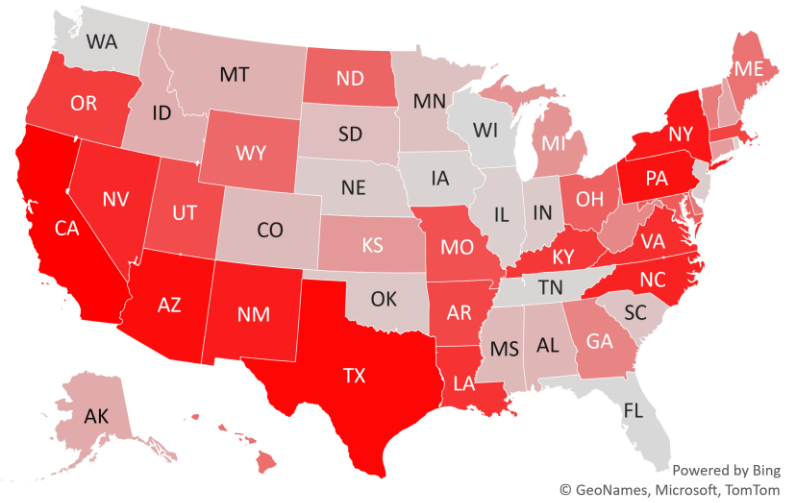
29 Oregon	1.3%	1.2%	1,502	+640	340	+102	0	0%	102	1.2%
30 Nebraska	0.6%	0.6%	1,368	-544	1105	-83	3	-24%	74	0.5%
31 Arkansas	0.9%	0.6%	1,277	+570	478	+79	1	-9%	132	1.4%
32 North Dakota	0.2%	0.3%	1,143	+219	1781	-241	8	-26%	-21	(0.2%)
33 Montana	0.3%	0.2%	1,138	-134	1204	-83	7	-6%	42	0.5%
34 South Carolina	1.6%	1.1%	1,079	-380	291	-37	113	-45%	57	0.6%
35 Puerto Rico	1.0%	0.5%	967	+343	296	+105	0	0%	91	2.1%
36 West Virginia	0.5%	0.4%	880	+13	573	+59	1	-7%	68	1.0%
37 South Dakota	0.3%	0.3%	851	-348	1252	-506	8	-39%	24	0.3%
38 Idaho	0.5%	0.4%	819	-109	685	-54	2	-21%	47	0.5%
39 Mississippi	0.9%	0.6%	779	-190	492	+83	1	-12%	243	2.7%
40 Wyoming	0.2%	0.2%	759	+146	1152	-9	3	-33%	33	0.6%
41 Alaska	0.2%	0.3%	543	-105	765	-135	7	-15%	-8	(0.2%)
42 Delaware	0.3%	0.4%	487	+79	567	+136	0	0%	96	3.2%
43 New Hampshire	0.4%	0.4%	317	-43	324	+29	1	-14%	48	1.6%
44 Maine	0.4%	0.3%	236	+83	155	+19	0	0%	27	1.9%
45 District of Columbia	0.2%	0.7%	190	+27	223	+1	203	-32%	32	2.7%
46 Hawaii	0.4%	0.5%	123	+123	89	+38	85	-57%	9	1.3%
47 Vermont	0.2%	0.2%	86	+44	170	+45	1	-16%	2	0.3%
48 Guam	0.0%	0.0%	73	-83	267	-277	12	-75%	-25	(0.3%)
49 U.S. Virgin Islands	0.0%	0.0%	13	+13	109	+34	93	-74%	0	0.0%
50 Northern Mariana	0.0%	0.0%	1	+1	6	+6	35	-89%	0	0.0%
51 Washington	2.3%	2.7%	0	-2,309	168	-124	8	-50%	0	0.0%
52 Rhode Island	0.3%	0.3%	0	-679	330	-512	2	-70%	38	0.8%
53 Michigan	3.0%	2.6%	0	+0	578	+57	4	-33%	646	1.3%
54 Kansas	0.9%	0.8%	0	+0	680	-39	4	-55%	237	1.2%
55 Connecticut	1.1%	1.3%	0	+0	195	-62	4	-75%	189	1.5%
56 American Samoa	0.0%	0.0%	0	+0	0	+0	0	0%	0	

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

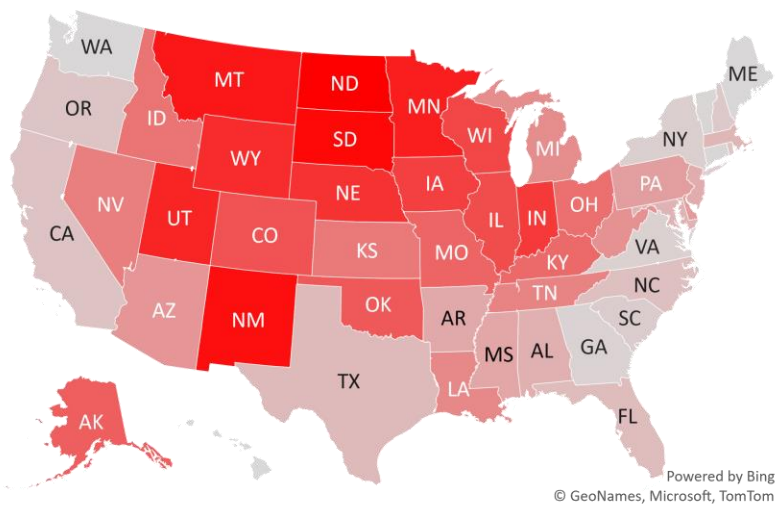
Daily Case Increases



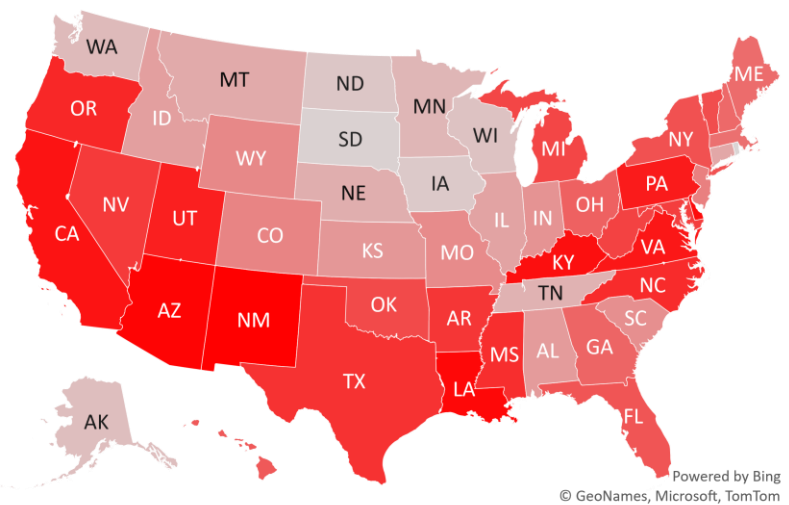
7D Delta in Daily New Cases



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



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



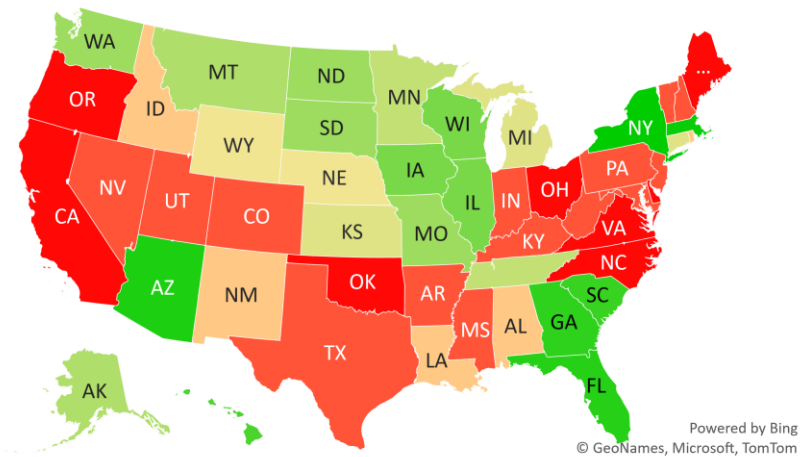
#5: # of Days since Daily Case Peaked by States...

