



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

National Institutes of Health  
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Via Email: [chuck@dcnf.org](mailto:chuck@dcnf.org)

June 23, 2021

Chuck Ross  
The Daily Caller  
22110 W. 52<sup>nd</sup> Street  
Shawnee, KS 66226

Re: NIH FOIA Case No.: 53853; Daily Caller v. HHS, Case No. 20-cv-1149 (DLF) (D.D.C.)

Dear Mr. Ross:

This is a partial response to the Freedom of Information Act (FOIA) request that is the subject of the complaint filed in *Daily Caller v. HHS*, 20-cv-1149, now pending in the U.S. District Court for the District of Columbia. Your FOIA request, dated April 1, 2020, was received by the National Institutes of Allergy and Infectious Diseases (NIAID) on the same day.

You requested communications of Dr. Anthony Fauci and Dr. H. Clifford Lane that either 1) include a World Health Organization official and concern the novel coronavirus, or 2) discuss the World Health Organization or certain of its officials, as well as China and the novel coronavirus. You requested these communications from January 1, 2020 to April 1, 2020.

In accordance with the Court's order dated September 22, 2020, we have processed 311 pages of responsive records this month. The information being withheld is protected from release pursuant to Exemptions 4, 5, and 6 of the FOIA, 5 U.S.C. § 552 (b)(4), (b)(5) and (b)(6); and sections 5.31(d), (e) and (f) of the HHS FOIA Regulations, 45 CFR Part 5. Exemption 4 protects from disclosure trade secrets and commercial or financial information that is privileged and confidential. Exemption 5 permits the withholding of internal government records which are predecisional and contain staff advice, opinion, and recommendations. This exemption is intended to preserve free and candid internal dialogue leading to decision-making. Exemption 6 exempts from disclosure records the release of which would cause a clearly unwarranted invasion of personal privacy.

Please direct any questions regarding this response to James Bickford of the Department of Justice, who can be reached at [James.Bickford@usdoj.gov](mailto:James.Bickford@usdoj.gov), or (202) 305-7632.

Sincerely,

*for* Gorka Garcia-Malene  
Freedom of Information Act Officer, NIH

**From:** Billet, Courtney (NIH/NIAID) [E]  
**Sent:** Wed, 19 Feb 2020 19:32:28 +0000  
**To:** Fauci, Anthony (NIH/NIAID) [E]  
**Cc:** Folkers, Greg (NIH/NIAID) [E]; Conrad, Patricia (NIH/NIAID) [E]  
**Subject:** FW: Atlantic article

Did not quote you.

## POLITICS

# The Coronavirus Outbreak Could Bring Out the Worst in Trump

Virology isn't politics.

PETER NICHOLAS  
FEBRUARY 18, 2020

When a senior White House aide would brief President Donald Trump in 2018 about an Ebola-virus outbreak in central Africa, it was plainly evident that hardships roiling a far-flung part of the world didn't command his attention. He was zoning out. "It was like talking to a wall," a person familiar with the matter told me.

Now a new coronavirus that originated in China is confronting him with a potential pandemic, a problem that Trump seems ill-prepared to meet. A crisis that is heading into its third month could draw out every personal and managerial failing that the president has shown to this point. Much of what he's said publicly about the virus has been wrong, a consequence of downplaying any troubles on his watch. He has long stoked fears that foreigners entering the United States bring disease. Now he may double down on xenophobic suspicions. He has hollowed out federal agencies and belittled expertise, prioritizing instead his own intuition and the demands of



his political base. But he'll need to rely on a bureaucracy he's maligned to stop the virus's spread.

“We have a president who doesn't particularly care about competent administration, and who created a culture in which bad news is shut down,” says Democratic Senator Brian Schatz of Hawaii, whose state is home to one of multiple airports screening passengers for the coronavirus. “And when you're dealing with a potential pandemic, you need to know all the bad news. If this disease ends up not overwhelming us, that would be a blessing. But it would not be because the Trump administration was ready. They were not.”

From the first, Trump has offered false reassurance. In a CNBC interview at the World Economic Forum in Davos, Switzerland, last month, Trump maintained that the coronavirus was “totally under control” and that he wasn't concerned about the risk of a pandemic. “It's going to be just fine,” he said.

Except that it wasn't under control—it still isn't—and no one knows just how bad it will be. “Even a middle schooler wouldn't have said that,” Michael Mina, an epidemiology professor at Harvard's School of Public Health, told me. “Everyone is using caution in how we're framing what the risk is, primarily because we don't understand what the risk is at this moment. The last thing anyone would say is, ‘We're not concerned.’ Everyone is concerned.”

*Read: The new coronavirus is a truly modern epidemic*

Since Trump's first upbeat assessment, the number of people sickened by the virus has spiraled. At the time of the CNBC interview, 17 people in China had died from the virus and about 540 were infected. Today, the death toll is about 1,900 and the number of infections tops 73,000. At least 15 cases have been reported in the U.S., and an additional 14 Americans infected with the virus arrived yesterday following their evacuation from a cruise ship in Japan.

Much about the virus is still unknown, but you wouldn't know that listening to Trump. Speaking to the nation's governors at a conference last week, the



president said it would dissipate when the weather turns warm. “Typically, that will go away in April,” Trump said. In fact, no one knows when the outbreak will subside, and what experts have said conflicts with Trump’s Panglossian assurances. Last week, Centers for Disease Control and Prevention officials said the virus could linger into next year and eventually establish a “foothold” in the U.S.

Guiding Trump’s response is a hardheaded nationalism. On January 31, the administration announced strict travel bans: Most foreign nationals who’d recently been to China were barred from entering the U.S., and Americans were warned to stay clear of the country. These measures—which career public-health officials argued were needed to delay the virus’s spread—broke with guidance from the World Health Organization, which did not recommend curbs on travel or trade. The restrictions did, however, reflect the alarm coming from Trump’s base.

Inside the administration, some officials maintain that China has not shown needed cooperation or transparency as the virus has spread. “This has been a signal failure of the Communist Chinese Party in handling the crisis,” Peter Navarro, a senior Trump trade adviser who is part of the administration’s effort to combat the outbreak, told me. “The CCP suppressed information early to both the U.S. and Chinese people. This delay allowed the virus to proliferate much faster than it otherwise would and reach other countries that it might otherwise have not.”

But critics from WHO and elsewhere have said the bans are unnecessary and could generate a racist backlash against Chinese people. One Chinese foreign official asked of the U.S.: “Where is its empathy?”

Empathy may be a casualty of Trump’s own phobias: He is squeamish about contagion. A body man traveling with him would make sure that two implements were always in his possession: a Sharpie for autographs and hand sanitizer for germs, said a former White House official, who like others I talked with for this story spoke on the condition of anonymity. Aides would try to suppress coughs in his presence. If they couldn’t stifle repeated sneezes, Trump might order them to leave his presence. “He never said, ‘Go home.’ He just didn’t want them anywhere near him,” the ex-official told me.



When an Ebola epidemic struck in 2014, Trump was unnerved. For months, he sent dire messages with a common theme: Keep the virus out of the U.S. at all costs. He faulted then-President Barack Obama for sending troops to Africa to combat it, and chided him for playing golf amid the outbreak. (A couple of weeks ago, with the number of coronavirus infections piling up, Trump didn't hesitate to release a picture of himself teeing off at his golf club in West Palm Beach, Florida.)

So determined was he to keep Ebola from coming into the U.S., Trump wanted to keep Americans out. A doctor named Kent Brantly had gone to Liberia to treat Ebola patients and became infected. His life in jeopardy, he was airlifted to a hospital in Atlanta. Trump was watching; he didn't believe that Brantly should be allowed back home for treatment. "The U.S. cannot allow EBOLA infected people back. People that go to far away places to help out are great—but must suffer the consequences!" he tweeted.

