



TRENDS-in-MEDICINE

BULLETIN: UPDATE ON CORONAVIRUS 3/25

March 25, 2020
by Lynne Peterson

Be careful, be safe, and be well.

There continues to be an overwhelming amount of news related to the SARS-CoV-2 virus and the disease it causes. Here are the latest highlights. Our charts have been moved to Page 5, and we've added two new charts on Page 6 to help track whether the curve is flattening.

Tidbits

- A \$2.2 trillion **economic relief/stimulus bill** – the CARES (Coronavirus Aid, Relief, and Economic Security) Act – was passed unanimously (96-0) by the Senate. There are things in it that Democrats don't like, and other things Republicans don't like, but they all bit the bullet and made the vote bipartisan. Now, it needs to get through the House, which is expected to vote on March 27. (*See page 5 for details of this bill.*) President Trump said if this is not enough, he'll seek more money.
- **Treasury bill yields** for 1-month and 3-month notes are now *negative*. That means you lose money buying the bond.
- **President Trump and other White House officials/experts:**
 - Added new states that have been declared disaster areas, so the list is now: California, Florida, Iowa, Louisiana, New York, North Carolina, Texas, and Washington.
 - Asked if he would ban the export of medical equipment, he said No, and was strongly critical of European rules that keep American equipment out of the European Union, an issue which he suggested will be on his agenda in the future, not now.
 - In an appeal to younger people to protect seniors and other at-risk people, Ambassador Deborah Birx, MD, the White House Coronavirus Response Coordinator, told a very personal story about her grandmother who was haunted all her life because she innocently brought home the 1918 flu from school, and it killed her mother.
 - Anthony Fauci, MD, director of the National Institute for Allergy and Infectious Diseases (NIAID), said:
 - ✓ He found it particularly striking that when China got its outbreak controlled, and travel restrictions were relaxed, they started to see new cases imported, adding, "We have to remember that we don't want to import cases."
 - ✓ SARS-CoV-2 "very well might" be a seasonal cyclic thing, "We are starting to see it in the Southern Hemisphere – Africa is having cases appearing as they go into the winter season. If, in fact, they have a substantial outbreak, then we will need to be prepared. We will get a second cycle...That totally emphasizes the need to develop a vaccine, testing it quickly, and trying to get it ready for the next cycle."

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- **California** – Gov. Gavin Newsom said half the confirmed cases in his state are people age 18-49, not seniors!
 - **Florida**
 - Miami has had 400 cases but no deaths.
 - Two **cruise ships**, Carnival/Costa Cruises' Costa Favolosa and Costa Magica, are scheduled to dock in Miami on March 26 with nearly 2,000 crew members but no passengers. That is because the passengers disembarked in Miami earlier this month, without being screened for Covid-19, and immediately flew to their home cities/countries. The problem is at least six of those passengers turned out to be Covid-19 positive. Now, at least 30 members of the crew are suspected to have Covid-19. The U.S. Coast Guard said it is prepared to handle the ships. They didn't say how.
 - Gov. Ron DeSantis again expressed concern about **travelers** potentially bringing Covid-19 to Florida. On March 24, he ordered people coming to Florida from the New York metropolitan area to self-isolate for 14 days. On March 25, he sent the National Guard to the Miami and Ft. Lauderdale airports, with plans to expand a military presence at other Florida airports in the future. At a press conference, he said, "People are just getting out of Dodge [aka New York]. I know Florida's probably the number one destination, but we're probably not the only destination for people fleeing New York...You can't get a flight from Milan to Florida. You can't get a flight from China to Florida or anywhere in the country. But somehow you can just do 200 flights, direct flights, into the various parts of Florida from a hotspot that's much more significant right now than Milan or China...So, we've got to take precautions here."
 - **New York** – Gov. Andrew Cuomo said:
 - The Covid-19 trajectory in his state is still going up and has not hit the apex, which is expected in 21 days.
 - 12%-15% of people who test positive require hospitalization, 3% of positive patients are in an intensive care unit (ICU). This suggests that 20%-25% of positives will require an ICU and a ventilator.
 - The rate of hospitalizations has been doubling faster and faster: every two days on Sunday (March 22), every 3.4 days on Monday, every 4.7 days on Tuesday.
 - They have been organizing a "surge healthcare force," and so far 2,265 physicians have signed up.
 - He proposed moving resources from other parts of the country to New York, and then after the apex passes, redeploying them to the next hotspot – a rolling deployment.
 - Why is New York the hotspot? He offered two reasons: (1) because there are so many international travelers, and (2) because the population is so dense.
 - **Centers for Disease Control and Prevention (CDC)** – In the early days of the coronavirus outbreak – and in other outbreaks (e.g. EVALI, ebola) – the CDC conducted regular press teleconferences that allowed reporters to ask questions. With coronavirus, medical reporters were very, very rarely allowed to ask questions; that was limited to consumer press. Even *BuzzFeed* was able to ask more questions than medical reporters. However, those CDC briefings have stopped, and CDC officials rarely participate in the daily White House Coronavirus Task Force briefings, where, again, the medical press – *WebMD*, *MedPage Today*, *BreakingMed.org*, *Medscape*, *Trends-in-Medicine*, etc. – are not present.
 - **Hospital beds** – When acute care hospitals run out of beds because of Covid-19, sending patients to children's hospitals may not be an option. New guidelines from the Children's Hospital Association (CHA) do **not** recommend that its 200 members accept adult patients even if general acute care hospitals become overwhelmed with Covid-19 patients. The concern is that adults cannot safely be treated in children's hospitals. Instead, CHA recommends the acute care hospitals send children and adolescents to their facilities, freeing beds in the acute care hospitals for more adults.
 - **Physician shortage** – The American Medical Association (AMA) urged the State Department to help expand the physicians available to treat Covid-19 by easing visa processing for international physicians. In a [letter](#) to Sec. of State Mike Pompeo and Acting Sec. of Homeland Security Chad Wolf, the AMA called for opening visa processing at embassies and consulates
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worldwide for physicians seeking to join U.S. residency programs starting in July. The AMA also urged public confirmation that J-1 physicians are permitted to be redeployed to new rotations.

