



COVID-19 UPDATE: US cyclical pause but China did not get the memo. Houston local peak still 17 days ago = phew

THIS MESSAGE IS BEING SENT SOLELY TO CLIENTS OF FS INSIGHT

Uncertainty about the path of COVID-19 worsened this week, as US overall cases rose to new highs and US deaths seemed to "step-up" to 800 per day (past 3 days) vs 500 or so a week ago. And the path of COVID-19 in the US has departed from Western Europe and Asia, both other regions seeing cases generally fall. But this is not all entirely negative developments. Many states have taken significant actions, including mandating masks (see discussion below) and thus, this surge is not growing without action. But we also cannot escape our general view that this surge has 3 factors: (i) nationwide protests created 10000X superspreader events; (ii) significant imported cases from Mexico and Latin America, explaining the surge in FL, CA, AZ, TX (or F-CAT) and the Southern states, generally and (iii) lax compliance with PPE, mitigation (etc.).

And on top of that, equity markets do not like "contested/close" elections. So, the tightening of the Presidential race is further fueling market hesitation. So there are just more building blocks for a wall of worry.

As we approach the weekend, there are two elements we are watching closely:

- F-CAT daily case trends, but TX, and Houston, in particular, as Houston is the "nucleus" of the TX surge. Houston, so far, peaked 17D ago.
- US daily deaths. Will the curious divergence continue or will deaths surge in the next week, if so, we should see a spike this weekend.

UK "Eat Out to Help Out"

The UK is proposing a pretty novel stimulus idea. The government is offering to pay 50% of the restaurant tab, to oil the engine to restart. The U.K. Treasury launched the "Eat Out to Help Out" plan pledging a 50% discount of up to £10 per head for every diner at any participating restaurant, café, pub or eligible food service establishment.

BREAKING | 4,383 views | Jul 8, 2020, 12:28pm EDT

British Gov. Will Pay 50% Of Restaurant, Pub Bills To Stimulate Recovery



Jemima McEvoy Contributor

Business

I'm a British-born reporter covering breaking news for Forbes.

f **TOPLINE** The British government announced Wednesday that it will foot 50% of the bill for diners and pub-goers during the month of August as part of an effort to boost the economy after months of coronavirus lockdown.

in

<https://www.forbes.com/sites/jemimamcevoy/2020/07/08/british-gov-will-pay-50-of-restaurant-pub-bills-to-stimulate-recovery/#5c7bd6c63f4c>

This is a pretty good idea (my opinion) and the terms are:

- 50% discount of up to £10 per head for every diner at any participating restaurant, café, pub or eligible food service establishment.
- The discount can be used unlimited times throughout the month of August,
- Valid Monday to Wednesday on "any eat-in meal," but can't be used for alcoholic beverages.

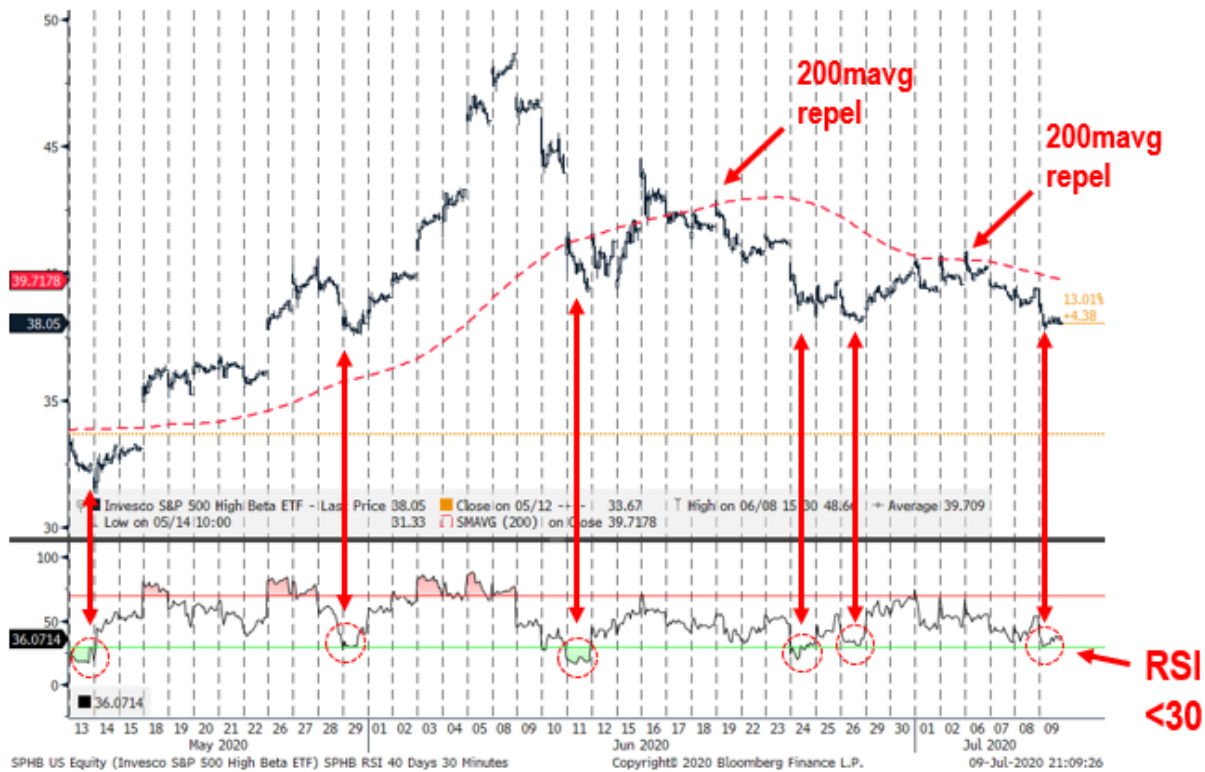
This could be pretty effective in the US, at the right moment. One of the hardest hit industries in the US has been restaurants and restaurant employees. This would be an instant mega-stimulus.

STRATEGY: US Cyclical "pause" but somehow China did not get the memo...

As visibility and confidence in the US pandemic recovery has faltered, so has the "epicenter" trade (Cyclicals). We have written about this pretty much every day this week.

- A good proxy for the "epicenter" trade is the S&P High Beta ETF (SPHB)
- This ETF is now pretty oversold, with its 4-hour RSI at 30 (below 30 is oversold)
- The last 5 times RSI <30, we saw some sort of bounce take place

This is the moment where, as Rob Sluymer, our Head of Technical Analysis comments, "cyclicals need to dig in"



If you are wondering what comprises the SPHB, this table below shows it is heavily cyclical and actually is pretty much a snapshot of the Value Index. Heavily Financials, Discretionary, Energy and Industrials and Tech, even.

- this is the "epicenter" ETF

SPHB US Equity		Settings					
Invesco S&P 500 High Beta ETF		Latest Available					
Type	Fund: ETF	Asset Class	Equity	Cash Pos	-92.78k USD	Create/Redeem Fee	500 USD
Group By	Sector	Show Asset Type	All	Currency	USD	Total Curr Mkt Val	1
Security	Ticker	Source	Position	Pos Chg	% Out	% Net	
		All					
▶ Financials			1,372,206	-22,133		34.99	
▶ Consumer Discreti...			983,684	-15,867		20.19	
▶ Energy			1,296,349	-20,911		16.54	
▶ Technology			257,368	-4,152		15.01	
▶ Industrials			77,923	-1,257		5.47	
▶ Materials			222,558	-3,590		4.43	
▶ Communications			108,920	-1,757		2.38	
▶ Health Care			4,542	-73		1.06	
▶ Sector Not Availa...			1	-90,325.26		.00	

Source: Bloomberg

China Shanghai Composite saw big upside breakout this week...