Brantly ultimately recovered. I contacted him recently and asked him about Trump's hard-line stance. In an email, he didn't mention the president, but wrote that "we MUST choose compassion over fear. We must choose to respond to people (even in deadly outbreaks of infectious diseases) with actions and words and attitudes that convey compassion and uphold the dignity of our fellow human beings."

Before long, Trump was running for president on an anti-immigrant platform. One message he pushed was that immigrants carry contagion. In 2015, he put out a statement warning that "tremendous infectious disease is pouring across the border," a claim unsupported by fact.

Should the coronavirus outbreak spread in the U.S., it could pose the biggest test yet of Trump's managerial competence, given his habit of elevating his own judgment over expert opinion, as I've described before.

He has said he knows more about terrorists than the generals, more about social media than Facebook, more about the economy than the Federal Reserve. In 2014, he suggested that he understands disease better than epidemiologists, saying that "Ebola is much easier to transmit than the CDC and government representatives are admitting."



Amid the outbreak that year, Obama tapped a so-called czar, Ron Klain, to coordinate the work of a slew of federal agencies. Trump has chosen a different model, setting up a 12-member task force headed by a Cabinet member, Alex Azar, the secretary of health and human services. The task force has proved balky, say Schatz and his colleague Senator Mazie Hirono, who is also a Hawaii Democrat: Without a single point person in command, there's a pass-the-buck mentality that has made getting answers difficult. Hirono says that she gets "conflicting information" about how people will be quarantined and who will foot the bill. "When we call [Azar's] office, they usually have to refer us to other agencies," she told me. "One of the ways we can change this lack of communication is to have one person in charge. We have a model for that: the Ebola epidemic in 2014."

For his part, Navarro said the administration's response has been effective. "The U.S. effort is going to be a model effort in fighting an infectious disease like this," he told me.

At times, Trump has seemed at odds with his own team. That may have something to do with diverging priorities. He has sought to preserve a relationship with Chinese President Xi Jinping as the two spar over trade issues. Throughout the crisis, he's heaped praise on Xi, but what he hasn't mentioned is a profound source of frustration for his own coronavirus task force: Chinese leaders have been slow in letting the U.S. in to help.

Here, it might be helpful if Trump had maintained a strong diplomatic corps to smooth negotiations. But morale at the State Department has suffered in the "America first" era, with the president attempting to cut the department's budget and leaving key positions unfilled. William Burns, a former deputy secretary of state who spent more than 30 years as a diplomat and who retired in 2014, told me: "The sidelining of career expertise over the last three years puts you at a disadvantage in dealing with crises and big challenges like this one."

Trump insists on being the protagonist in every drama. He wants to promote the idea that everything on his watch is improving. Virology isn't politics, though. Tweets don't beget vaccines. Following his instincts in the face of an outbreak that has left the world on edge risks making things worse.



*We want to hear what you think about this article. Submit a letter to the editor or write to [letters@theatlantic.com](mailto:letters@theatlantic.com).*

**From:** Folkers, Greg (NIH/NIAID) [E]  
**Sent:** Tue, 11 Feb 2020 14:21:40 +0000  
**To:** Undisclosed recipients:  
**Subject:** Opening remarks made by WHO Director-General Dr Tedros Adhanom Ghebreyesus at the beginning of the Research and innovation forum on novel coronavirus

*Dear journalists,*

*Please find below the opening remarks made by WHO Director-General Dr Tedros Adhanom Ghebreyesus at the beginning of the Research and innovation forum on novel coronavirus 2019 that started this morning at WHQ HQ, Geneva, Switzerland:*

Good morning everybody.

First of all, I would like to wish you all a very warm welcome to Geneva and to WHO for this very important meeting.

A very special thanks to our chairs, especially Marie-Paule Kieny, Jeremy Farrar, Nisia Lima and my brother Chikwe.

And I would like to welcome everyone who is joining us virtually, especially our sisters and brothers in China. We're really sorry you can't be with us today. We want you to know that we stand with you in solidarity, and we wish you courage, patience, success and good health in these extremely trying circumstances.

It's hard to believe that just two months ago, this virus – which has come to captivate the attention of media, financial markets, and political leaders – was completely unknown to us.

As of 6am Geneva time this morning, there were 42,708 confirmed cases reported in China, and tragically we have now surpassed 1000 deaths - 1017 people in China have lost their lives to this outbreak.

Outside China, there are 393 cases in 24 countries, with 1 death, in the Philippines.

With 99% of cases in China, this remains very much an emergency for that country, but one that holds a very grave threat for the rest of the world. Unless we use the window of opportunity that we have now.

This outbreak is testing us in many ways.

It's a test of political solidarity – whether the world can come together to fight a common enemy that does not respect borders or ideologies.

It's a test of financial solidarity – whether the world will invest now in fighting this outbreak, or pay more later to deal with its consequences.

And it's a test of scientific solidarity – will the world come together to find shared answers to shared

problems?

That's why we're here today.

This is not a meeting about politics or money. This is a meeting about science.

We need your collective knowledge, insight and experience to answer the questions we don't have answers to, and to identify the questions we may not even realize we need to ask.

There is still so much we don't know.

What are the reservoirs?

What are the transmission dynamics?

What is the period of infectiousness?

Which samples should be used for diagnosis and monitoring of treatment?

What is the best way to manage cases of severe disease?

What ethical issues we need to be aware of in the way we do our research?

To defeat this outbreak, we need answers to all those questions, and more.

There are also tools we don't have. We have no vaccine to prevent infections, and no proven therapeutics to treat them.

Following the West African Ebola outbreak, we developed the WHO R&D Blueprint – a strategy for developing drugs and vaccines before epidemics, and accelerating research and development activities during epidemics.

We're actually very privileged to have Marie-Paule Kieny here with me, with us, as one of the architects of the R&D Blueprint. Thank you so much.

We activated the R&D Blueprint team in early January to coordinate and facilitate information-sharing on research elements of the response.

The R&D Blueprint identifies several known pathogens as priorities for research, but also includes scenarios for "pathogen x" – a previously unknown pathogen exactly like the one we are dealing with now.

We would like to especially thank the Global Research Collaboration for Infectious Disease Preparedness, we have here with us, Professor Yazdan, for co-organizing this meeting.

We hope that one of the outcomes of this meeting will be an agreed roadmap for research around which researchers and donors will align.

The bottom line is solidarity, solidarity, solidarity.

That is especially true in relation to sharing of samples and sequences.

To defeat this outbreak, we need open and equitable sharing, according to the principles of fairness and equity.

WHO remains committed to equitable access to health products for populations that need them, and we will work to ensure that access is always part of all R&D efforts.

Publications, patents and profits are not what matters now.

What matters most is stopping the outbreak and saving lives.

With your support, that's what we can do together.

I thank you.