- **Is the mail safe?** Probably, but.... The U.S. Postal Service website says the only mail items receiving treatment are letters and parcels sent to zipcodes starting with 202, 203, 204 and 205 – Federal government agency zipcodes in Washington, DC. Mail to those zipcodes are put on a conveyor belt, passed under a high-energy beam of ionizing radiation that kills bacteria and viruses, aired out for a while, and only then forwarded to their destination.

Former FDA Commissioner Scott Gottlieb, MD, warned that SARS-CoV-2 can be transmitted by contaminated objects, “This is a sticky virus.” However, the Surgeon General, the CDC, and the World Health Organization (WHO) all have said there is no evidence that the virus is being spread through the mail.

Medical supplies

A new survey, conducted by Premier from March 16-20, 2020, on hospital preparedness for Covid-19 got responses from ~260 health systems, representing ~990 acute care facilities (20% of the country’s total hospitals). The survey found:

- 41% said they have treated at least 1 confirmed **Covid-19 patient** at their facility.
- 97% have implement at least 1 **conservation protocol** related to personal protective equipment (PPE).
- **N95 respirators** – A shortage of these masks was the top concern. 39% of respondents said their hospital has >1,000 N95s on hand, and 23% said they are using >100/day, which suggests a 10-day supply. Response to conservation recommendations could be improved: N95 masks are being re-used by 40% of hospitals, while 33% are using expired N95s, and 60% are extending wear.
- **Hand sanitizers** – This is the second most concerning shortage for respondents, with 64% reporting a current shortage and another 25% having a <2 week supply.
- **Surgical masks** – A shortage of these masks was the third most concerning issue. 56% of respondents said they had >1,000 on hand, and 26% said they go through that amount every day, which suggests they generally have just a one-day supply – or less.
- **Viral swabs** – This is a critical shortage. 60% said they have <250 swabs on hand. This shortage is largely a result of one of the top manufacturers being in Italy. However, the U.S. Air Force has committed to providing shipments of the swabs, so this shortage may be getting resolved.
- **Ventilators** – 20% of responders said they need additional ventilators immediately. Before needing additional ventilators, ~27% said they could accept 1-5 patients, ~24% could handle 6-10 more patients, and 30% could handle ≥11 patients.
- **Isolation gowns** – 50% of respondents said they have >1,000 gowns on hand, but 25% use that many each day, and 17% said they have <250 gowns available.