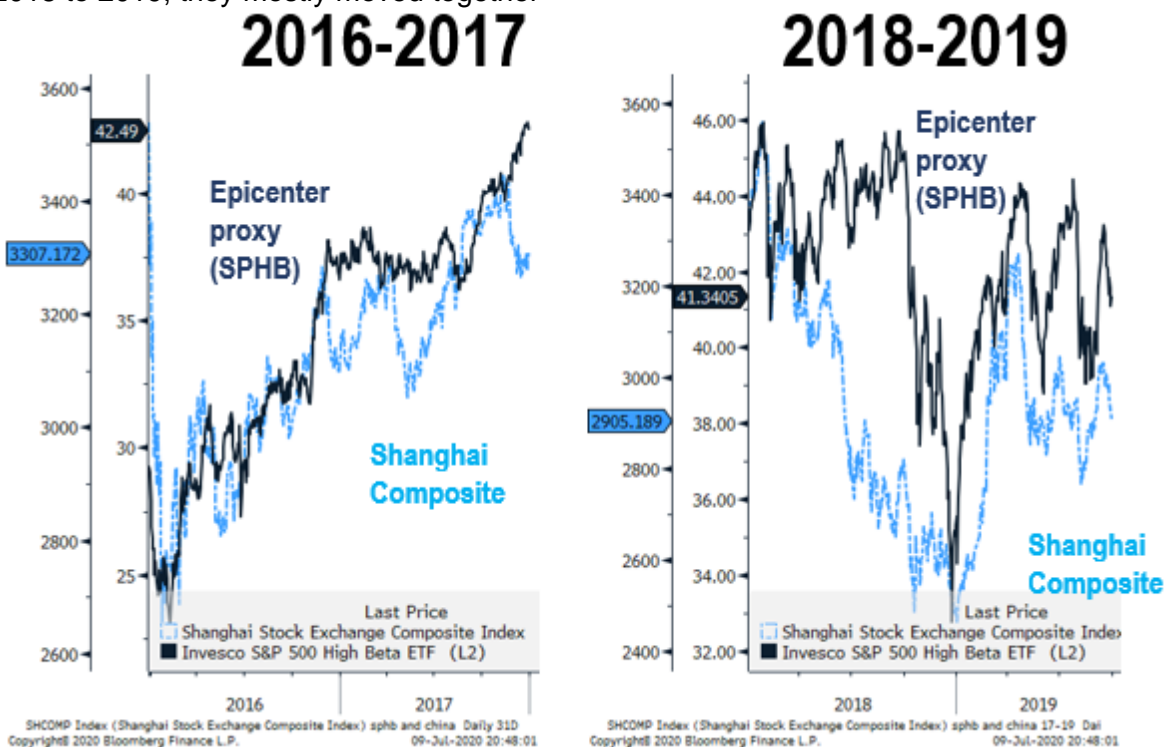
China's equity market had a nice breakout this week. This was well covered in the media and even China officials seem to be encouraging this. It is not without justification. China's economy has staged a pretty impressive rebound.



China SHCOMP and SPHB ETF usually trade in sync...

This is the interesting thing. The SHCOMP (China Index) and SPHB have moved in sync the past 5 years.

- 2016 to 2017, it was pretty much the same chart
- 2018 to 2019, they mostly moved together



At the start of 2020, they moved together, but "diverged" this past 10 days...

In fact, look at the start of 2020. they had pretty much the same chart.

- But 10 days ago, we are now seeing a massive divergence.
- It looks like the "cyclical" trade is alive and well, but somehow it is playing out in China.

We think this is another reason not to get too negative on the "epicenter" trade. While this is a tough call given the worsening COVID-19 trends in the US. We think there remains a good risk/reward in the epicenter.

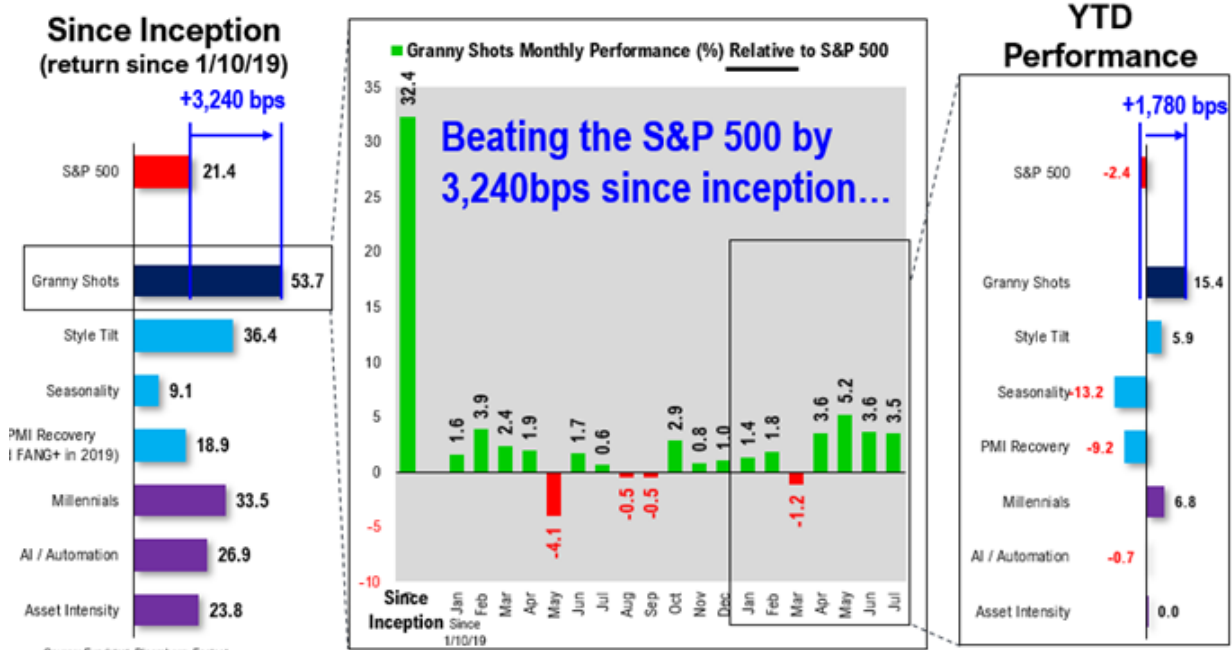


Granny shots: We will post the 3Q rebalance of Granny Shots next week...

We have re-balanced our Granny Shots portfolio. Recall, this is the "best of the best" list, based on stocks falling most commonly within our 6 thematic and tactical portfolios. This is essentially our "core list" of stock ideas and what we recommend buying every day.

- YTD, Granny Shots is outperforming S&P 500 by 1,780bp
- Up 15.4% vs -2.4% for S&P 500
- 5 of 6 months outperforming S&P 500

Figure: Granny Shots Portfolio Performance
Monthly, As of 7/9/20



Source: Fundstrat

There was simply too much to write about this week, regarding disease and "epicenter" to talk about our Granny Shots. We will do this next week and discuss updates to our thematic portfolios. These changes lead to changes in the Granny Shots.

- Below is the March 2020 list



STRATEGY: Granny Shots represents the "best of the best" from Thematics

The granny shots represent the best of the best from the thematic portfolios.

- This is derived from looking at stocks which appear in multiple themes. As listed on the following pages, no stock appears in 6 of 6 thematics, but several appear in 4 or 5 out of 6.

Figure: Granny Shots are the "best of the best"
Stocks which appear in multiple themes.