**More information**

[https://www.who.int/news-room/events/detail/2020/02/11/default-calendar/global-research-and-innovation-forum-to-mobilize-international-action-in-response-to-the-novel-coronavirus-\(2019-ncov\)-emergency](https://www.who.int/news-room/events/detail/2020/02/11/default-calendar/global-research-and-innovation-forum-to-mobilize-international-action-in-response-to-the-novel-coronavirus-(2019-ncov)-emergency)

**The draft agenda**

<https://www.who.int/docs/default-source/coronaviruse/global-research-forum-draft-agenda-feb-6.pdf>

Best Regards

WHO Media Team



**From:** Robert Lee  
**Sent:** Tue, 17 Mar 2020 12:42:32 -0400  
**To:** Fauci, Anthony (NIH/NIAID) [E]  
**Subject:** FW: What If We Could Have Mitigated the COVID-19 with the Airlines and at Airports? We have some solutions.  
**Attachments:** Airport Hand Hygiene Improvement Could Mitigate Risk by 70 Journal of Risk Analysis.pdf, Letter to Airlines.pdf  
**Importance:** High

Dear Dr. Fauci,

Here is an email sent to Dr. Verma trying to make contact with the Task Force. Could you help? This should be a requirement for all airlines and airports if we do a bailout of the industry.

We have a whole model to eliminate the weak links in our workflows and system. This is a national security tool.

Help us get an audience.

## Robert P Lee

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**From:** Robert Lee [mailto:robert.lee@hangenixsolutions.com]  
**Sent:** Tuesday, March 17, 2020 12:07 PM  
**To:** (b) (6)  
**Subject:** What If We Could Have Mitigated the COVID-19 with the Airlines and at Airports? We have some solutions.  
**Importance:** High

Dear Dr. Verma,

Here are 2 documents that might be of interest in sharing with the Task Force.

1. Letter to CEO's for airlines advising them as to what they can do from an airline perspective
2. Risk Analysis on airports "Hand Hygiene Mitigation Strategies Against Global Disease Spreading through the Air Transportation Network"

Dr. Verma, we are an emerging company and are experts in the area of "hand hygiene" performance and pathogen migration in high touch environments.

Could you help us get an audience with the Task Force?

Thank you,

# Robert P Lee

Co-Founder / Board Member



HanGenix

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Website: [www.hangenixsolutions.com](http://www.hangenixsolutions.com)

***“Turning Retrospective to Prospective Pathogen and Infection Prevention Managemnt”***

**From:** PATRIOTS AMERICA  
**Sent:** Sun, 15 Mar 2020 18:51:10 +0000  
**To:** Fauci, Anthony (NIH/NIAID) [E]  
**Cc:** contact@victorydonaldtrump.com  
**Subject:** CORONA VIRUS

Dr. Fauci,

**Please explain how the virus was created with four strains of HIV/AIDS ?**

Chloroquine phosphate, an antimalarial drug, is shown to have yielded positive data against COVID-19 associated pneumonia in multicenter clinical trials conducted in China.

Moreover, two other clinical trials were tested potential treatments for the COVID-19 coronavirus and results are expected in 3 weeks. According to WHO Director-General Tedros Adhanom Ghebreyesu, one trial combines HIV drugs Lopinavir and Ritonavir, while the other is testing U.S.-based biotech Gilead Sciences' antiviral Remdesivir.

**Now, ask yourself why they would be using HIV/Aids drugs to treat COVID-19 ?**

They are using HIV / AIDS drugs because there are four strains of HIV in this virus. Look it up if you don't believe me. Next question, how did it get there? Produced in a lab in the United States of America. They increased the "Gain of Function", inserted the Sars spike protein, and four strains of HIV/AIDS !

Also, why would it say "Coronavirus" as the cause of death on a death certificate for a person that supposedly died from vaping long before the outbreak in China happened ? Some say the COVID-19 came from North Carolina and was sold to China.

**THE PATRIOTS**



**From:** Mileur, Claudinne R CTR (USA)  
**Sent:** Thu, 20 Feb 2020 13:35:12 +0000  
**To:** Mileur, Claudinne R CTR (USA)  
**Subject:** COVID-19 SITREP 20 FEB 2020 (View in HTML)

## **(U) COVID-19 SITREP 20 FEB 2020**

FEBRUARY 20, 2020 BY [CLAUDINNE MILEUR](#)

**UNCLASSIFIED**

**Produced by U.S. European Command J2 Open Source Element  
(ECOSE)**

[See our website for more information \(CAC or PIV Required\)](#)

(Website Updated hourly)

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(b) (6)

### **Featured Headlines**

- [S. Korea reports 1st death of coronavirus patient – Yonhap News](#)
- [Iran reports two suspected fatal cases at Qom hospital – BBC](#) ISNA reported the coronavirus deaths in two elderly people on Wednesday, as per The Associated Press. The confirmed cases, which were announced just hours before the news of the deaths was reported, occurred in the central province of Qom. They mark the first cases of COVID-19 in the country.
- [Two Diamond Princess passengers infected with coronavirus die as Japan reports new cases – Japan Times](#) Two elderly passengers from the Diamond Princess cruise ship infected with COVID-19 have died, the health ministry said Thursday, marking the first deaths from the vessel docked at Yokohama port.
- [New coronavirus spreads more like flu than SARS: Chinese study – Reuters](#) Scientists in China who studied nose and throat swabs from 18 patients infected with the new coronavirus say it behaves much more like influenza than other closely related viruses, suggesting it may spread even more easily than previously believed.
- [Fecal Transmission May Be Behind Coronavirus's Rapid Spread – Bloomberg](#)
- [Studies show COVID-19 likely has multiple infection routes – CIDRAP](#)
- [Coronavirus 'spike' protein just mapped, leading way to vaccine – Live Science \[Link to Study\]](#)
- [What's A 'Super-Spreading Event'? And Has It Happened With COVID-19? – NPR](#)
- [How the coronavirus can kill people – Washington Post](#) About 2 percent of those infected are fatal, experts hypothesize that the difference between a lethal



infection and one that feels like a bad cold probably hinges on the interaction between the virus and a person's immune system.

- [Hubei Changes Virus Count Method With Data Mistrust Growing – Bloomberg](#)

## Surveillance

[WHO Dashboard for Coronavirus \(COVID-19\)](#)

[Link to Johns Hopkins CSSE Live Mapping of COVID-19](#)

[EUROPE – Links to individual country health agencies providing information on 2019 nCoV](#)

## World Health Organization (WHO)

- [WHO SITREP #30 FEB 19 2020](#)

Total and new cases in last 24 hours:

1. Globally: 75,204 confirmed (1872 new)
2. China: 74,280 confirmed (1752 new) 2006 deaths (136 new)
3. Outside of China: 924 confirmed (120 new) 25 countries 3 deaths

## China – National Health Commission Update on February 20, 2020

[February 20, 2020](#)

Confirmed cases: 394 new, 74,576 total. Suspected cases: 1,277 new, 4,922 total. Deaths: 114 new, 2,118 total. Recoveries: 1,779 new, 16,155 total.

## European Centre for Disease Prevention and Control (ECDC)

as of [Feb 20, 2022 ECDC](#)

**Africa:** Egypt (1).

**Asia:** China (74 595), Hong Kong (65), Macao (10), Singapore (84), Japan (84), South Korea (82), Thailand (35), Taiwan (24), Malaysia (22), Vietnam (16), United Arab Emirates (9), India (3), Philippines (3), Islamic Republic of Iran (2), Cambodia (1), Nepal (1) and Sri Lanka (1).

**America:** United States (15) and Canada (8).

**Europe:** Germany (16), France (12), United Kingdom (9), Italy (3), Spain (2), Russia (2), Belgium (1), Finland (1), and Sweden (1).