Days since Daily Cases (3D Avg) Peak (as of 11/22)

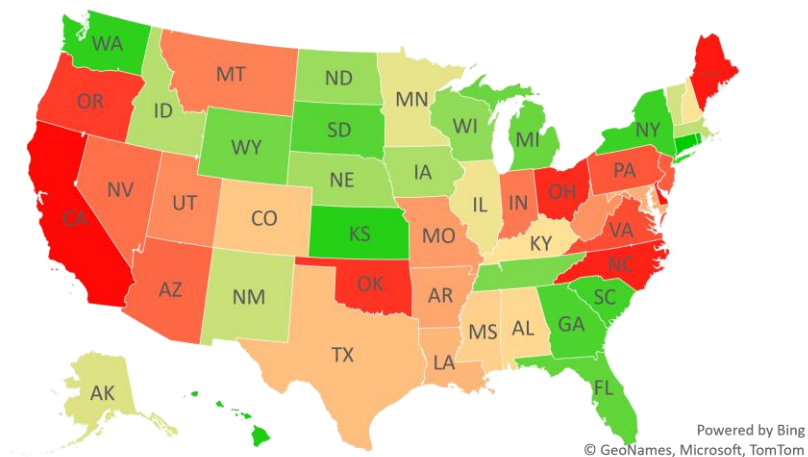
	Sorted			
	Peak Date	11/22/20	% off the Peak	% US Pop
United States	11/21/20	1	-6%	100%
States:				
New York	4/10/20	226	-47%	5.9%
Massachusetts	4/25/20	211	-20%	2.1%
District of Columbia	5/3/20	203	-32%	0.2%
Arizona	7/2/20	143	-4%	2.2%
Florida	7/13/20	132	-37%	6.5%
Georgia	7/25/20	120	-40%	3.2%
South Carolina	8/1/20	113	-45%	1.6%
U.S. Virgin Islands	8/21/20	93	-74%	0.0%
Hawaii	8/29/20	85	-57%	0.4%
Northern Mariana Island	10/18/20	35	-89%	0.0%
Guam	11/10/20	12	-75%	0.0%
Wisconsin	11/13/20	9	-27%	1.8%
Illinois	11/13/20	9	-14%	3.8%
Iowa	11/13/20	9	-23%	1.0%
Washington	11/14/20	8	-50%	2.3%
South Dakota	11/14/20	8	-39%	0.3%
North Dakota	11/14/20	8	-26%	0.2%
Missouri	11/14/20	8	-8%	1.8%
Montana	11/15/20	7	-6%	0.3%
Alaska	11/15/20	7	-15%	0.2%
Tennessee	11/16/20	6	-33%	2.1%
Minnesota	11/16/20	6	-14%	1.7%
Michigan	11/18/20	4	-33%	3.0%
Kansas	11/18/20	4	-55%	0.9%
Connecticut	11/18/20	4	-75%	1.1%
Wyoming	11/19/20	3	-33%	0.2%
Nebraska	11/19/20	3	-24%	0.6%
Rhode Island	11/20/20	2	-70%	0.3%

	Sorted			
	Peak Date	11/22/20	% off the Peak	% US Pop
United States	11/21/20	1	-6%	100%
States:				
New Mexico	11/20/20	2	-18%	0.6%
Louisiana	11/20/20	2	-9%	1.4%
Idaho	11/20/20	2	-21%	0.5%
Alabama	11/20/20	2	-12%	1.5%
West Virginia	11/21/20	1	-7%	0.5%
Vermont	11/21/20	1	-16%	0.2%
Utah	11/21/20	1	-6%	1.0%
Texas	11/21/20	1	-10%	8.7%
Pennsylvania	11/21/20	1	-0%	3.9%
Nevada	11/21/20	1	-4%	0.9%
New Jersey	11/21/20	1	-2%	2.7%
New Hampshire	11/21/20	1	-14%	0.4%
Mississippi	11/21/20	1	-12%	0.9%
Maryland	11/21/20	1	-9%	1.8%
Kentucky	11/21/20	1	-13%	1.3%
Indiana	11/21/20	1	-5%	2.0%
Colorado	11/21/20	1	-12%	1.7%
Arkansas	11/21/20	1	-9%	0.9%
Virginia	11/22/20	0	0%	2.6%
Puerto Rico	11/22/20	0	0%	1.0%
Oregon	11/22/20	0	0%	1.3%
Oklahoma	11/22/20	0	0%	1.2%
Ohio	11/22/20	0	0%	3.5%
North Carolina	11/22/20	0	0%	3.2%
Maine	11/22/20	0	0%	0.4%
Delaware	11/22/20	0	0%	0.3%
California	11/22/20	0	0%	11.9%

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



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



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

Sorted
7D Ago Last 3-day Trend

Sorted
7D Ago Last 3-day Trend

COVID stats for Washington state is not available as of Sunday 8 PM ET...