Tactical (6M-12M)

	# stocks
Style tilt	27
Seasonality	17
PMI Recovery	22

Thematic (3Y-5Y)

	# stocks
Millennials	28
Automation/ AI	48
Asset intensity	26

Granny Shots



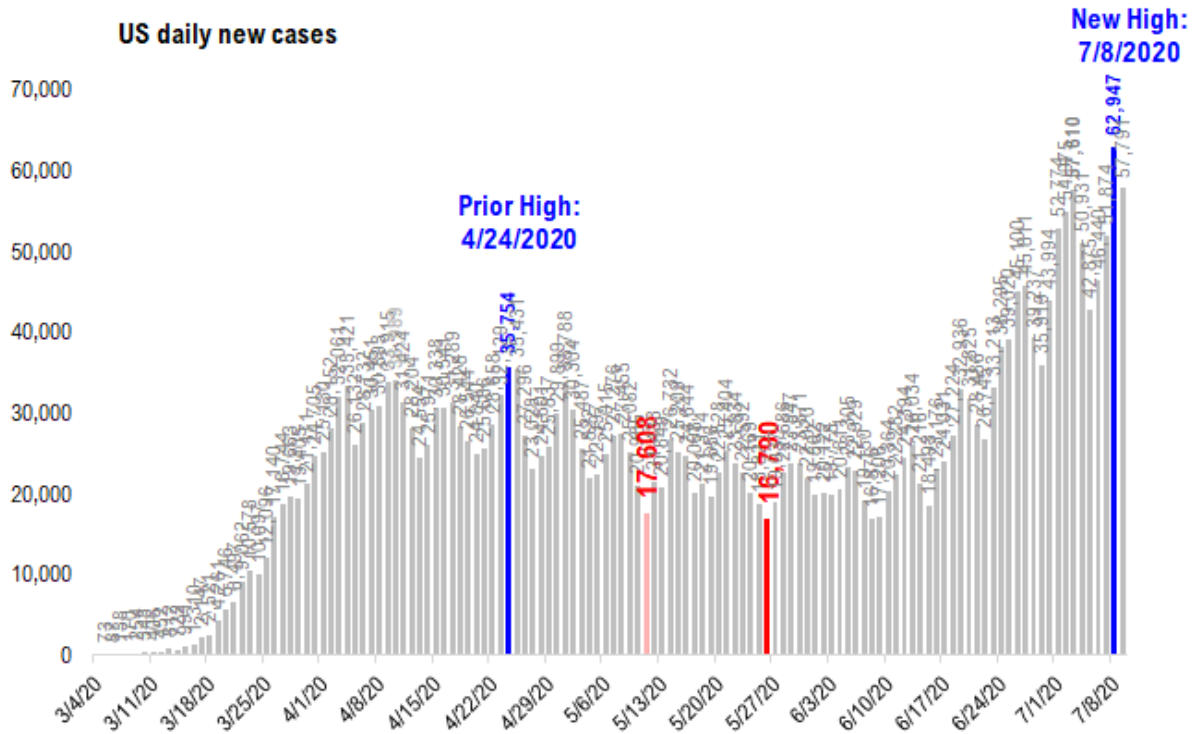
Rick Barry career free throw percentage was eye-popping 90%, incredible considering Shaquille O'Neal's only 52%.

His secret? The unorthodox style of underhanded throws, which is considered "not macho" enough for most players.

# overlaps "layups"	Tickers
5	GOOG
4	AAPL
3	AMP, CSCO, FB NVDA, PYPL, XLNX
2	AXP, BF/B, BKNG DE, DOV, EBAY EMR, EXPE, GRMN KSU, MNST, MSFT MXIM, PM, PSX QCOM, ROK, TSLA TTWO, VRSN

Source: Fundstrat

POINT #1: Daily cases near highs at +57,797, Houston cases -65% off the peak 17D ago...
Well, the daily cases for COVID-19 remain elevated but at least we did not see a new high on Thursday. In fact, daily cases were down -5,156 from 1D ago. But the fact is, COVID-19 is still spreading in the US.

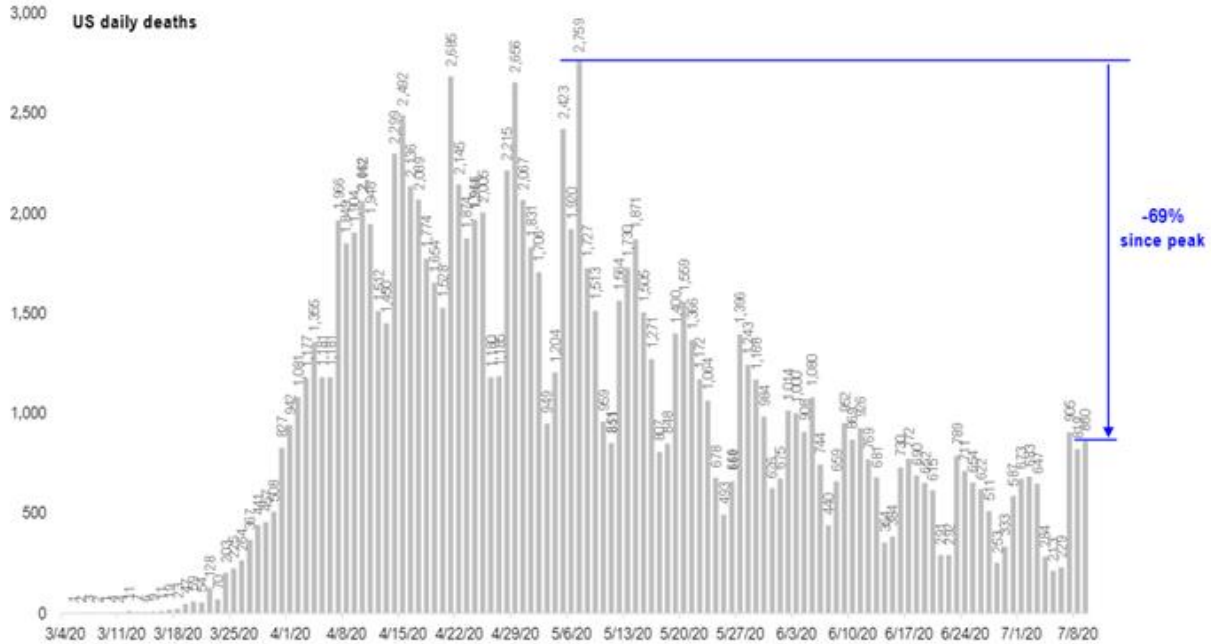


Source: COVID-19 Tracking Project

Daily deaths are becoming the most important metric to watch, because up until this point, daily cases and deaths were diverging. But see below, we have now had 3 consecutive days of ~800 deaths per day.

- Is this daily death figure about to surge?
- This will be the weekend's biggest question for me.