**Oceania:** Australia (15)

**Other:** Cases on an international conveyance (Japan) (621).

CONTINENT	COUNTRY / AREA	CONFIRMED CASES	DEATHS	COMMENTS
Asia	China	74670	2120	Including 62031 cases from Hubei province
Asia	Japan	84	1	
Asia	Singapore	84	0	
Asia	Republic of Korea	82	0	
Asia	Thailand	35	0	
Asia	Taiwan	24	1	
Asia	Malaysia	22	0	
Asia	Vietnam	16	0	
Asia	United Arab Emirates	9	0	
Asia	Philippines	3	1	
Asia	India	3	0	
Asia	Iran (Islamic Republic of)	2	2	
Asia	Sri Lanka	1	0	
Asia	Cambodia	1	0	

CONTINENT	COUNTRY / AREA	CONFIRMED CASES	DEATHS	COMMENTS
Asia	Nepal	1	0	
Other	Cases on an international conveyance Japan	621	2	
Europe	Germany	16	0	
Europe	France	12	1	
Europe	United Kingdom	9	0	
Europe	Italy	3	0	
Europe	Spain	2	0	
Europe	Russia	2	0	
Europe	Sweden	1	0	
Europe	Finland	1	0	
Europe	Belgium	1	0	
America	United States of America	15	0	
America	Canada	8	0	
Oceania	Australia	15	0	
Africa	Egypt	1	0	

CONTINENT COUNTRY / AREA	CONFIRMED CASES	DEATHS	COMMENTS
<b>Total</b>	<b>75,744</b>	<b>2,128</b>	

For comparison, Feb 19 stats:  
Confirmed Cases: 75,192  
Deaths: 2,012

### [U.S. Centers for Disease Control and Prevention \(CDC\)](#)

People under Investigation (PUI) in the United States as of Feb 17

<b>POSITIVE</b>	15
<b>NEGATIVE</b>	392
<b>PENDING§</b>	60
<b>TOTAL</b>	467

### Surveillance Headlines

- [South Korea coronavirus cases surge, majority linked to Daegu church – Reuters](#) Korea's Centres for Disease Control and Prevention (KCDC) reported 53 new cases of the virus on Thursday, following 20 a day earlier, taking the total across the country to 104.
- [Evidence of SARS-CoV-2 Infection in Returning Travelers from Wuhan, China – NEJM](#)
- [EgyptAir to resume flights to China next week despite coronavirus fears – Egypt Independent](#)
- [Egypt: WHO says man with coronavirus in Egypt is recovering, no longer a carrier – Reuters](#)

### Response

#### Travel Advisories

- [Source: US Dept of State](#)
- [U.S. CDC Travel Advisories](#)

### Science and Tech



- [\[Editorial\] Covid-19: a puzzle with many missing pieces – BMJ](#)
- [Hunt For New Coronavirus Treatments Includes Gene-Silencing And Monoclonal Antibodies](#)

## **Zoonotic News**

- [Pakistan's Ministry of Health refutes claim that novel coronavirus was found in chickens – AFP](#) [Editors note] Appears to be disinformation campaign, only posted for awareness that story is out there.
- [To Prevent Next Coronavirus, Stop the Wildlife Trade, Conservationists Say – NYT](#)

## **Antivirals**

## **Vaccine News**

- [Seattle scientists, partners closing in on coronavirus vaccine – KOMO News](#)

## **Published Research**

- [Cryo-EM structure of the 2019-nCoV spike in the prefusion conformation – Science](#)

Pre-Pub (not yet peer reviewed, should not be regarded as conclusive)

## **Infographics for Briefings**

- [How novel coronavirus spread across the world – visual explainer – The Guardian](#)
- [Coronavirus mapped: the latest figures as the outbreak spreads – Financial Times](#)
- [Coronavirus: Everything you need to know in a visual explainer \(updated daily\) – South China Morning Post](#)
- [Visualizing the spread of the coronavirus – USA Today](#)

## **Policy & Guidance**

- [U.S. Marine Corps Disease Containment Readiness Planning Guidance for 2019 Novel Coronavirus – USMC](#)
- [Preparing for COVID-19 : Guidance for Pacific Islands and areas in the WHO Western Pacific Region – WHO Pacific Region](#)
- [US Dept of Labor OSHA Recommendations for COVID-19 – US Dept of Labor](#)

**Preparedness**

**Economic Impact**

- 

**Foreign Relations**

**Opinion Articles**

**From:** Robert Levitt  
**Sent:** Fri, 28 Feb 2020 14:32:29 +0000  
**To:** Undisclosed recipients:  
**Subject:** Morning Edition of Dr. Levitt's COVID-19 Update for 21 Feb 2020

Dear All,

**WHO's Dr. Tedros** stated today that we are in the 'decisive' week of COVID-19 spread, So I have put together a 'what is good, what is bad' list of COVID-19 related articles from this morning's newspapers.

**St. Louis Post-Dispatch** has a Front Page article on what Saint Louis hospital systems, esp. SSM, are doing to combat the spread of this novel coronavirus. See:

[https://www.stltoday.com/lifestyles/health-med-fit/health/getting-ready-st-louis-hospital-systems-and-health-departments-prepare/article\\_6f163147-4ed6-545a-8edf-ec6efce14e38.html](https://www.stltoday.com/lifestyles/health-med-fit/health/getting-ready-st-louis-hospital-systems-and-health-departments-prepare/article_6f163147-4ed6-545a-8edf-ec6efce14e38.html).

If you read this article, you will see that locally within and between hospital systems doctors are working together to prepare for the worst while hoping for the best.

**But once you get beyond the local level, the dynamics change because politics takes over in my opinion.** The head of Missouri's health departments stated that 60 people in Missouri are being tested for COVID-19, but I have only read about one person being tested. And I read a lot. There are other troubling articles nationally as well:

**Washington Post** reports today that **HHS workers met Americans airlifted from Wuhan without wearing any personal protective gear (PPE).** These workers were working alongside CDC workers completed clothed in PPE. How does this happen? Why didn't CDC workers divide up the PPEs and share with HHS workers. Why was untrained HHS team leader placed in charge of his/her workers? I blame politics. See:  
<https://www.washingtonpost.com/health/2020/02/27/us-workers-without-protective-gear-assisted-coronavirus-evacuees-hhs-whistleblower-says/> (Secretary Azar will not let this happen again)

**Paul Krugman in NYT** this morning blames President Trump. See:

[https://www.nytimes.com/2020/02/27/opinion/coronavirus-trump.html?te=1&nl=david-leonhardt&emc=edit\\_ty\\_20200228&campaign\\_id=39&instance\\_id=16352&segment\\_id=21716&user\\_id=e37b7ca2e8bae8d104574a7b4a01f953&regi\\_id=6869412220200228](https://www.nytimes.com/2020/02/27/opinion/coronavirus-trump.html?te=1&nl=david-leonhardt&emc=edit_ty_20200228&campaign_id=39&instance_id=16352&segment_id=21716&user_id=e37b7ca2e8bae8d104574a7b4a01f953&regi_id=6869412220200228)

That's just not true. **It's Washington, D.C. politics we should blame. 'It's all politics, all the time' I have been told by an insider.** So public servants must stand tall and speak up when they know they don't know or have the answer. Everyone so far has bent to the President's demands, but he is a businessman, not a doctor or scientist.