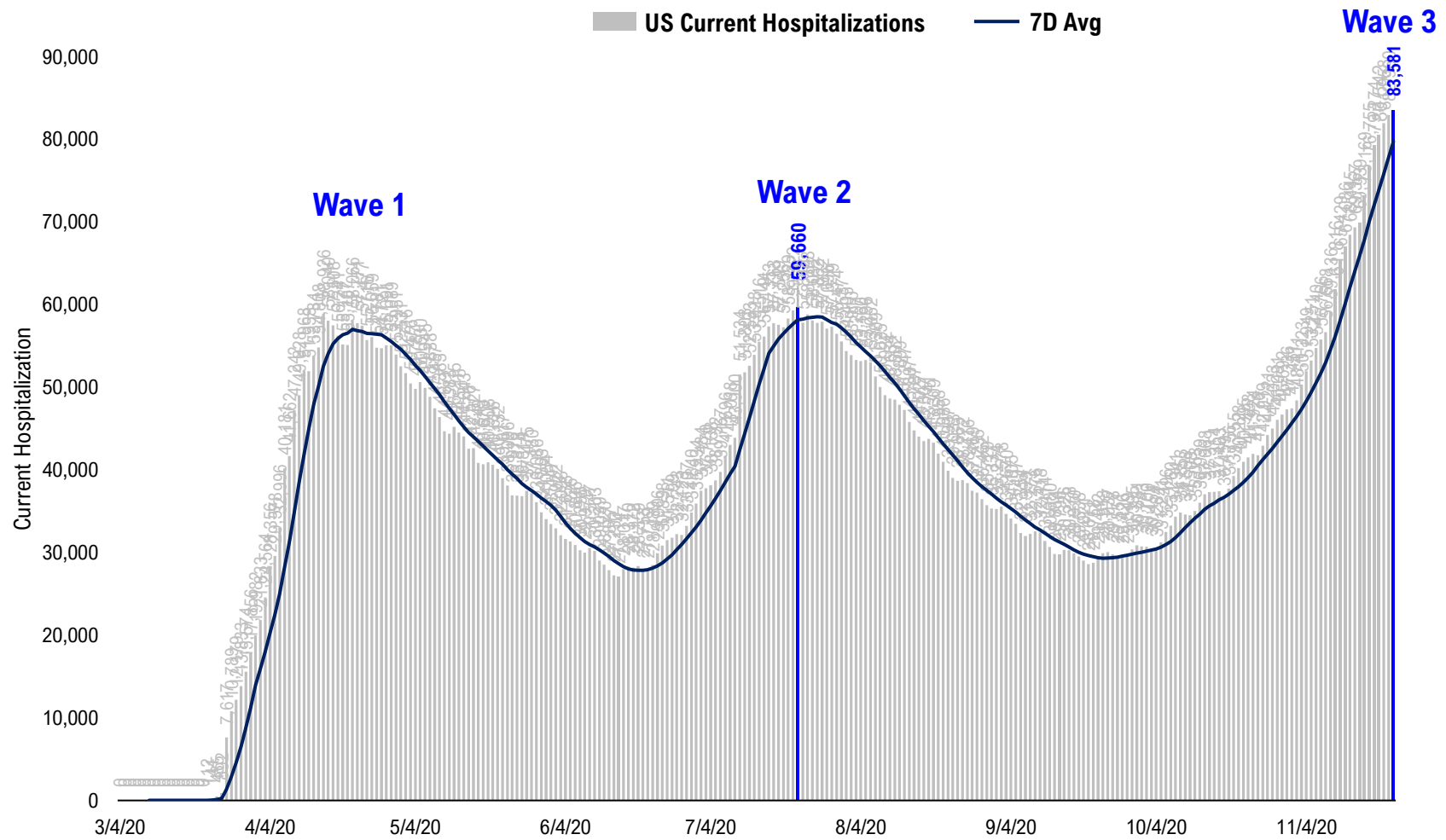
COVID stats for Washington state is not available as of Sunday 8 PM ET...

	11/15/20	11/20/20	11/21/20	11/22/20	vs 7D ago
United States	141,567	191,734	175,292	147,328	+5,761
States:					
California	10,968	13,005	15,442	14,319	<--higher
Illinois	10,631	13,012	11,891	10,012	
Texas	6,390	11,738	12,597	8,554	<--higher
Ohio	7,853	8,808	7,863	8,133	
Minnesota	7,553	6,794	6,252	7,205	
Pennsylvania	5,199	6,808	6,778	7,075	<--higher
Florida	10,105	9,085	8,409	6,587	
Indiana	6,710	6,808	6,872	6,174	
New York	3,649	5,468	5,972	5,392	<--higher
Tennessee	5,817	3,444	4,355	4,589	
North Carolina	3,117	3,688	3,415	4,514	<--higher
Arizona	2,383	4,471	3,638	4,331	<--higher
Missouri	3,729	4,614	4,876	4,215	
New Jersey	4,538	3,626	4,669	3,968	
Colorado	4,183	5,765	6,113	3,921	
Wisconsin	6,058	6,473	6,224	3,507	
Louisiana	2,565	4,814	0	3,478	<--higher
Oklahoma	3,923	2,921	3,663	3,406	
Utah	2,667	4,588	3,395	3,197	
Massachusetts	2,133	2,399	3,206	2,721	<--higher
Iowa	3,554	3,477	3,178	2,537	
New Mexico	1,030	2,982	2,342	2,456	<--higher
Kentucky	1,449	3,816	3,702	2,192	<--higher
Maryland	1,840	2,353	2,885	2,168	
Nevada	1,177	1,839	2,019	2,155	<--higher
Virginia	1,161	2,544	2,348	2,117	<--higher
Georgia	1,952	2,769	3,025	1,976	
Alabama	1,979	2,463	2,335	1,798	

	11/15/20	11/20/20	11/21/20	11/22/20	vs 7D ago
United States	141,567	191,734	175,292	147,328	+5,761
States:					
Oregon	862	1,302	1,493	1,502	<--higher
Nebraska	1,912	2,663	2,381	1,368	
Arkansas	707	1,618	1,433	1,277	<--higher
North Dakota	924	1,404	1,524	1,143	<--higher
Montana	1,272	1,475	1,249	1,138	
South Carolina	1,459	1,755	1,667	1,079	
Puerto Rico	624	874	991	967	<--higher
West Virginia	867	1,081	1,118	880	
South Dakota	1,199	1,328	1,144	851	
Idaho	928	1,786	1,070	819	
Mississippi	969	1,638	1,972	779	
Wyoming	613	960	281	759	<--higher
Alaska	648	460	675	543	
Delaware	408	663	505	487	
New Hampshire	360	520	484	317	
Maine	153	224	165	236	<--higher
District of Columbia	163	130	153	190	
Hawaii	0	95	161	123	
Vermont	42	149	84	86	<--higher
Guam	156	36	24	73	
U.S. Virgin Islands	0	13	9	13	
Northern Mariana Islands	0	0	0	1	
Washington	2,309	2,132	1,717	0	
Rhode Island	679	1,050	0	0	
Michigan	0	9,779	7,528	0	
Kansas	0	5,939	0	0	
Connecticut	0	2,088	0	0	
American Samoa	0	0	0	0	