US daily COVID-19 Fatalities

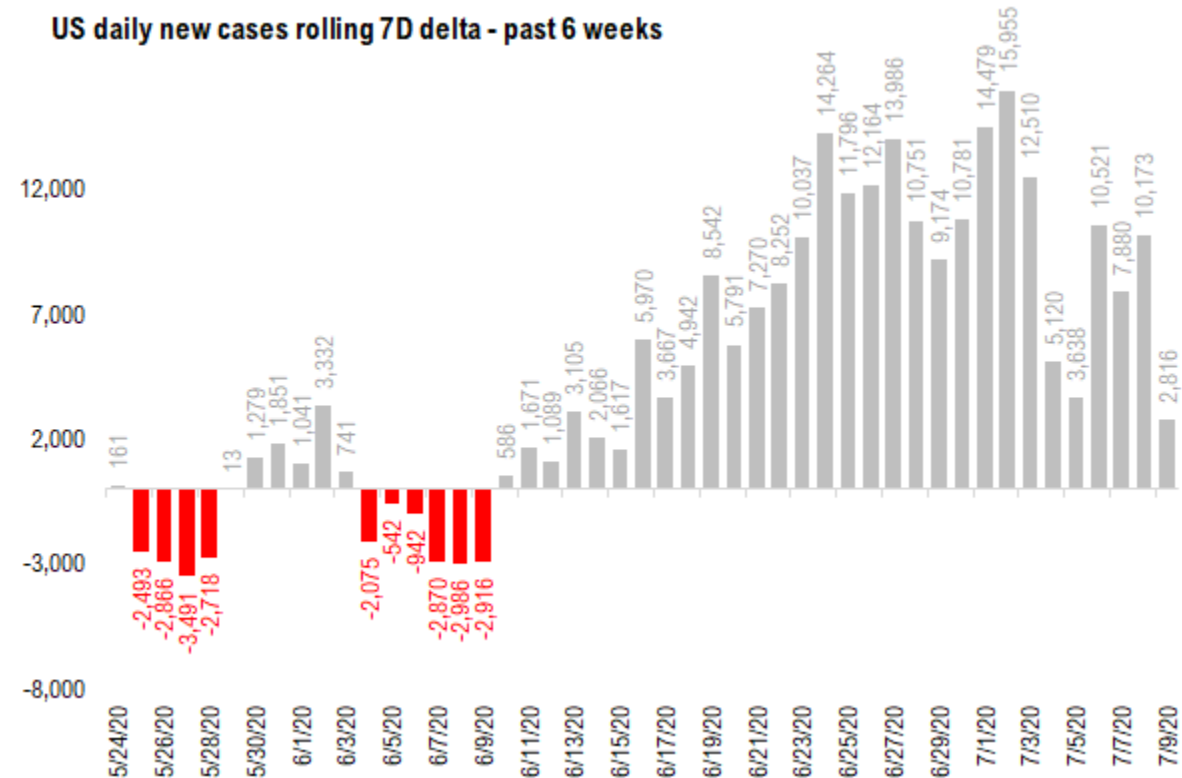


Source: COVID-19 Tracking Project

Another measure of case intensity is the week ago change in daily cases -- sort of a "same store" sales comp. And as you can see below, this figure is easing to +2,816 vs 7 days ago.

- It is certainly an improvement from the +10K seen earlier this week.
- and versus the +15k seen two weeks ago

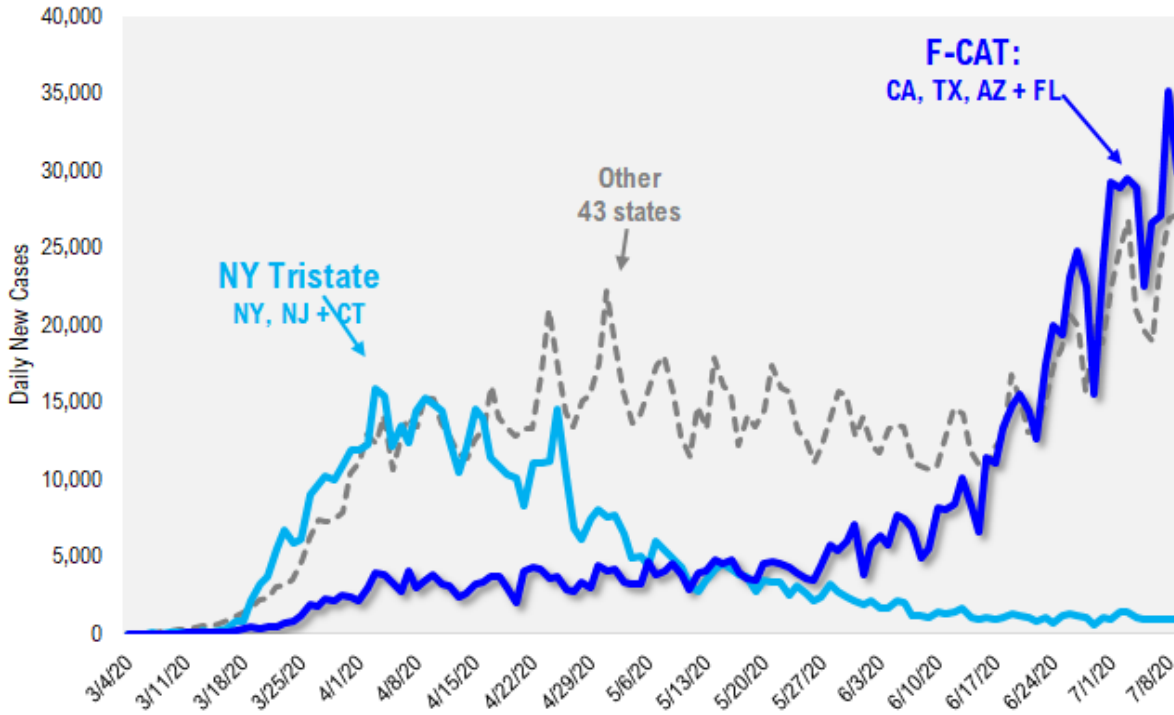
So this is a sign that the intensity of case growth is slowing. This is something that we need to be mindful of. There have already been significant mitigation measures introduced by F-CAT. So, this is reflecting this course correction, to an extent.



Source: COVID-19 Tracking Project

F-CAT: Daily cases eased on Thursday... and we are watching Houston, which is now 17 days since its peak...

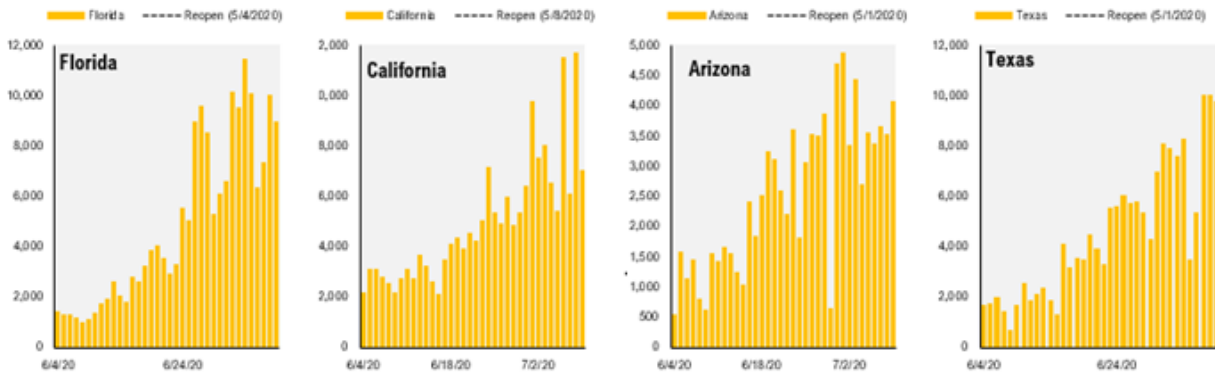
The new epicenter is 4 states, FL, CA, AZ, TX, or F-CAT, and as you can see, these 4 states account for 30k cases per day, or more than the rest of 46 states combined.



Source: COVID-19 Tracking Project

These are the individual state daily case figures and as you can see, TX, AZ, FL seem to have established a local high. It is somewhat hard to see the daily state cases (4 side by side). In fact, within these 4 states, we are watching the "nucleus" cities:

- Houston
- Phoenix
- Miami
- Los Angeles



Source: COVID-19 Tracking Project

Houston peak still looks like 6/23/2020, or 17 days ago...

Houston cases peaked on 6/23 and have fallen 65% since. Think of Houston as NYC for NY. By the way, the county is the largest in the state of TX. And even San Antonio and Dallas have eased from their highs. The only relapse city (of the 4 major counties we are watching) is Austin.

- the 10 largest TX counties are shown below and we highlight in red, the local peak in cases.