So let's pay attention to the scientists and **provide politicians with their personal scientists to keep the response to COVID-19 on track. Provide Vice President Pence with Surgeon General Adams as his scientist/doctor. Give Dr. Fauci or Dr. Redman a Cabinet level position to call the shots as they see them.** Keep the public service announcements coming on cable TV and public TV. If the CDC testing kits don't work today, **buy all the kits we can from Norway and Germany** (those are the kits China uses). Follow Dr. Starkloff's action plan for the 1918



Influenza Epidemic in Saint Louis (prior email to all). **Do what Pasteur did for smallpox and Dr. Gallagher did for measles in Pottstown, PA in 1934.** See: <https://www.wsj.com/articles/how-a-boys-blood-stopped-an-outbreak-11582847330>

Finally, China isn't free of blame either. **Commissioner Feng's Op/Ed this morning in the NYT is lacking.** See: [https://www.nytimes.com/2020/02/28/opinion/coronavirus-china-government.html?te=1&nl=david-leonhardt&emc=edit\\_ty\\_20200228&campaign\\_id=39&instance\\_id=16352&segment\\_id=21716&user\\_id=e37b7ca2e8bae8d104574a7b4a01f953&regi\\_id=6869412220200228](https://www.nytimes.com/2020/02/28/opinion/coronavirus-china-government.html?te=1&nl=david-leonhardt&emc=edit_ty_20200228&campaign_id=39&instance_id=16352&segment_id=21716&user_id=e37b7ca2e8bae8d104574a7b4a01f953&regi_id=6869412220200228).

China hid the outbreak's numbers earlier, left the wet markets open too long (since SARS), held up CDC's mission to China, punished the doctors who recognized the outbreak early, and as all autocratic regimes denied bad news in country. China provides no 'live' email address to send emails to the PRC leaders or Washington, D.C. embassy.

Be well,

RGL, M.D.

If you wish to unsubscribe to this email service, please contact Dr. Robert Levitt at (b) (6) and include in the subject line: Unsubscribe.

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**From:** Pmb02129  
**Sent:** Tue, 31 Mar 2020 02:14:22 +0000 (UTC)  
**To:**

(b) (6)

(b) (6);Fauci, Anthony (NIH/NIAID)

(b) (6)

**Subject:** Fwd: McKinsey COVID insights  
**Attachments:** COVID-19-Facts-and-Insights-March-25-new.pdf, ATT00001.htm

Gents,  
More than you'll ever want to know about COVID-19. Good bedtime reading. lol  
pb

—Original Message—

**From:** Michael Byrne <Michael.Byrne@AEW.com>  
**To:** Phil Byrne (b) (6); Trevor Byrne <trevor.byrne@morganstanley.com>  
**Sent:** Sat, Mar 28, 2020 1:52 pm  
**Subject:** Fwd: McKinsey COVID insights

Thought you guys might appreciate this. I thought it was a pretty good deck from McKinsey.

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**From:** Eliot Robinson  
**Sent:** Sun, 15 Mar 2020 12:59:21 -0700  
**To:** Fauci, Anthony (NIH/NIAID) [E]  
**Subject:** Prc guidance on coronavirus  
**Attachments:** Guidance+for+Corona+Virus+Disease+2019 : Prevention,+Control,+Diagnosis+and+Management.pdf

Dr. Fauci,

thank you for all you do.

one of my chinese friends sent me the attached prc guidance on coronavirus. it includes both western medicine as well as traditional medicine approached. On its face, it seems to be complete and very up to date.

I apologise for your having to follow of dear leader trump's instructions to praise him.

thanks

eliot

--  
Eliot Steele Robinson  
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**From:** The Alchemist  
**Sent:** Sat, 29 Feb 2020 03:44:39 -0500  
**To:** Biable, Missiratch (Mimi) (FDA/CDER); Ibrahim, Amna (FDA/CDER); Beaver, Julia (FDA/CDER); (b) (6); Azar, Alex (OS/IOS); Fauci, Anthony (NIH/NIAID) [E]; (b) (6); Langevin, Helene (NIH/NCCIH) [E]; Lowy, Douglas (NIH/NCI) [E]; Keegan, Patricia (FDA/CDER)  
**Subject:** Re: look its the boss!

State labs and commercial diagnostic developers hope to win approval from the Food and Drug Administration (FDA) for their own tests, and FDA and CDC on Wednesday agreed on a workaround for the faulty CDC kit—which has a problem that is not essential to its proper functioning—so that it can now be used by at least some of the state labs that have it.

But there's widespread discontent with the way the system has worked. "The U.S. government has not appropriately prioritized diagnostic tests and supported the laboratory response network to the degree they should have been supported over the years," says Luciana Borio, who in previous jobs had lead roles in responding to emerging threats at the National Security Council and FDA.

In principle, many hospital and academic labs around the country have the capability to carry out tests themselves. The PCR reaction uses so-called primers, short stretches of DNA, to find viral sequences. The CDC website [posts the primers](#) used in its test, and WHO [publicly catalogs](#) other primers and protocols, too. Well-equipped state or local labs can use these—or come up with their own—to produce what are known as a "laboratory-developed tests" for in-house use.

But at the moment, they're not allowed to do that without FDA approval. When the United States declared the outbreak [a public health emergency](#) on 31 January, a bureaucratic process kicked in that requires FDA's "[emergency use approval](#)" for any tests. "The declaration of a public health emergency did exactly what it shouldn't have. It limited the diagnostic capacity of this country," Mina says. "It's insane

lol

<facepalm>

On Sat, Feb 29, 2020 at 3:41 AM The Alchemist (b) (6) wrote:  
look i understand the wisdom behind not inciting panic

but here are a few simple questions

is there any system to report the infections? (viral surveillance)

given the CDC tests were said to be inaccurate, what if the numbers are much higher....

<https://www.sciencemag.org/news/2020/02/united-states-badly-bungled-coronavirus-testing-things-may-soon-improve>

The World Health Organization (WHO) has shipped testing kits to 57 countries. China had five commercial tests on the market 1 month ago and can now do up to 1.6 million tests a week; South Korea has tested 65,000 people so far. The U. S. Centers for Disease Control and Prevention (CDC), in contrast, has done **only 459 tests** since the epidemic began. The rollout of a CDC-designed test kit to state and local labs has become a fiasco because it contained a faulty reagent. Labs around the country eager to test more suspected cases—and test them faster—have been unable to do so. No commercial or state labs have the approval to use their own tests.

On Sat, Feb 29, 2020 at 3:27 AM The Alchemist <[conventherbal@gmail.com](mailto:conventherbal@gmail.com)> wrote:



**From:** Eaton, William (NIH/NIDDK) [E]  
**Sent:** Mon, 2 Mar 2020 14:53:28 +0000  
**To:** Collins, Francis (NIH/OD) [E]; Gottesman, Michael (NIH/OD) [E]; Fauci, Anthony (NIH/NIAID) [E]; Martin, Malcolm (NIH/NIAID) [E]  
**Subject:** Coronavirus  
**Attachments:** 28.Analysis\_of\_Coronavirus-2019\_Data\_Michael\_Levitt.pdf

Dear NIH Colleagues,

You may be interested in the attached analysis from Michael Levitt, 2013 Nobel Laureate in Chemistry, a close friend of mine who spent two summers in my lab on mini-sabbaticals

Bill

William A. Eaton, MD, PhD  
NIH Distinguished Investigator  
Chief, Laboratory of Chemical Physics  
Bldg 5, Rm. 104 NIDDK, NIH  
Bethesda, MD 20892-0520

Email: (b) (6)

Tel: (b) (6)

Cell: (b) (6)

Home: (b) (6)

Administrative Assistant: Danica Day, (b) (6)



**From:** 김상년  
**Sent:** Tue, 31 Mar 2020 12:03:33 +0900  
**To:** Fauci, Anthony (NIH/NIAID) [E]  
**Subject:** Urgent:Comment Korea  
**Attachments:** Povidone Antiviral 2015 40121\_2015\_Article\_91.pdf

Dear Dr Fauci,

Hope you and your loved one are fine. You are doing a great job, in shaping and shining a right way for American to take as a great scientist!!

I am Kim, Sangnyun (Joseph) Ph.D, working for OrientBio inc based in Korea as a microbiologist.