Treatment

- **Gilead Sciences’ remdesivir.** Consider this lesson in how not to behave amid the coronavirus pandemic: First, Gilead files an application in early March 2020 with the FDA seeking orphan drug status for this antiviral to treat Covid-19. Then, on March 23 the FDA granted orphan drug status. How did that look? Not very good.

However, Public Citizen, joined by 50 other groups, [wrote](#) to the company demanding it relinquish its monopoly on remdesivir, noting, “COVID-19 is anything but a rare disease...Calling COVID-19 a rare disease mocks people’s suffering and exploits a loophole in the law to profiteer off a deadly pandemic...Making the claim to special orphan status even more outrageous is the fact that the public already has largely paid for remdesivir’s development through at least \$60 million in grants and innumerable contributions from federal scientists...America, and the world, has the right to expect better from Gilead.”

It seems Gilead got the message, and the company asked the FDA to rescind the orphan drug designation and said it was waiving all benefits that accompany the designation. However, it did not give up its patent rights.

- **Hydroxychloroquine** – A small (30-patient) Chinese [study](#), published in the *Journal of Zhejiang University*, compared standard of care ± hydroxychloroquine to standard of care alone in Covid-19 patients and found no benefit to hydroxychloroquine. After a week, negative tests were reported for 13 hydroxychloroquine patients vs. 14 patients without the drug. One patient developed severe disease, a hydroxychloroquine patient. *However, the hydroxychloroquine was not given with the antibiotic azithromycin, which is the protocol being tested in the U.S.* The Chinese investigators said a large trial is needed for a definitive answer.
- **Anti-IL-6** – e.g., Roche’s Actemra (tocilizumab) and Regeneron Pharmaceuticals and Sanofi’s Kevzara (sarilumab) – The Society for Immunotherapy of Cancer ([SITC](#)) is urging pharmas, regulators, and institutional review boards (IRBs) to work together to expand access to these agents to treat critically-ill Covid-19 patients. SITC is also calling for all Covid-19-related research to be made [open-access](#) across all biomedical journals.
- **Stockpiling** – The AMA, the American Society of Health-System Pharmacists (ASHP), and the American Pharmacists Association jointly issued a [statement](#) on inappropriate ordering, prescribing, and dispensing of drugs to treat Covid-19 – e.g. chloroquine, hydroxychloroquine, and azithromycin). The concern is:
 - a. Doctors prescribing for themselves, their families, or their colleagues.
 - b. Pharmacies and hospitals purchasing excessive amounts in anticipation of use.

The medical groups said flatly, “We strongly oppose these actions. We collectively support state and federal requirements that direct a prescription must be written only for a legitimate medical purpose. We also strongly support a pharmacist’s professional responsibility to make reasonable inquiries to a prescriber to resolve any questions about a prescription. If a prescription is not for a legitimate medical purpose, it should not be written, and it should not be dispensed.”

- **Do not resuscitate (DNR)** – According to an article in the *Washington Post*, hospitals around the country are privately debating whether or not to adopt a universal DNR policy for Covid-19 patients who stop breathing or whose heart stops. Should they use a “save at all costs” approach to resuscitating a dying patient given the danger of exposing doctors and nurses to such a contagious disease, especially with a shortage of PPE, even if the patient/family want that approach? According to the article:
 - Northwestern Memorial Hospital in Chicago asked the governor of Illinois for help in clarifying state law and whether it permits the policy shift.
 - George Washington University Hospital in Washington DC has discussed this but, for now, will continue to resuscitate Covid-19 patients – but will use modified procedures (e.g., putting plastic sheeting over the patient to create a barrier).
 - University of Washington Medical Center in Seattle is severely limiting the number of responders to a contagious patient in cardiac or respiratory arrest.
 - Several large hospital systems – e.g., Atrium Health in the Carolinas, Geisinger in Pennsylvania, and regional Kaiser Permanente networks – reportedly are looking at guidelines that would allow doctors to override the wishes of the Covid-19 patient or family members on a case-by-case basis.

There is also a discussion going on about performing certain procedures on Covid-19 patients – endoscopies, bronchoscopies, and other procedures in which tubes/cameras are passed down the throat, because they can send virus-laced droplets from the patient across the room. Changing or eliminating those protocols could decrease a patient’s chance for survival.