City	Population	% State Pops	% State																
			6/23	6/24	6/25	6/26	6/27	6/28	6/29	6/30	7/1	7/2	7/3	7/4	7/5	7/6	7/7	7/8	7/9
Texas	29,677,668	100%	5,489	5,551	5,996	5,707	5,742	5,357	4,288	6,975	8,076	7,915	7,555	8,258	3,449	5,318	10,028	9,979	9,782
Houston	4,978,845	16.8%	1,994	1,374	1,365	1,231	1,238	908	113	1,453	693	1,437	1,249	1,208	597	684	1,179	1,535	701
San Antonio	2,093,502	7.1%	274	311	347	638	405	795	495	650	1,268	439	374	1,334	341	198	351	778	845
Odessa	258,678	0.9%	54	39	34	19	82	10	7	149	88	72	293	487	0	0	232	135	141
Dallas	2,734,111	9.2%	454	445	391	403	496	561	570	572	601	544	708	1,085	1,103	1,062	1,214	1,077	1,029
Fort Worth	2,143,755	7.2%	171	260	460	517	343	377	393	263	605	606	473	0	0	585	820	757	595
Georgetown	589,914	2.0%	74	87	116	88	68	80	169	81	130	109	49	81	0	0	682	0	291
Galveston	355,196	1.2%	101	72	226	149	252	154	102	139	231	272	213	212	0	0	596	223	254
Lubbock	317,210	1.1%	87	140	118	130	121	68	57	54	178	184	163	0	0	0	298	133	180
Austin	1,291,502	4.4%	129	257	318	183	0	728	636	508	558	597	571	314	122	548	247	482	753
Corpus Christie	383,718	1.3%	109	71	215	259	212	228	188	205	274	362	262	254	321	203	288	388	445

Source: COVID-19 Tracking Project

6 states reported a sizable 1D increase

Alabama	2,212 vs 1,177 (1D)	+1,035
North Carolina	2,039 vs 1,435	+604
Arizona	4,057 vs 3,520	+537
Iowa	731 vs 480	+251
South Carolina	1,782 vs 1,557	+225
Missouri	795 vs 575	+220
Total 6 states		+2,872

6 states with sizable 1D declines

California	7,031 vs 11,694 (1D)	-4,663
Florida	8,935 vs 9,989	-1,054
Tennessee	1,605 vs 2,472	-867
Georgia	2,837 vs 3,420	-583
Texas	9,782 vs 9,979	-197
Michigan	446 vs 610	-164
Total 6 states		-7,528

Daily Case Increases (by State) (07/09)

% total new cases (state cases/ total US cases)
% total US pop (state population/ total US population)

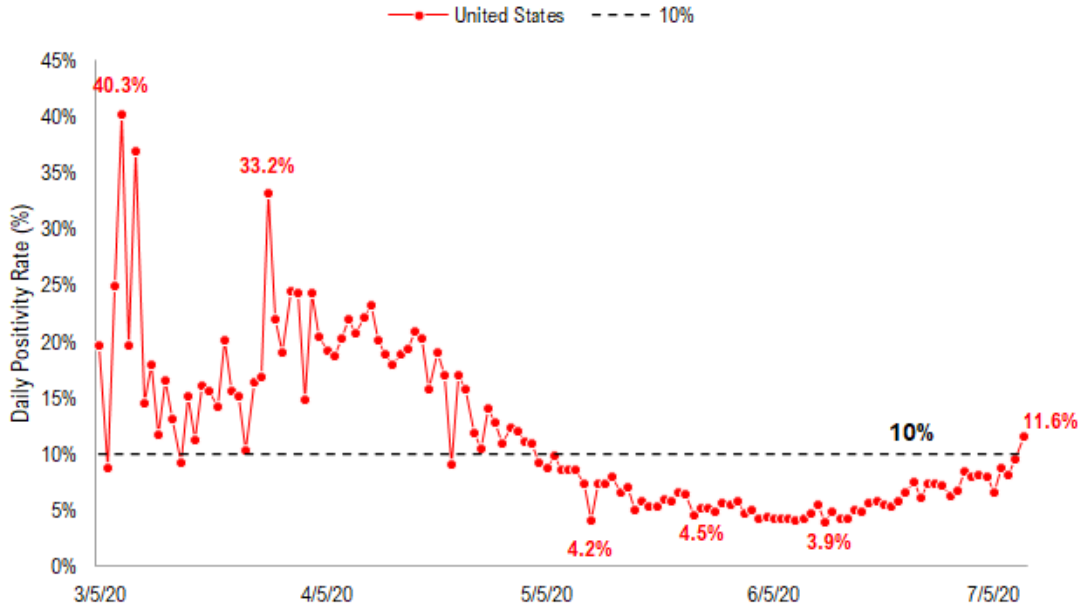
Sorted
Last 3-day trend growth rates

	7/7/20	7/8/20	7/9/20	
United States	51,874	62,947	57,791	-5,156
States:				
1 Texas	10,028	9,979	9,782	
2 Florida	7,347	9,989	8,935	
3 California	6,090	11,694	7,031	
4 Arizona	3,653	3,520	4,057	
5 Georgia	3,406	3,420	2,837	
6 Alabama	907	1,177	2,212	<-higher
7 North Carolina	1,346	1,435	2,039	<-higher
8 Louisiana	1,936	1,888	1,843	
9 South Carolina	972	1,557	1,782	
10 Tennessee	1,359	2,472	1,605	
11 Ohio	948	1,277	1,150	
12 Illinois	587	980	1,018	
13 Arkansas	259	734	806	
14 Missouri	773	575	795	
15 Wisconsin	495	598	754	<-higher
16 Iowa	372	480	731	<-higher
17 Pennsylvania	995	849	719	
18 Mississippi	957	674	703	
19 Virginia	638	635	613	
20 Oklahoma	858	673	603	
21 Nevada	876	516	603	
22 Utah	564	722	601	
23 Maryland	492	465	586	
24 New York	588	692	584	
25 Minnesota	564	456	574	
26 Washington	1,087	435	521	
27 Indiana	295	437	512	
28 Idaho	487	430	459	
29 Michigan	456	610	446	
30 Colorado	407	452	409	
31 Oregon	210	212	371	<-higher
32 Kentucky	367	400	326	
33 Massachusetts	201	264	295	
34 New Mexico	220	290	234	
35 New Jersey	267	161	201	
36 Nebraska	155	224	198	
37 West Virginia	19	246	119	
38 Connecticut	57	75	101	<-higher
39 North Dakota	49	73	99	<-higher
40 Montana	80	44	95	
41 South Dakota	58	79	94	
42 Delaware	121	48	69	
43 Alaska	18	42	46	
44 Rhode Island	59	50	39	
45 District of Columbia	54	73	37	
46 Hawaii	41	23	36	
47 Wyoming	36	29	34	
48 Maine	17	20	26	<-higher
49 U.S. Virgin Islands	4	6	22	<-higher
50 New Hampshire	18	20	21	
51 Vermont	3	2	16	
52 Guam	2	4	2	
53 Puerto Rico	76	24	0	
54 Northern Mariana Islands	0	0	0	
55 Kansas	0	717	0	
56 American Samoa	0	0	0	

Source: COVID-19 Tracking Project

Positivity rate >10%, threshold of "safe" broken...

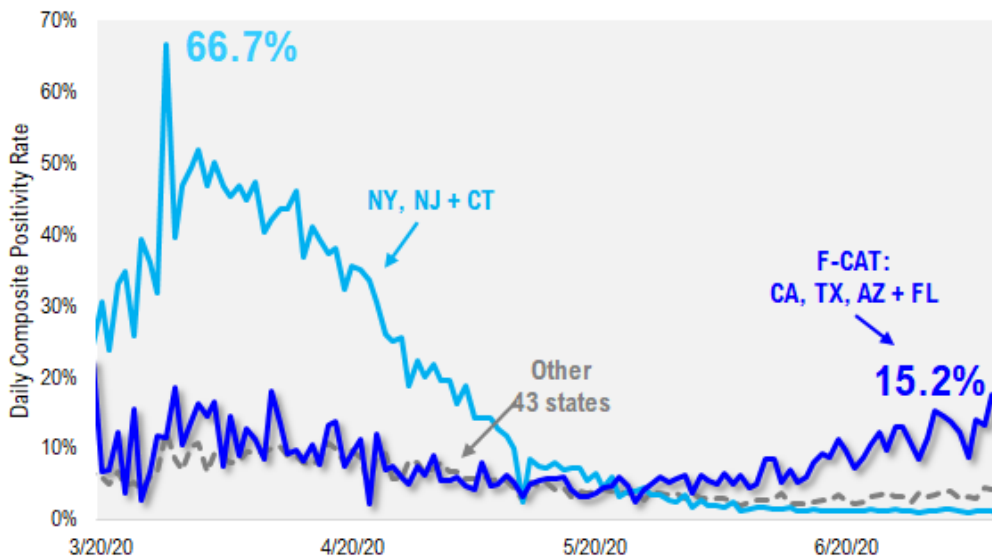
The US overall positivity rate has surpassed 10% on Thursday, for the first time since early May. This is not a good thing, as it highlights that testing is not detecting cases fast enough. In other words, either testing needs to expand or cases need to be contained.