Here is my suggestion on how to better prevent the viruses from spreading and potentially stopping further worsening of early stage infection by **directly killing viruses in upper respiratory track(mouth cavity including oro, nasopharynx and salivary gland), where the viruses are infecting the first and the most and viral progenies, once proliferated, get down(trickle down?) to lungs to become seriously ill.**

Considering serious increasing death from Covid 19 outbreak, esp Italy Spain and US, I just don't understand why WHO and experts do not saying a could be better control of the virus in upper respiratory by topical antiseptics.

I want to share that use of **Povidone iodine** (or similar gargles already in the market )for gargling deep throat including oropharynx, and naso cleaning would be the safe and the better to treat patients already infected or preventive measures. Cheap, practical and could be life saving!!

There are several antiviral in vitro activities published against SARS MERS although not the Covid 19 yet, which we are currently running this project (see the attached)

Is there better way to urge health authorities to consider the adoption of oro, nasal

antiseptics for direct killing of the Covid-19 in the upper respiratory tract,  
in addition to current infection control practices.

Thanks for your attention.

Sangnyun kim,

OrientBio

(b) (6)

**From:** John P. Hussman, Ph.D.  
**Sent:** Tue, 31 Mar 2020 14:49:29 +0000  
**To:** Penna, Alyssa (Van Hollen);CVH  
**Cc:** Fauci, Anthony (NIH/NIAID) [E];Auchincloss, Hugh (NIH/NIAID) [E];Bozick, Brooke (NIH/OD) [E];Harris, Kara (NIH/NIAID) [E];Conrad, Patricia (NIH/NIAID) [E]  
**Subject:** RE: SARS-CoV-2 - prospective risk variants and inflammatory respiratory pathway  
**Attachments:** Cov\_ARB\_2020.03.20.20039586v1.full.pdf, Favalli\_2020\_CoV\_RAempiric.pdf

Thanks Alyssa,

I've received some kind notes from people at UM Medical System, Mass General, and from NIH/NIAID, so hopefully we'll get more evidence on potential use of already-available therapeutics that can be repurposed for SARS-CoV-2 soon.

I've added a few people from NIH/NIAID directly in the cc here as well, along with a request for Senator Van Hollen below.

My thought is this: we're in a race against time. The best way I can express this is **"two weeks, ten-fold."** That's what's already appears baked in the cake, taking into account case growth and lag profile between initial case report and fatalities – regardless of the extent to which current containment efforts may flatten the curve later in the month.

One thing we know is that the primary cause of death is respiratory hyperinflammation. There's also good evidence that SARS-CoV-2 appears to act mainly on T-lymphocytes that produce inflammatory cytokines (32161940). Since T-cell abnormalities can also be associated with thrombocytopenia, this mechanism seems consistent with the five-fold increase in mortality where low platelet count is observed (32178975).

Chris – I'd like to ask if there's any way to ***pre-emptively*** – *and knowing that we might not need them based on evidence that arrives later* – call on pharmaceutical companies to produce a strategic reserve of specific regulators of hyperinflammation. We're talking two weeks. Some of these will be familiar because you'll see them in commercials all the time for things like rheumatoid arthritis. I've attached a paper by Favalli et al – also to share with NIH/NIAID. At first glance, it looks like it's about RA, but it's also a very nice discussion of the potential role of these therapeutics in addressing hyperinflammation in SARS-CoV-2.

Most of these operate along the Th17 or Th1 pathway (key CD4+ proinflammatory cells) to one extent or another:

- IL6 inhibitors (e.g. tocilizumab)
- IL-17 inhibitors (secukinumab, ixekizumab)
- IL-17 receptor antagonists (brodalumab)
- IL-23 inhibitors (guselkumab)
- TNF-alpha inhibitors (Humira, Enbrel, Cimzia, Remicade)
- JAK inhibitors (Inrebic – JAK2, Xeljanz – JAK1/3)



- Also, while early evidence suggested little effect, some new reports suggest that ARBs (angiotensin II receptor blockers) may be associated with lower fatality as well. That paper isn't published yet, but is attached as Cov\_ARB here.

As we've discussed for a couple of months, we need to brace for what's likely to be hard impact around mid-April, so our ramp-up of therapeutics has to be ***pre-emptive***. *The goal isn't to encourage their current use* without that evidence from controlled clinical trials that are being run at present, but we absolutely must be ***prepared with a sufficient supply*** of those classes of drugs most likely to be beneficial. My concern is that at the point we have results from some of the carefully controlled studies going on, we'll also be at a point where we've got 10 times the caseload and a lack of availability of medications that appear most likely to have therapeutic benefit.

Let me know what might be possible. As always, here to help anytime. Best - John

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**From:** Penna, Alyssa (Van Hollen) [REDACTED] (b) (6)  
**Sent:** Monday, March 30, 2020 3:11 PM  
**To:** John P. Hussman, Ph.D.  
**Subject:** RE: SARS-CoV-2 - prospective risk variants and inflammatory respiratory pathway

Hi Dr. Hussman,

I hope you're doing well. I wanted to know that per Senator Van Hollen's request, we have flagged this correspondence for our contacts at NIH to bring this to Dr. Fauci's attention.

Best,  
Alyssa

Begin forwarded message:

**From:** "John P. Hussman, Ph.D." <[hussman@hussman.com](mailto:hussman@hussman.com)>  
**Date:** March 23, 2020 at 10:50:55 AM EDT  
**To:** [REDACTED] (b) (6)  
**Cc:** "John P. Hussman, Ph.D." <[hussman@hussmanfoundation.org](mailto:hussman@hussmanfoundation.org)>  
**Subject:** FW: SARS-CoV-2 - prospective risk variants and inflammatory respiratory pathway

Chris – thanks for the documents on forbearance – I'll work on these right away.

Meanwhile, sending the notes that I'm hoping will make their way to Dr. Fauci – I've had some correspondence with Hugh Auchincloss, but it's difficult – amidst it all – to know what's getting through and what's not.

I'll think on the questions you posed and send some thoughts as soon as possible. Thanks! Best - John

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**From:** John P. Hussman, Ph.D.  
**Sent:** Monday, March 23, 2020 12:01 AM  
**To:** Auchincloss, Hugh (NIH/NIAID) [E]; [REDACTED] (b) (6)  
**Cc:** Harris, Kara (NIH/NIAID) [E]; Conrad, Patricia (NIH/NIAID) [E]; Chris Elias

([chris.elias@gatesfoundation.org](mailto:chris.elias@gatesfoundation.org))

**Subject:** SARS-CoV-2 - prospective risk variants and inflammatory respiratory pathway

Dear Drs. Fauci and Auchincloss,

Sending an observation relating to the ACE2/FcγR IIA pathways in SARS-CoV-2 (discussed in our previous exchange). I continue to believe that entry pathways exploited by this virus may also be the same pathways where restoring anti-inflammatory signaling and function may hit closest to home. I am hopeful that you might indulge the research question below.

Though I would normally pursue this with colleagues at the Hussman Institute of Human Genomics at the University of Miami, we've closed down most of our lab activities in response to recent containment efforts, and in any case there is not a sufficiently short timeline to convene IRB, recruit subjects, and obtain patient material. (Numbers are PMIDs)

Both **CD14-159CC** and **FcγR IIA-R/R131** are reported to be risk genotypes both for severe SARS (17913858) and interestingly, also for invasive streptococcal pneumonia (18180796). Because both have plausible roles in SARS-CoV2 related respiratory hyperinflammation, my sense is that these variants may be particularly important to examine in present cases, and could potentially help to distinguish those who may be at elevated risk.