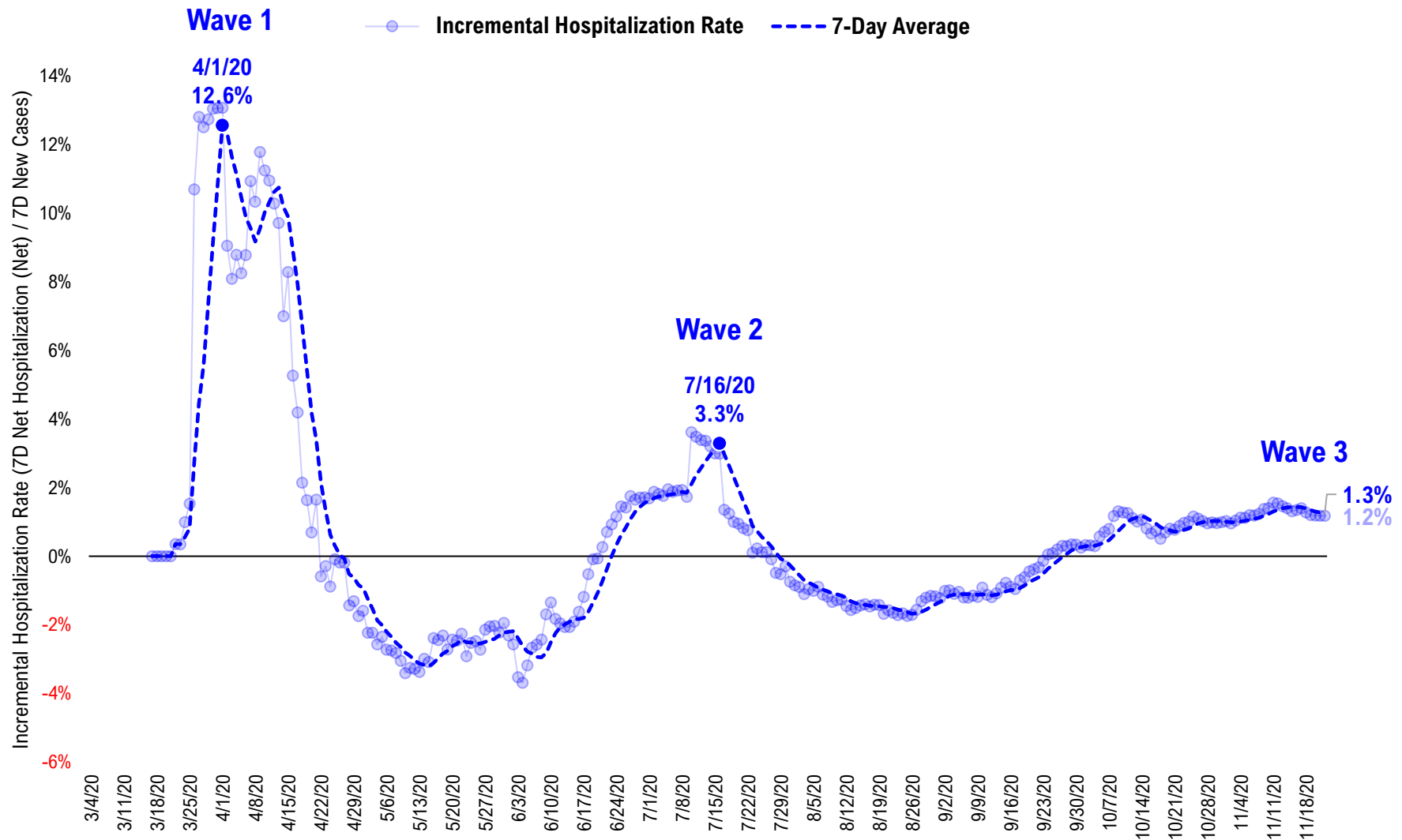
#7: US Daily Hospitalizations...

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



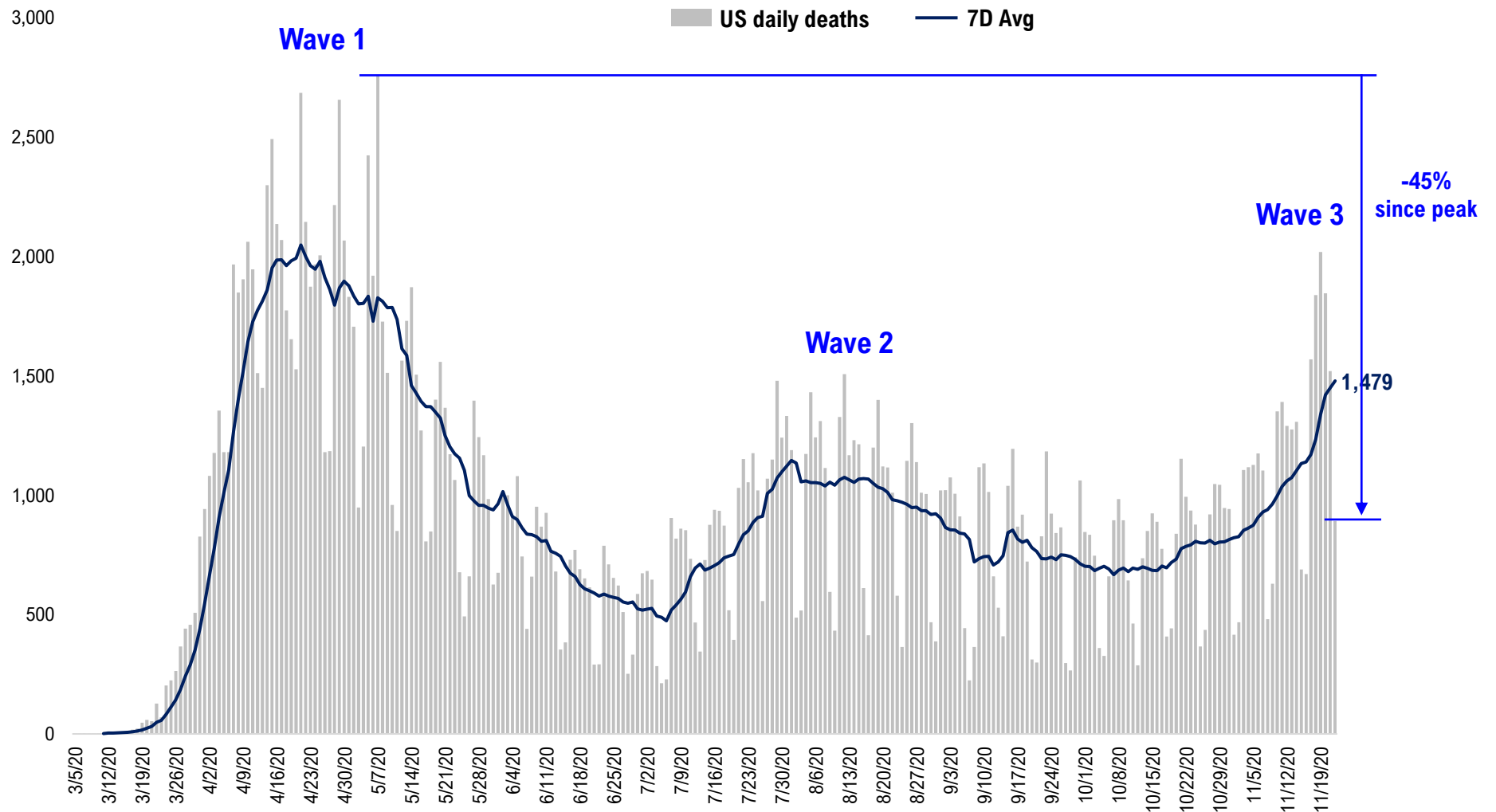
#8: Incremental Hospitalization Rate...

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



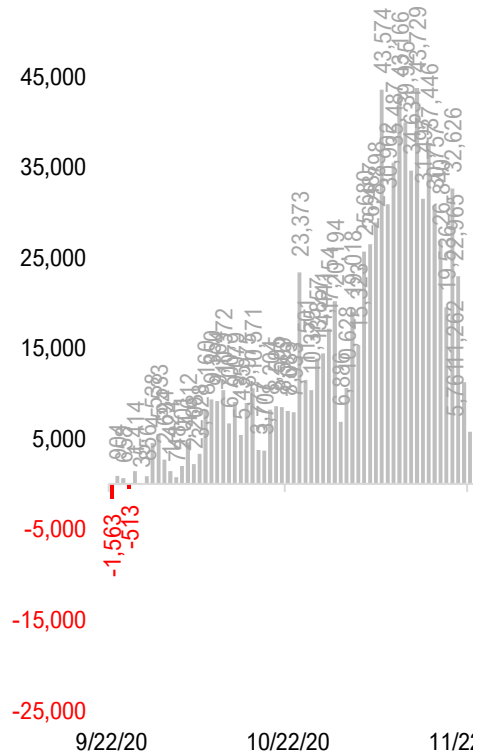
#9: US Daily New Fatalities...