Source: COVID-19 Tracking Project

The source of this high positivity rate is F-CAT, which is running at 15% overall.

- F-CAT overall 15.2%
- FL 24%
- CA 9%
- AZ 34% <--wow!!!
- TX 18%



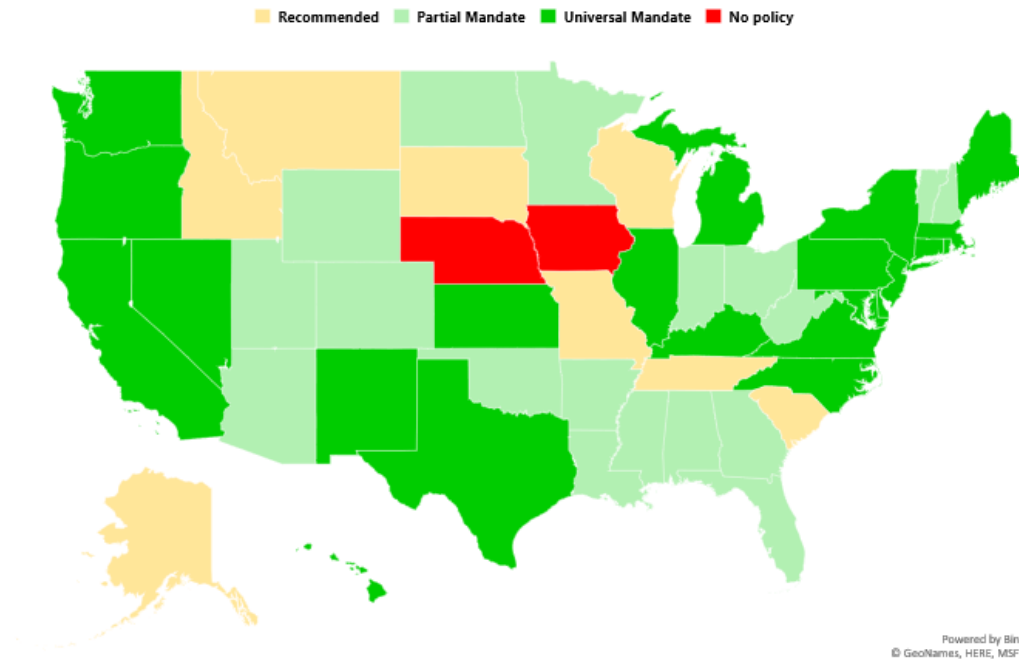
Source: COVID-19 Tracking Project

POINT #2: Mask requirements improving, but only 65% use regularly
The US seems to have become more open to "masks"...

One of our summer interns, Mr. CJ Woodberry, an undergrad at Dartmouth, spent the better part of a few weeks compiling the state by state mandates regarding masks. He used a multi-tier system to get to various levels of mask mandate policy. The table (end of section) also reflects that some cities/municipalities have varying mandates within that state. The best being "universal mandate"

- 18 states in the US have a "universal mask" mandate = good
- 2 states have no policy for masks: Nebraska and Iowa

This data is updated as of July 2 and is subject to change, as states seeing outbreaks change their associated mandate. The US epicenter, F-CAT, has mandatory mask requirements for CA and TX and partial mandates for AZ and FL.



Source: State websites and Fundstrat

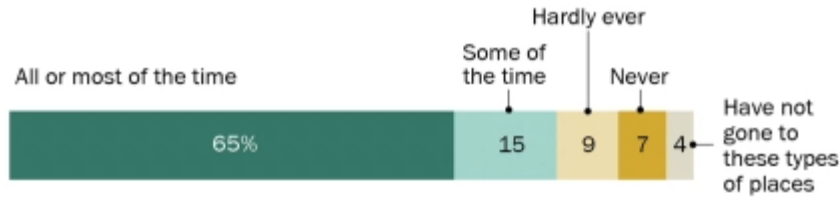
Masks are not universally popular, and the science is not necessarily conclusive...

We realize mask usage is not necessarily universally embraced. They are uncomfortable and there is mixed science on their effectiveness. Most of the negative arguments are that people tend to get sloppy wearing masks. And compliance across the US is mixed.

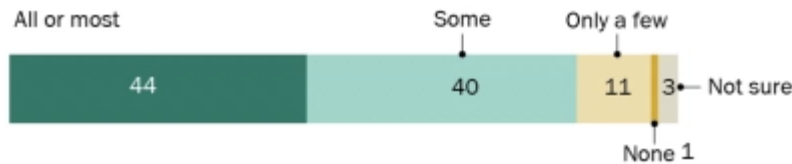
The latest Pew Research shows that 65% of Americans use a mask and about 15% "hardly ever" or "never" use a mask. And that on average, only 44% can say they see proper and widespread use of masks.

About two-thirds of U.S. adults say they regularly wear a mask; fewer than half say most in their area do this

% saying, in the past month, they've worn a mask or face covering when in stores or other businesses ...



% saying _____ people in the community where they live have been wearing a mask or face covering when in stores or other businesses



Note: Share of respondents who didn't offer an answer not shown.
Source: Survey of U.S. adults conducted June 4-10, 2020.

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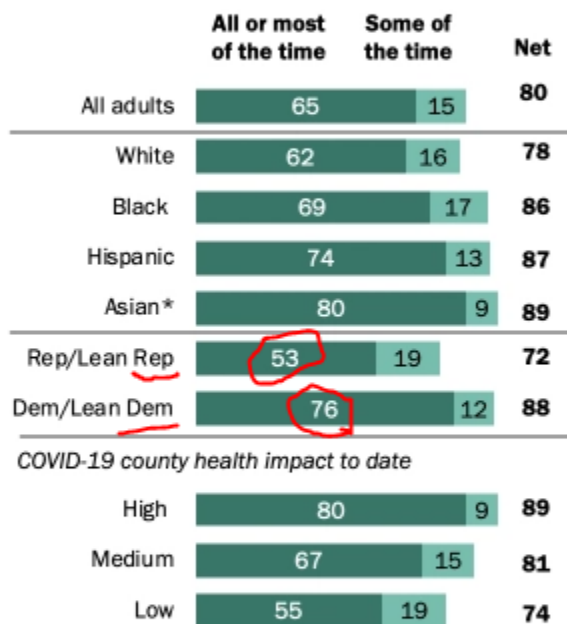
<https://www.pewresearch.org/fact-tank/2020/06/23/most-americans-say-they-regularly-wore-a-mask-in-stores-in-the-past-month-fewer-see-others-doing-it/>

For reasons that are not entirely clear to me, this mask debate seems to be framed along political lines. Was it always a political issue, or has a mask turned into some type of political symbol? I am not sure. According to Pew Research:

- 53% of Republicans wore masks in stores
- 76% of Democrats wore masks in stores

More Democrats than Republicans say they wore masks in stores all or most of the time

% saying, in the past month, they've worn a mask or face covering when in stores or other businesses ...



*Asian adults were interviewed in English only.
 Note: Figures may not add to subtotals due to rounding. White, black and Asian adults include those who report being only one race and are non-Hispanic. Hispanics are of any race. COVID-19 health impact is based on deaths by county, adjusted for differences in population, as of June 5, 2020. For more information on how this was calculated, see the methodology.
 Source: Survey of U.S. adults conducted June 4-10, 2020.