Higher frequency of the FCgRIIA-R/R-131 genotype is observed in SARS subgroups that ultimately require intensive care (16185324), and also in other inflammatory conditions such as autoimmune myasthenia gravis (14597109). Likewise the CD14-159CC genotype is associated with increased inflammation and acute asthma (16387800), and is also associated with reduced soluble sCD14, which would otherwise be protective (30691461).

Notably, all of these molecules are co-expressed. In human monocytes, the highest ACE2 mRNA expression is observed in CD14++CD16- (classical) cells, where ACE2 expression is nearly twice that of ACE1 (25707554).

What these axes also share is that dysregulation is associated with hyperinflammatory consequences. CD14 induces cytokine response as a co-receptor for TLR2/TLR4 signaling, and the protective role of soluble sCD14 appears related to its ability to suppress IL6-dependent induction of proinflammatory Th17 cells. ACE2/Ang(1-7) function is also important in preventing hyperinflammation (2544821).

Accordingly, in addition to potential empirical therapies using existing IL6 inhibitors, IVIG blockade of FcR activation, or anti-TNF therapeutics – see my 3/11 note – novel therapeutic directions might include recombinant ACE2 (possibly as a fused immunoadhesin form to extend half-life) and exogenous Ang(1-7).

Finally, as an interesting side note, it has been reported that the anti-malarial artemisinin reduces the symptoms of experimental myasthenia gravis by altering the balance of Th1, Th17 and Treg cells (30334416). If there is anything to anecdotal reports relating to hydrochloroquine, this at least may suggest a possible mode of action.



My apologies if my recent notes have in any way strained what I am sure is an overburdened inbox. With a longer timeline, we might be able to pursue these directions in our own labs. At present, my hope is that at least these thoughts will be a useful addition to your own.

With extraordinary gratitude for all of your efforts. Best wishes - John

**John P. Hussman, Ph.D.**

Director, Hussman Foundation



6021 University Blvd, Suite 490 | Ellicott City, MD 21043  
443.465.4814 | [hussman@hussmanfoundation.org](mailto:hussman@hussmanfoundation.org)

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**From:** John P. Hussman, Ph.D.

**Sent:** Friday, March 13, 2020 8:35 AM

**To:** Auchincloss, Hugh (NIH/NIAID) [E]

**Cc:** Harris, Kara (NIH/NIAID) [E]; Conrad, Patricia (NIH/NIAID) [E]

**Subject:** RE: SARS-CoV-2 repurposed therapeutics, vaccine, antibody-dependent enhancement (ADE)

Dear Dr. Auchincloss,

I'm grateful for your kind reply, and am encouraged by the directions you are taking.

Very much agreed on ACE2. It seems more than coincidental that the predisposing factors for SARS-CoV-2 (cardiovascular, diabetes, respiratory) are closely related to ACE2 function, and that its metabolic products Ang(1-7), Ang(1-9) and alamandine are protective against the primary causes of death - acute respiratory distress, cardiovascular disease, and renal failure.

Given that Fc receptor subtype FcγR IIA serves an alternative viral entry route in ADE, and the activating (FcγR IIA) vs inhibitory (FcγR IIB) effects of these receptors are important regulators of severe pulmonary inflammation, my sense is that the entry pathways exploited by this virus may also be the same pathways where restoring anti-inflammatory signaling and function may hit closest to home.

Thank you again for your note. NIH/NIAID has quickly become the center of leadership in our country. Please know how deeply your work is valued.

Best wishes – John

**John P. Hussman, Ph.D.**

Director, Hussman Foundation



6021 University Blvd, Suite 490 | Ellicott City, MD 21043  
443.465.4814 | [hussman@hussmanfoundation.org](mailto:hussman@hussmanfoundation.org)



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**From:** Auchincloss, Hugh (NIH/NIAID) [E] (b) (6)  
**Sent:** Wednesday, March 11, 2020 12:55 PM  
**To:** John P. Hussman, Ph.D.  
**Cc:** Harris, Kara (NIH/NIAID) [E]; Conrad, Patricia (NIH/NIAID) [E]  
**Subject:** FW: SARS-CoV-2 repurposed therapeutics, vaccine, antibody-dependent enhancement (ADE)

Dear Dr. Hussman, thank you for your very thoughtful and beautifully researched letter. I can assure you that the possibility of ADE is being vigorously investigated as we proceed with vaccine development. Your additional notes are also very interesting. The role of the ACE2 receptor and its regulation are particularly important issues in our research.

Hugh Auchincloss, M.D.  
Deputy Director, NIAID  
National Institutes of Health  
Bldg. 31 (7A/03), 31 Center Drive, MSC 2520  
Bethesda, MD 20892  
Phone: (b) (6)

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**From:** John P. Hussman, Ph.D. <[hussman@hussman.com](mailto:hussman@hussman.com)>  
**Sent:** Wednesday, March 11, 2020 8:25 AM  
**To:** Fauci, Anthony (NIH/NIAID) [E] (b) (6)  
**Subject:** SARS-CoV-2 repurposed therapeutics, vaccine, antibody-dependent enhancement (ADE)

Dear Dr. Fauci,

Thank you for exerting leadership in this moment we find ourselves. Sharing a few quick observations (my scientific work is in statistical genetics and molecular pathways) related to vaccine development and potential points of pathway intervention.

In the likelihood that this is being reviewed by an assistant to Dr. Fauci, I would be very grateful if you could forward this to one or more of the individuals working on the repurposing of existing FDA-approved therapeutics, small molecule screening for novel therapeutics, and the vaccine group.

- With regard to vaccine development, it seems likely – but is important to ensure – that the challenges involving potential antibody-dependent enhancement (ADE) have been considered. Depending on the properties of vaccine-induced antibodies, the viral entry and lethality of

future coronavirus subtypes could be amplified. Neutralizing antibodies can bind to the spike protein and induce conformational changes that mimic viral receptors and enable alternative entry into FcγR IIA (CD32A) expressing cells. Accordingly, spike-based subunit vaccines lacking the RBD appear desirable (see e.g. 31826992).

- To the extent possible given a somewhat limited research literature, the notes below are focused on potential points of intervention in the disease pathway, short of a vaccine. I've pasted my observations and references to research below. Many will undoubtedly be familiar, but I am hopeful that they may provoke thought and new ideas. I am also hopeful that the NIH might coordinate fairly rapid set of controlled trials focused on interventions at the critical stage of pulmonary inflammation, that might still inform therapeutic response to the current episode.

Thank you for all of your efforts,

John P. Hussman, PhD.