US daily COVID-19 Fatalities

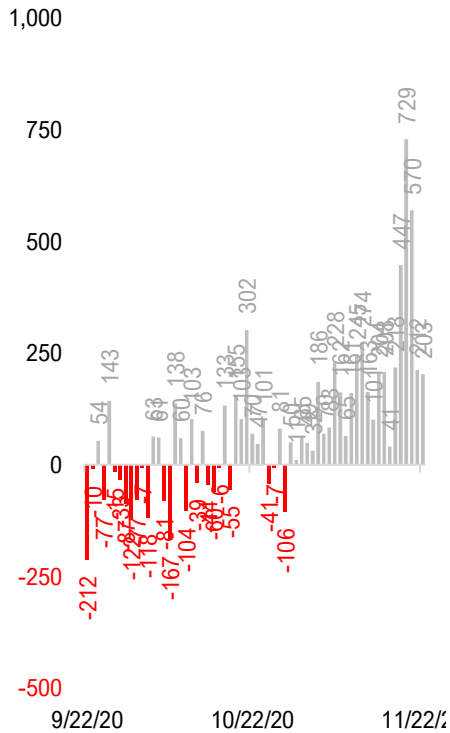


#10: Rolling 7-Day Change in the Key Metrics... (Past 8 Weeks)

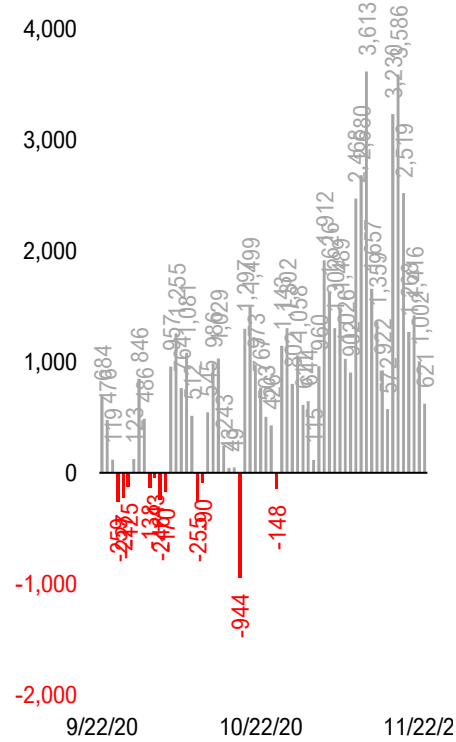
Daily New Cases
(8/10-8/23 ex-CA; 9/4-9/5 ex-IL)



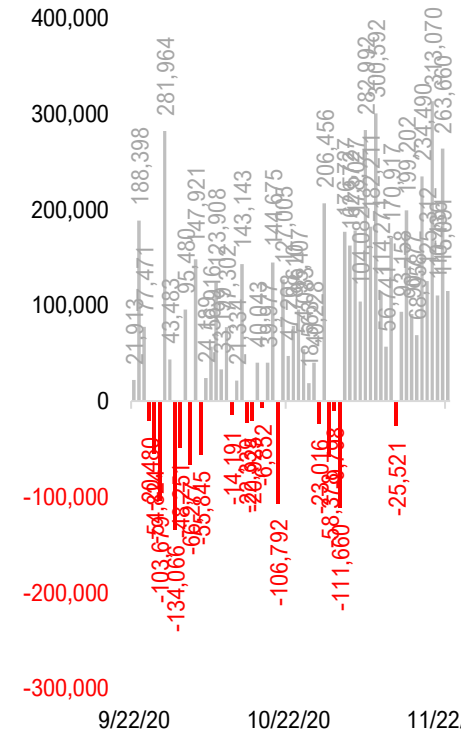
Daily Deaths



Daily Net Hospitalization
(Red = more discharge than admission)