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<https://www.pewresearch.org/fact-tank/2020/06/23/most-americans-say-they-regularly-wore-a-mask-in-stores-in-the-past-month-fewer-see-others-doing-it/>

Current as of July 2, 2020

State	Abbr.	Current Mask Policy	Date Implemented	Population	GDP Impact		Current Mask Policy			Comments and policy elaboration
					State GDP	% US	No mask	Required mask	Strongly recommended	
United States	US	Recommended								CDC recommends wearing masks in public
1. Alaska	AK	Recommended	4/3/2020	731,545	\$85	0.3%				Recommended whenever people are around others outside of their household
2. Alabama	AL	Partially Required	5/11/2020	4,903,185	\$222	1.1%				Many employees required to wear masks, "encouraged" for "all individuals"
3. Arkansas	AR	Partially Required	5/4/2020	3,017,004	\$128	0.6%				Required for restaurant staff (511), plus gyms/fitness centers (54), also required for patrons upon entry, but not while in the store at all, with the exception of 11 malls and 60 government/public spaces
4. Arizona	AZ	Partially Required	5/19/2020	7,278,717	\$348	1.7%				Required for employees of retailers and non-retailers, other businesses are encouraged to come up with their own policies. Seems somewhat lax relative to other "strictly required" states
5. California	CA	Strongly Required	5/19/2020	39,512,223	\$2,998	14.6%				Required in all indoor public spaces, plus outdoors when physical distance cannot be maintained
6. Colorado	CO	Partially Required	4/17/2020	5,758,736	\$32	1.6%				Workers in critical businesses and critical government functions required to wear masks; gov are also encouraged, as are one-way, businesses like florists. Ban people from entry if they don't have a mask
7. Connecticut	CT	Strongly Required	4/29/2020	3,565,267	\$276	1.3%				Masks required in businesses and public places, and when using transit services; employees must provide employees with masks
8. District of Columbia	DC	Strongly Required	5/19/2020	735,749	\$44	0.7%				Required for all individuals age 9 and over in public spaces when physical distance is difficult; retail workers must wear an also provided gloves
9. Delaware	DE	Strongly Required	5/1/2020	973,764	\$73	0.4%				Businesses must provide masks & hand sanitizer to employees and voluntarily to anyone without one; all individuals over 12 must wear masks in public when social distancing is not possible
10. Florida	FL	Partially Required	5/11/2020	21,477,737	\$1,039	5.0%				"Personal care service providers and employees must wear masks, and are also encouraged to provide masks to patrons"
11. Georgia	GA	Partially Required	4/22/2020	10,617,423	\$592	2.9%				Covered in EO 4/22/2020. Various sanitation requirements for businesses, such as restaurants, stores, gyms, etc. Masks recommended for the general public
12. Guam	GU	Partially Required	4/5/2020	165,768	\$6	0.0%				Businesses and government agencies must require employees and patrons to wear masks while on their premises
13. Hawaii	HI	Strongly Required	4/29/2020	1,415,872	\$94	0.5%				Employees and customers must wear face coverings while waiting to enter or while at a business location. Hand sanitizer must also be available for employees/businesses
14. Iowa	IA	No policy		3,155,070	\$190	0.9%				Governor Reg. holds a belief that she wants to leave the decision to wear masks up to citizens
15. Idaho	ID	Recommended	4/23/2020	1,787,085	\$77	0.4%				Face coverings are strongly recommended. Policies left to the discretion of employees/businesses
16. Illinois	IL	Strongly Required	5/1/2020	12,571,821	\$565	4.2%				Any body over the age of 2 must wear a face covering in any public place or business setting where a six-foot social distance cannot be maintained
17. Indiana	IN	Partially Required	5/1/2020	6,732,219	\$327	1.5%				Required for retail, restaurant, and personal care service employees. Recommended in public settings when social distance is difficult to maintain
18. Kansas	KS	Strongly Required	7/2/2020	2,913,214	\$168	0.8%				Gov. Lamm fully released guidelines on a new policy requiring most citizens to wear a mask in public when social distancing is not an option, according to a news release
19. Kentucky	KY	Strongly Required	7/7/2020	4,467,673	\$236	1.0%				Businesses are to provide PPE to their employees. Governor Beshear is "strongly recommending" that all Kentuckians wear masks in public
20. Louisiana	LA	Partially Required	5/1/2020	4,648,794	\$257	1.3%				All employees who have contact with the public must wear masks, and restaurant employees must additionally wear gloves
21. Massachusetts	MA	Strongly Required	5/5/2020	6,892,033	\$369	2.9%				Any body over the age of 2 must wear a face covering in any public setting where a six-foot social distance cannot be maintained; businesses may deny entry of individuals who don't have a mask
22. Maryland	MD	Strongly Required	4/19/2020	6,245,800	\$443	2.0%				Masks are required for staff and customers at many businesses/services, such as stores, restaurants, public transit, or personal care services
23. Maine	ME	Strongly Required	5/1/2020	1,344,212	\$66	0.3%				Masks are required in public when physical distancing is difficult to maintain. Employees in settings that are inaccessible to the public may come up with their own policies
24. Michigan	MI	Strongly Required	4/29/2020	9,985,867	\$527	2.6%				EO 20-20-B requires masks to be worn in all enclosed public spaces (such as stores), business locations must provide masks to employees, restrictions expanded in later EOs
25. Minnesota	MN	Partially Required	5/27/2020	5,529,532	\$369	1.8%				EO 20-43 requires employees of businesses such as restaurants and personal care services to wear employee-provided masks
26. Missouri	MO	Recommended	4/7/2020	6,137,428	\$319	1.5%				Masks recommended in public settings when physical distance would be difficult to maintain
27. Mississippi	MS	Partially Required	5/12/2020	2,976,149	\$115	0.6%				EO 1452 established requirements for businesses in order of the state's counties. Among these requirements, customers must wear masks in a store. Less or no restrictions exist in other counties
28. Montana	MT	Recommended		1,068,778	\$50	0.2%				The state has no official policy, but Governor Bullock has encouraged the use of masks
29. North Carolina	NC	Strongly Required	5/26/2020	10,486,264	\$564	2.7%				EO 141 requires masks for employees and customers in a wide range of businesses and facilities, including restaurants, retail businesses, and transportation services. Masks have also been required for personal care
30. North Dakota	ND	Partially Required	5/1/2020	782,062	\$66	0.3%				Accommodation businesses, employees and clients in customer areas "to the extent possible," other employees and individuals are encouraged to wear masks (51), this is somewhat lax relative to other "strictly required"
31. Nebraska	NE	No policy		1,924,428	\$124	0.6%				Required for employees and customers at personal care services, strongly encouraged for employees at restaurants, and elsewhere
32. New Hampshire	NH	Partially Required	5/11/2020	1,353,711	\$94	0.4%				Masks required in court. Also required for both customers & employees in retail businesses and personal care services, as well as other essential services/operations
33. New Jersey	NJ	Strongly Required	4/10/2020	8,882,180	\$622	3.0%				State employees/businesses required to wear masks; businesses must provide employees with PPE; mask requirements later were extended to transit services, as well as to construction and agriculture
34. New Mexico	NM	Strongly Required	5/19/2020	2,066,829	\$100	0.5%				All people required to wear masks in public; employees at retail businesses had already been required to wear masks since May 6
35. Nevada	NV	Strongly Required	5/25/2020	3,083,155	\$169	0.8%				Individuals 10 years and older are required to wear masks in public; businesses must ensure customers use masks. Masks have been required for employees since EO 20-27
36. New York	NY	Strongly Required	4/17/2020	19,453,361	\$1,669	8.1%				Employees must provide masks to employees that come into contact with customers; all people must wear masks in public
37. Ohio	OH	Partially Required	5/1/2020	11,698,100	\$675	3.3%				Required for employees in workplaces; strongly recommended for all others
38. Oklahoma	OK	Partially Required	7/8/2020	3,956,871	\$203	1.0%				No statewide policy, although there are some cities that have recommended or required masks to be worn in public, as well as EO 17
39. Oregon	OR	Strongly Required	5/19/2020	4,217,737	\$240	1.2%				Employees required to wear masks, which employees must provide; all people must wear masks in public transit. Phase 1 of reopening began May 15
40. Pennsylvania	PA	Strongly Required	4/19/2020	12,801,969	\$783	3.8%				Employees required to wear masks, which employees must provide; customers/clients must wear masks when at a business that operates indoors in a confined space
41. Puerto Rico	PR	Strongly Required	5/26/2020	3,193,994	\$101	0.5%				Masks required for every body inside businesses, and, as of more recently, in public places more generally
42. Rhode Island	RI	Strongly Required	5/8/2020	1,059,361	\$61	0.3%				All people required to wear masks in public spaces, both indoors and outdoors. Masks have been required for employees since April 15
43. South Carolina	SC	Recommended	5/9/2020	5,148,714	\$234	1.1%				Encouraging employees to require employees to wear masks, and encouraging the public to wear masks when distance cannot be maintained
44. South Dakota	SD	Recommended		861,659	\$52	0.3%				Recommended to wear masks in public settings where physical distance is difficult to maintain, especially in areas with significant community-based transmission
45. Tennessee	TN	Recommended		6,823,174	\$364	1.8%				All individuals encouraged to wear masks when at work or in public
46. Texas	TX	Strongly Required	7/3/2020	29,956,881	\$1,803	8.5%				EO 20-28 requires personnel of businesses to wear masks when those businesses are open to the public. Buildings/venues that are "open to the public" if a six-foot distance cannot be maintained. Prior to this EO, masks
47. Utah	UT	Partially Required	5/1/2020	3,235,988	\$178	0.9%				Required for all employees, a "strong recommendation" for others
48. Virginia	VA	Strongly Required	5/29/2020	8,535,519	\$533	2.6%				Required for employees; required for patrons or personal care businesses; retail, food services, recreation, businesses, public transportation, government buildings, and any other indoor place where groups of people
49. U.S. Virgin Islands	VI	Recommended		106,977	\$4	0.0%				
50. Vermont	VT	Partially Required	4/17/2020	623,969	\$33	0.2%				Required for employees when in the presence of others, for retail cashiers, a transit/university ("strange guard") is also acceptable. Also required for employees using mass transit beginning June 22; every body is required to wear masks in public spaces such as stores, offices, and restaurants where a physical distance cannot be maintained. Employees have had to wear masks since June 6
51. Washington	WA	Strongly Required	5/29/2020	7,514,883	\$566	2.7%				Suggests wearing a cloth face cover when outside the home or conducting errands is a "strong recommendation" if a person is in a setting that makes the matter seem less urgent/dangerous than most other states' recommendations
52. Wisconsin	WI	Recommended		5,822,434	\$336	1.6%				As part of its "Vigilant Reopening Plan" which began on April 30, employees of businesses, personal care services, and other businesses, are required to wear masks
53. West Virginia	WV	Partially Required	4/30/2020	1,792,147	\$77	0.4%				Since May 1, employees of businesses, such as gyms and personal care services, are required to wear masks. Some applies to restaurants, which opened on May 15
54. Wyoming	WY	Partially Required	5/1/2020	578,759	\$28	0.2%				