Vaccines

One of the big questions about a coronavirus vaccine has been whether it would be a one-time vaccine like measles or an annual vaccine that requires yearly tweaking like the influenza vaccine. A Johns Hopkins University School of Medicine researcher said the virus does not appear to be mutating significantly, which suggests a single vaccine might last for years.

Stimulus Bill details

Among the provisions of the bill, as passed by the Senate:

- Direct payments of \$1,200 to people who make <\$75,000/year (\$150,000 per couple) – plus \$500 per child.
- Strengthens unemployment insurance – with an additional \$600 per worker for up to 13 weeks – over and above regular state benefits. And the self-employed and independent contractors would be eligible.
- \$117 billion for hospitals and veterans' healthcare, \$16 billion for the Strategic National Stockpile, and \$350 billion in loan guarantees for small businesses.
- \$3.8 billion for New York, of which \$1.3 billion is for New York City.
- \$25 billion in grants to airlines and \$4 billion to cargo carriers exclusively to pay employees.
- A tax credit for retaining employees.
- Requires health plans to cover preventive services related to Covid-19 – without cost sharing.
- Bans stock buy backs with government loan money until a year after the loan is paid back.
- Bars President Trump and his family, Vice President Mike Pence, cabinet members, and members of Congress and their families from benefiting from this stimulus.
- Suspends federal student loan payments through September 30, 2020, and waives the interest during that period.

Worldwide Covid-19 Statistics						
Country	As of March 18			As of March 25 (1 week)		
	Cases	Deaths	Fatality rate	Cases	Deaths	Fatality rate
Worldwide	217,242	8,704	4.0%	470,973	21,287	4.5%
China	81,137	3,130	3.9%	81,667	3,285	4.0%
Italy	35,713	2,978	8.3%	74,386	7,503	10.1%
U.S.	9,249	145	1.6%	68,960	1,041	1.5%
Spain	13,176	638	4.8%	49,515	3,647	7.4%
Germany	12,327	28	0.2%	37,323	206	0.6%
Iran	17,061	1,135	6.7%	27,017	2,077	7.7%
U.K.	>2,600	104	4.0%	9,640	466	4.8%

Source: <https://coronavirus.jhu.edu/map.html>

U.S. Covid-19 Statistics						
State	As of March 18			As of March 25		
	Cases	Deaths	Fatality rate	Cases	Deaths	Fatality rate
New York *	2,382	12	0.05%	30,811*	285	0.9%
New Jersey	427	5	1.2%	4,402	62	1.2%
Washington	1,012	52	5.1%	2,469	123	5.0%
California	611	13	2.1%	2,102 †	40	1.9%
Michigan	80	0	0	2,294	43	1.3%
Illinois	289	1	0.3%	1,884	19	1.0%
Florida	314	7	2.2%	1,682	22	1.3%
Louisiana	240	6	2.5%	1,795	65	3.3%
Massachusetts	256	0	0	1,838	15	0.7%

Source: <https://covidtracking.com/data/>

* New York City ~58% of cases † California, no increase in cases from previous day

Watching for When the Coronavirus Curve Flattens (Additional cases each day, not total cases) *				
Location	March 23	March 24	March 25	March 26
Worldwide	45,321	36,289	53,391	tba
China	107	77	76	tba
Italy	4,789	5,249	5,210	tba
U.S.	13,056	7,328	14,912	tba
New York	6,521	6,976	5,146	tba

* This is the metric that Dr. Birx said to watch.

Death Toll Increases (Additional deaths, not total deaths)				
Location	March 23	March 24	March 25	March 26
Worldwide	1,940	2,040	2,664	tba
China	107	7	4	tba
Italy	601	743	683	tba
U.S.	193	93	328	tba
New York	43	53	75	tba

Unanswered questions *(Items will remain on this list until answered.)*

- ? What do we know about Covid-19 patients who are put on a ventilator and recover?
- ? Are there long-term effects from getting Covid-19, even mild Covid-19? Will there be long-lasting lung abnormalities or pulmonary fibrosis?
- ? Will companies that have boosted production of medical supplies, particularly big-ticket items like ventilators get caught at the end of this with products that have no buyers – unsold inventory?
- ? Can people get Covid-19 more than once? There are still conflicting reports on this.
- ? Is the blood supply safe? This question looked like it was answered with a Yes, but that may not be true.
- ? New York City projections: The projection numbers just don't seem to add. Why? (See Coronavirus Update for March 24 for details.)