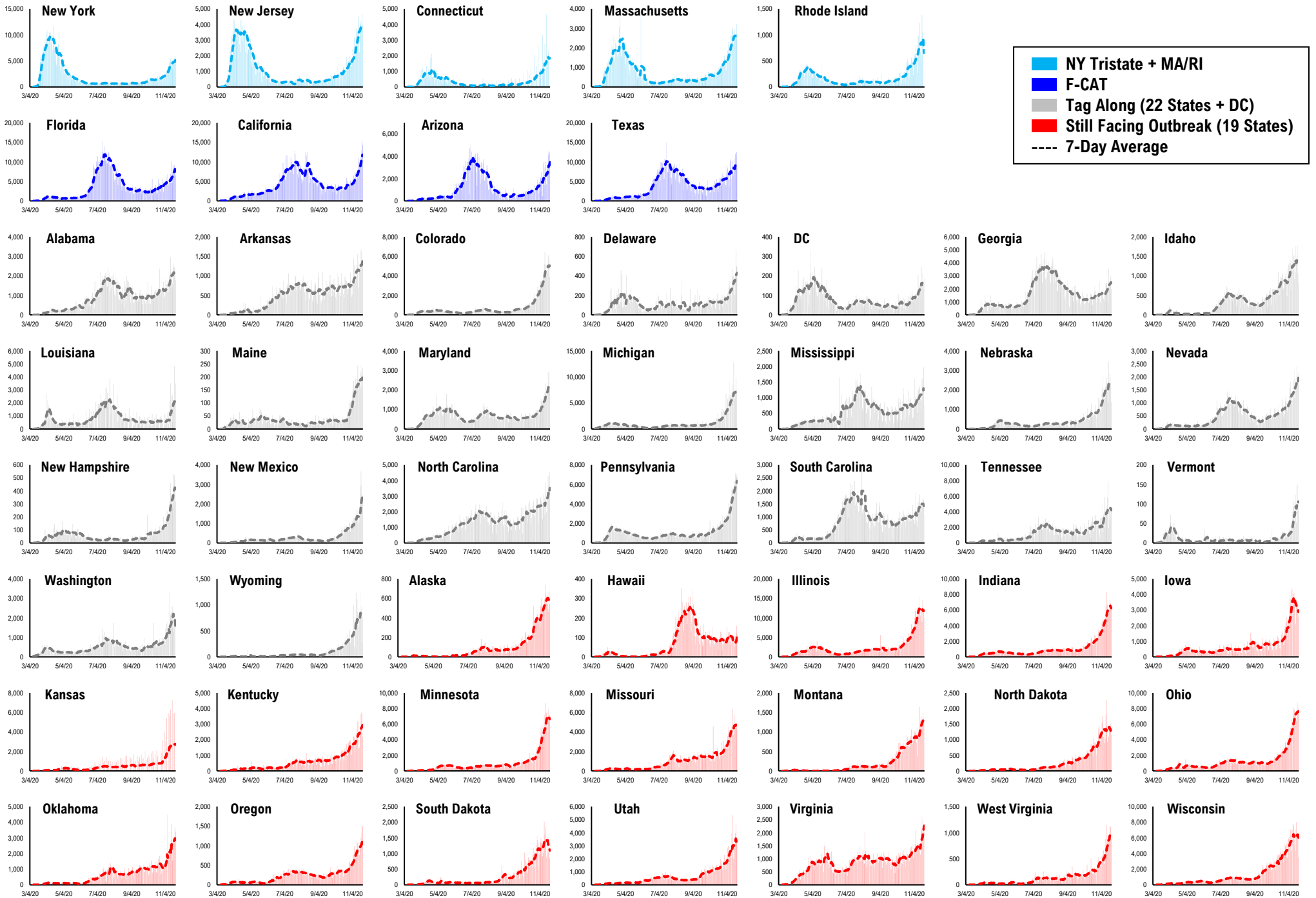


Daily Tests

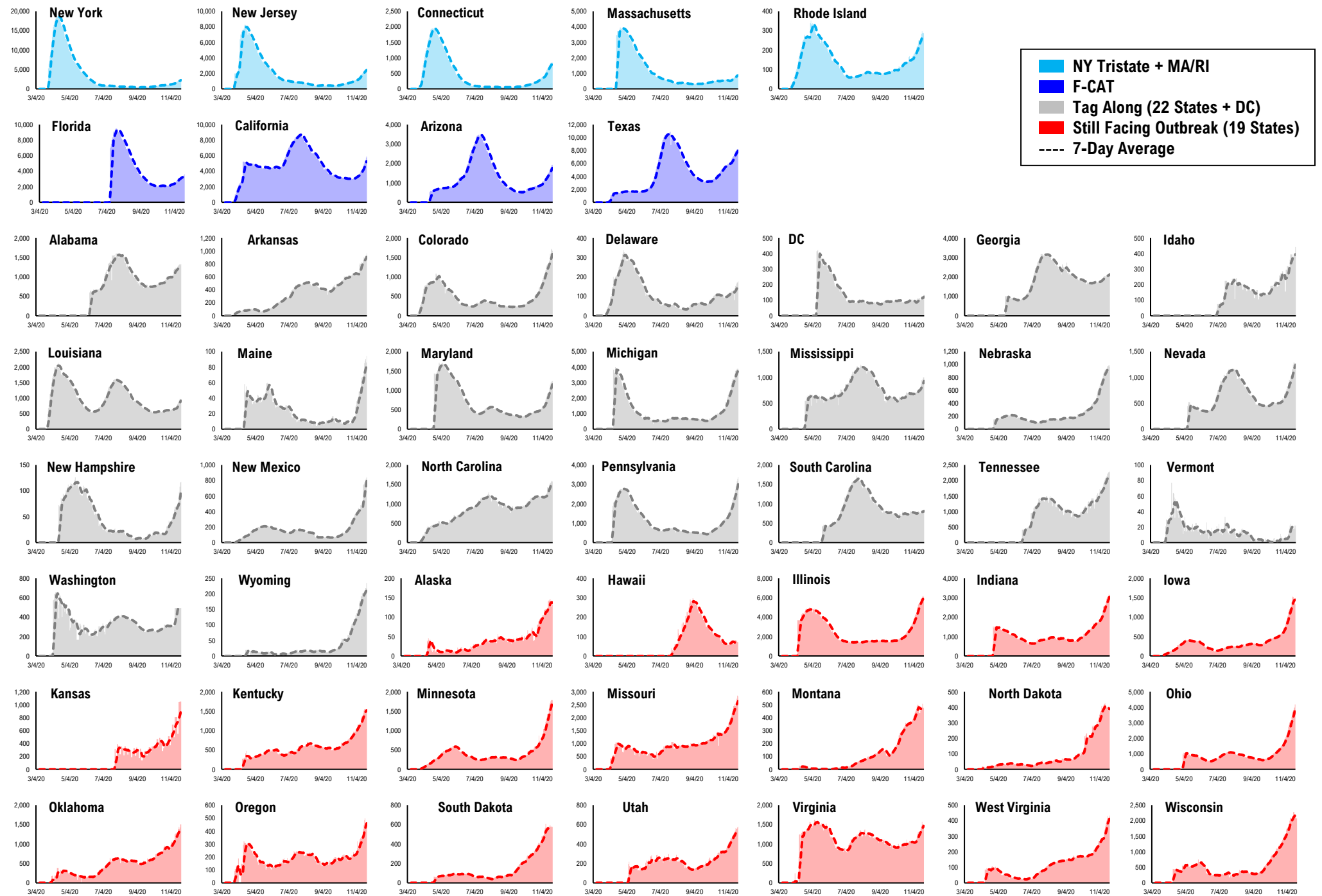


* Ignored California between 8/10 and 8/23, due to its data glitch caused 300,000-case backlog
Source: Fundstrat, COVID-19 Tracking Project, State Department of Health

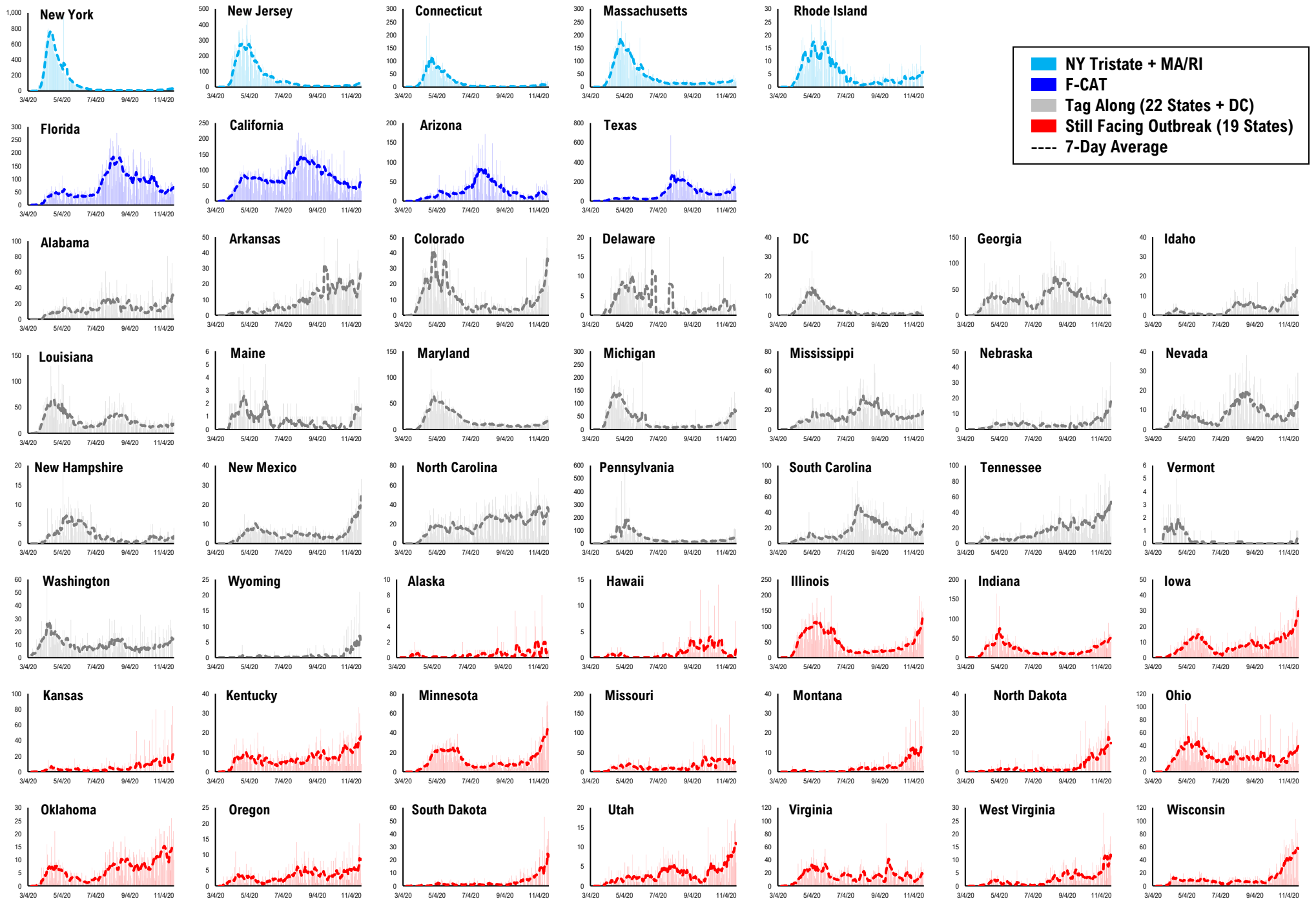
#11: Daily New Cases by States...