NOTES:
This spreadsheet details state policies, not county (or) policies - even if a state's policies are loose, it's possible that some areas within the state have a strict policy.
"Mask" is used interchangeably with "face covering" here, even though technically speaking, there is a distinct between the two.
"EO" refers to an executive order from the state's governor.
For many of the states listed as "recommended" there is no date because there was no official order. For example, a recommendation might have simply been posted on the state's website.
There is a gray line between "no policy" and "recommended", as even the states that are listed as "recommended" technically don't have a policy in enforcing masks, and masks generally have been acknowledged in some manner the "no policy" states.
"Recommended" means that the governor specifically encouraged mask usage in a statement; the states use other specifically recommended mask usage, or that order uses relaxed encouraging mask usage.
"Required" means that the masks are mandated for businesses/employees.
"Strongly Required" is highlighted in red; the requirement apply both to the employees, there may be mask requirements for customers, or for individuals in public spaces more generally.

POINT #3: New UK study of Diamond Princess --> "recirculated air" thus, Masks > Social Distance

UK study of Diamond Princess passengers: sharing cabins did not increase infection rates, suggest "recirculating air" risk > "contaminated surface" risk

One of the reasons we are discussing masks today, is a recent UK study (found on MedRxiv) on the Diamond Princess caught our eye. This is a study of the Diamond Princess coronavirus outbreak. The outbreak on that ship was unique because passengers were quarantined for several weeks and thus, the spread of the infection during that time could be traced fairly carefully.

The researchers wanted to answer a simple premise:

- was risk of infection greater if someone shared or later occupied a cabin with an "infected" person?

Intuitively, we should say 100% yes. But this is not what the study found.



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Air recirculation role in the infection with COVID-19, lessons learned from Diamond Princess cruise ship

Orouba Almilaji, Peter Thomas

doi: <https://doi.org/10.1101/2020.07.08.20148775>

This article is a preprint and has not been certified by peer review [what does this mean?]. It reports new medical research that has yet to be evaluated and so should not be used to guide clinical practice.

<https://www.medrxiv.org/content/10.1101/2020.07.08.20148775v1>

Infection risk was not greater in a cabin previously occupied by a confirmed case...

Their finding is that infection rates (SIRR) in cabins with prior infected (CC) was not significantly higher than cabins without prior CC.

- This is surprising but also interesting.

Discussion

Results showed that SIRR in cabins with previously CC was not significantly higher than that in cabins without previously CCs during the whole QP. No evidence was found to conclude that SIRR in the cabins with previously CC was not significantly higher than that in cabins without previously CC on and after the median QP day. Results showed also that the counts of symptomatic cases were not dependent on age. Accordingly, a hypothetical difference in age distributions among the cabins cannot explain these results.

Translation

**“Infection rate” similar:
those in cabin with prior “infected” vs
those in cabin with no prior “infected”**

<https://www.medrxiv.org/content/10.1101/2020.07.08.20148775v1>

Fox Run Senior Living Facility in Novi, had 13 cases, and most were cases of only one spouse getting infected...

This conclusion actually matches what my father (in Michigan) about Fox Run, a senior living facility in Novi, MI. Of the 13 known cases, only one involved both spouses catching COVID-19.

The authors' conclusion is that "recirculating" air might be the bigger risk and thus, social distance doesn't help = mask usage

The authors conclusion is that physical distance doesn't help if the air is re-circulating. This is similar to the study we cited yesterday regarding getting fresh air. And that ventilation systems are an issue for:

- restaurants
- hospitals
- nursing homes
- gyms
- offices
- schools
- prisons

Conclusion

There is accumulating evidence of COVID-19 spreading widely in confined settings such as restaurants, hospitals, care homes, shops, gyms, public transport, offices, schools, prisons, etc. Ventilation system design, filters, and upgrades; natural ventilation (just using outside air and not recirculating it); and airflow (direction/speed) should be all considered and evaluated when deciding what intervention measure(s) is appropriate to reduce exposure and limit the transmission of COVID-19 in a confined setting. Keeping 2 meters distance between customers in a shop, for instance, is not an effective measure without considering the air flow inside the shop. Asking older people to self-isolate inside their rooms in a care home is not an effective measure if the ventilation system in the care home does not have highly-efficient filters. Advising workers to observe distancing is not enough if the air inside the workspace is kept recirculated.

<https://www.medrxiv.org/content/10.1101/2020.07.08.20148775v1>

You get the picture.

Basically, as the economy re-opens, being "indoors" has to be re-engineered from a facility perspective. This is capital investment and actually positive for cyclicals (HVAC, etc.).

Moreover, this makes the logic of using masks indoors even more relevant. Masks are our own personal filtration systems, to an extent.

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