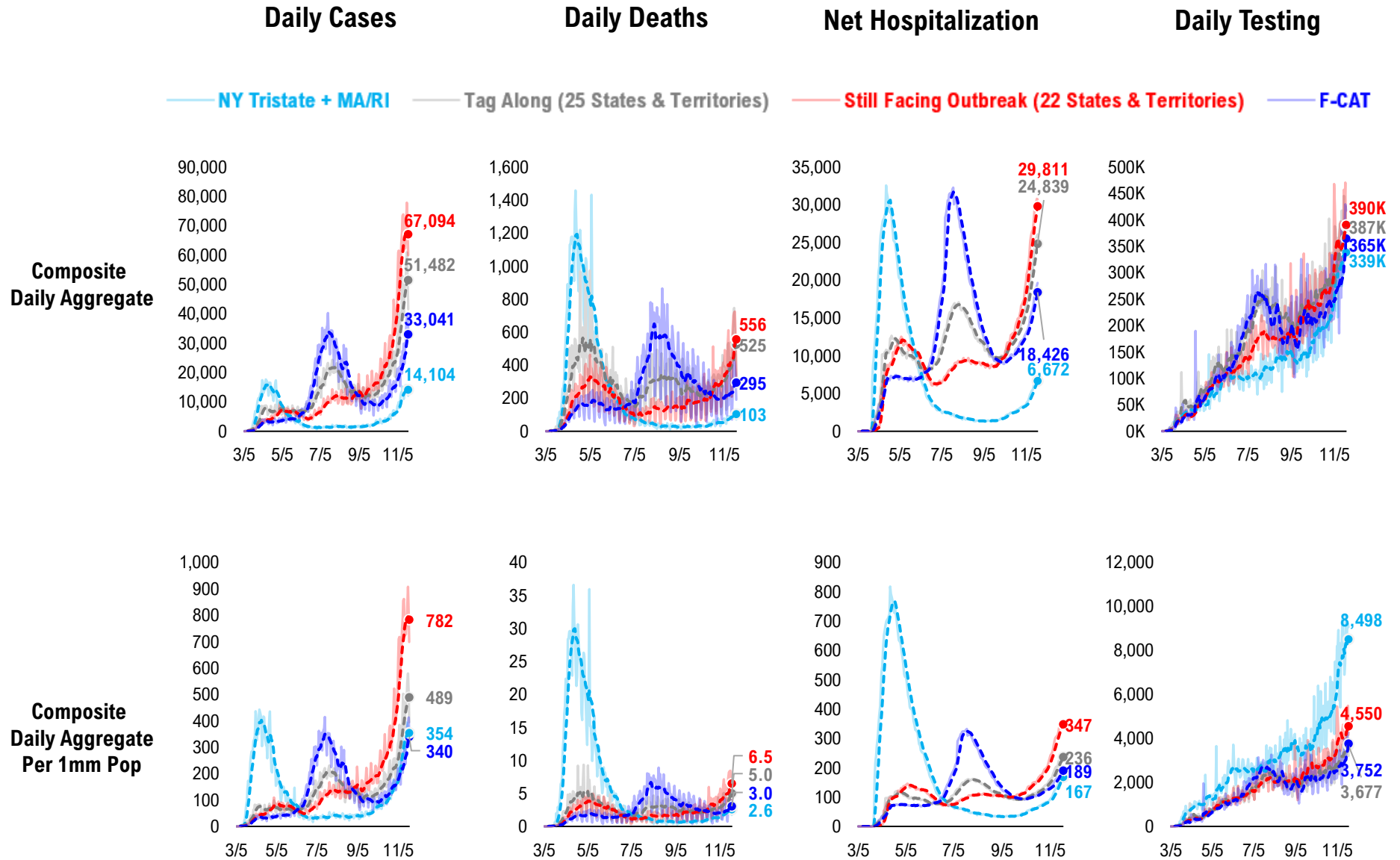
#12: Current Hospitalizations by States...



#13: Daily New Deaths by States...

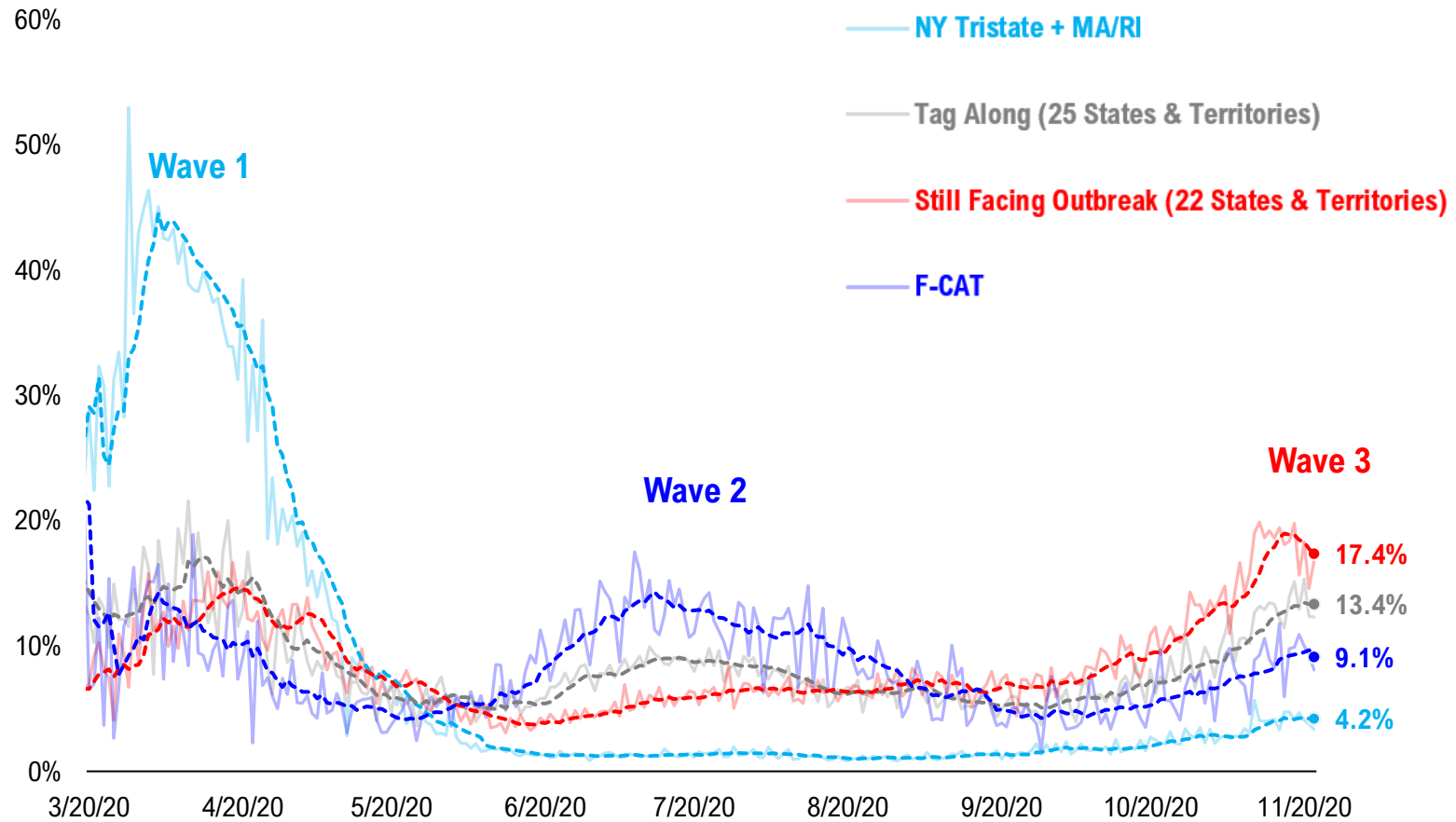


#14: State COVID-19 situation by Tier...

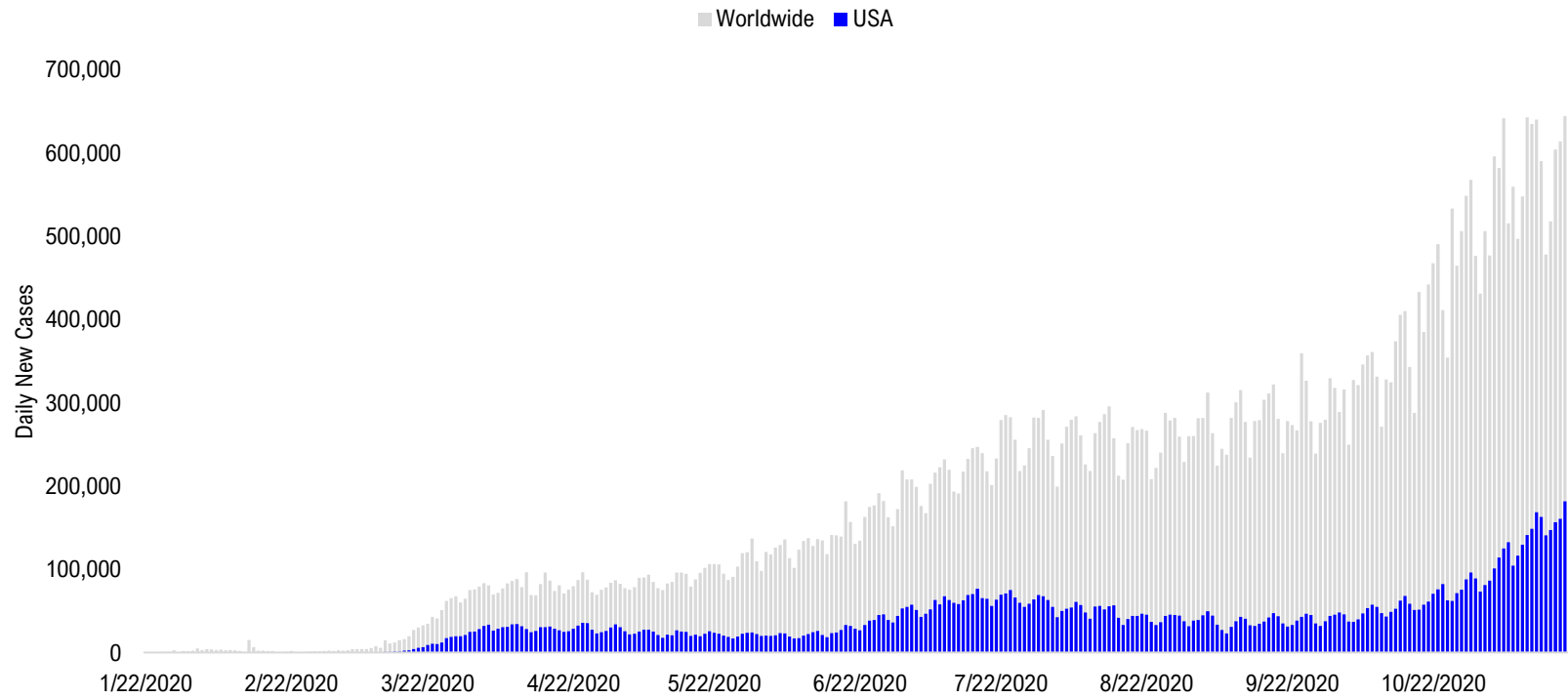


#15: State COVID-19 Daily Positivity Rate by Tier...

Composite Daily Positivity Rate



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



Jul 3	Jul 17	Jul 31	Aug 14	Aug 28	Sep 11	Sep 25	Oct 9	Oct 23	Nov 6	Nov 21
Latin America 72,231	Latin America 72,602	Latin America 97,308	Latin America 100,636	Latin America 88,255	Pakistan + India + Bangladesh 98,888	Pakistan + India + Bangladesh 88,225	Europe 112,040	Europe 223,901	Europe 326,485	Europe 265,869
US + Canada 55,408	US + Canada 72,365	US + Canada 67,272	Pakistan + India + Bangladesh 68,924	Pakistan + India + Bangladesh 82,644	Latin America 80,841	Latin America 76,712	Pakistan + India + Bangladesh 76,149	US + Canada 71,893	US + Canada 117,089	US + Canada 187,676
Pakistan + India + Bangladesh 27,389	Pakistan + India + Bangladesh 39,450	Pakistan + India + Bangladesh 58,625	US + Canada 54,914	US + Canada 45,273	Europe 47,433	Europe 67,915	Latin America 69,822	Latin America 69,390	Latin America 59,345	Latin America 66,473
Europe 15,950	Africa 19,290	Europe 20,929	Europe 28,225	Europe 35,965	US + Canada 37,795	US + Canada 43,790	US + Canada 54,955	Pakistan + India + Bangladesh 56,907	Pakistan + India + Bangladesh 52,404	Pakistan + India + Bangladesh 50,685
Africa 14,218	Europe 17,320	Africa 17,999	Africa 10,680	Asia ex- India+Pakistan 9,999	Asia ex- India+Pakistan 10,612	Asia ex- India+Pakistan 10,726	Asia ex- India+Pakistan 13,687	Asia ex- India+Pakistan 15,049	Africa 13,656	Asia ex- India+Pakistan 15,826
Asia ex- India+Pakistan 12,006	Asia ex- India+Pakistan 7,321	Asia ex- India+Pakistan 10,630	Asia ex- India+Pakistan 10,512	Africa 8,468	Africa 8,309	Africa 8,247	Africa 9,966	Africa 10,615	Asia ex- India+Pakistan 13,462	Africa 14,343

Disclosures

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