*Research notes - May not be specific to SARS-CoV-2. Potential intervention points remain suggestive. Numbers PMID IDs.*

1. **ACE2:** The receptor binding domain of CoV uses membrane-bound ACE2 to gain access to respiratory cells. ACE converts angiotensin I (Ang I) to Ang II, ACE2 degrades Ang II to Ang(1-7). While early evidence does not suggest an effect of ACE inhibitors (i.e. blocking Ang I conversion to Ang II), or Ang II receptor blockers (ARBs) in SARS-CoV-2 outcomes (32120458), the use of exogenous Ang(1-7) reduces inflammation and improves lung function in animal models of acute respiratory distress syndrome (22009550). Use of recombinant ACE2 in ARDS has also been suggested (29237475, 17558469).
2. **FcγRIIA/IIB skew:** Novel CoVs cause fatal acute lung injury by driving excessive cytokine production and inflammation. Antibody-dependent enhancement (ADE) may be triggered by antibodies against the CoV spike protein (anti-spike S-IgG) (25073113). ADE is dependent on activation of FCγ receptor II. Among FcR subtypes, FcγR IIA appears to mediate infectivity most efficiently (21775467). SARS macaque models produce skewed inflammatory cytokine production (including chemoattractants IL8 and MCP1) and absence of wound-healing response similar to that observed in fatal human cases. Blockade of *activating* subtypes of FCγR (e.g. ITAM-containing FcγR I and/or FCγR IIA) reduced these effects (Liu 2019, JCI Insight). Blockade of FcR activation via intravenous immunoglobulin has been suggested for severe pulmonary inflammation and lung injury in SARS-CoV-2 (32125642). The anti-inflammatory property of intravenous immunoglobulin (IVIG) is associated with its ability to recruit surface expression of the *inhibitory* Fc receptor FcγR IIB (11161202). Among potentially repurposed therapeutics, IVIG is not without

dangers (renal, thrombosis), and effectiveness is not established in MERS (28864360). Alternatively, human polyclonal immunoglobulin G from bovines has been reported inhibit MERS-CoV in vivo (26888429).

3. **TNF- $\alpha$ :** The SARS spike protein induces (TNF- $\alpha$  converting enzyme) TACE-dependent shedding of the extracellular ACE2 domain. NL63-S, a CoV that produces the common cold, does not induce similar ACE2 shedding or TNF- $\alpha$  production (18490652). TACE antagonists may have potential to block this pathway in SARS-CoV and attenuate disease severity (14741070). TNF- $\alpha$  downregulates FC $\gamma$ IIB expression. In the presence of IL4 & IL13, TNF- $\alpha$  skews FcR to an *inhibitory* phenotype and production of alternatively activated macrophages (which have regulatory and wound-healing functions). TNF- $\alpha$  + IL10 synergistically upregulate FC $\gamma$ IIA (15703199). Interestingly, FC $\gamma$ IIB is selectively upregulated in dendritic cells from RA patients with quiescent disease (19734236). TNF- $\alpha$  inhibition has been suggested as a potential therapeutic in SARS-CoV (14741070).
4. **IL6/Th17/IL17 axis:** SARS associated coronavirus produces a high level of proinflammatory cytokines, and IL17 expression amplifies this response (21964025), which is dependent on the presence of RELA (p65) and I $\kappa$ B kinases, and is dependent on p65 phosphorylation via I $\kappa$ B- $\alpha$  degradation (17532082). The viral nucleocapsid protein of SARS-CoV also promotes IL6 (the transducer of Th17 cells) via NF $\kappa$ B activation (17490702). IL17-induced p65 phosphorylation results in Fc receptor transcription (27555521). Inhibition of NF $\kappa$ B activation may also increase survival (24198408). Inhibition of Jak signaling may block p65 phosphorylation and attenuate the proinflammatory cascade (28642467).
5. **IFN1:** During the initial replication stage, IFN-1 may act to reduce viral load by upregulating STAT1 (a differentiator of Th1 cells). STAT1 deficiency increases mortality and skews immune response toward a pro-fibrotic Th2-biased profile (20702617). STAT1 expression is protective (20386712). However, later delivery of IFN-1 may amplify risk by elevating pro-inflammatory response (26867177, 31355779).
6. **Steroids:** Early steroid treatment (prednisone) discouraged, but may be useful after progression to respiratory inflammation/distress. Prolonged use without antimicrobials is also discouraged (17597972).
7. **Progression:** The acute stage of respiratory failure may involve an enhanced Th2 response (15784184, 20702617), with progression to fatal disease associated with expression of Th2 cytokines (18832706). The Th2 transducer STAT6 is required for the development of alternatively activated macrophages that may exacerbate



severity. In mice, STAT1/STAT6 double knockouts do not develop fibrosis (23015170).

8. **Risk factors:** Age, cardiovascular disease, diabetes, smoking, maximum body temperature at admission, chronic respiratory disease or failure, albumin, and C-reactive protein cited as risk factors for progression (32091533, 32118640).

**John P. Hussman, Ph.D.**

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**From:** Folkers, Greg (NIH/NIAID) [E]  
**Sent:** Tue, 10 Mar 2020 19:33:51 +0000  
**To:** Undisclosed recipients:  
**Subject:** Transcript and audio - CDC Media Telebriefing: Update on COVID-19  
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# Transcript - CDC Media Telebriefing: Update on COVID-19

## Press Briefing Transcript

Wednesday, March 10, 2020

- [Audio recording media icon\[MP3 – 4 MB\]](#)

**Please Note: This transcript is not edited and may contain errors.**

I'd like to inform all participant that the phones are on listen only. Today's call is recorded. If anyone has any objections, you can disconnect at this time. I would like to turn the call over to Paul Fulton with CDC public affairs. Thank you, you may begin.

Thank you. Thank you all for joining us today for this briefing to update you on CDC's COVID-19 response. We're joined by Nancy Messonnier, director of CDC's National Center for Immunization and Respiratory Diseases. We'll make opening remarks. I turn the call over to Dr. Messonnier.

Good afternoon. Thank you all for joining us. As of today, there are more than 110,000 cases of COVID-19 worldwide. In the U.S., as of Sunday evening, 34 states plus New York City and D.C. have reported more than 500 cases of COVID-19 to CDC and 19 deaths. Nearly half of reported cases are in California and Washington. 18 of the deaths are in Washington. The remaining one is in California. Right now the states with the most cases are California and Washington. But other communities are also dealing with cases of COVID-19. That's why I'd like to talk to you today in greater detail about risk. Risk can be looked at in two ways.

There is risk of being exposed and getting sick from this virus and there is risk of getting very sick or dying from illness with this virus. This virus is capable of spreading easily and sustainably from person to person based on the available data. The report of the World Health Organization mission to China describes the virus as being highly contagious. And there's essentially no immunity against this virus in the population because it's a new virus. Based on this, it's fair to say that as the trajectory of the outbreak continues, many people in the United States will at some point in time either this year or next be exposed to this virus and there's a good chance many will become sick.

But again, based on what we know about this virus, we do not expect most people to develop serious illness. Reports out of China that looked at more than 70,000 COVID-19 patients found that about 80% of illness had — was mild and people recovered. 15 to 20% developed serious illness. Let's talk about who those people are. So far it seems like it's not children. Of the 70,000 cases, only about 2% were in people younger than 19. This seems to be a disease that affects adults. And most seriously older adults. Starting at age 60, there is an increasing risk of disease and the risk increases with age. The highest risk of serious illness and death is in people older than 80 years. People with serious underlying health conditions also are more likely to develop serious outcomes including death. The people who are at greatest risk are those older and who also have serious long-term health conditions like diabetes, heart disease, or lung disease. Last week CDC added guidance to our website for people who are at higher risk for serious illness. Our goal is to protect you.

This will require you and your family to take action. I'd like to go through our recommendations for people at highest risk. Make sure you have supplies on hand like routine medications for blood pressure and diabetes. And over-the-counter medicines and medical supplies to treat fever and other symptoms. Have enough household items and groceries so that you will be prepared to stay home for a period of time. Take everyday precautions like avoiding close contact with people who are sick, cleaning your hands often, and to the extent possible, avoid touching high touch surfaces in public places. Avoid crowds especially in poorly ventilated spaces. This weekend the federal government made a very specific recommendation in this context that travelers particularly those with underlying health issues defer all cruise ship travel worldwide.

We also recommend that people at higher risk avoid nonessential travel such as long plane trips. Lastly, and most importantly, know what's going on in your community. If you could end up in the role of helping to care for a family member or friend who is at greater risk, we recommend you familiarize yourself with your loved ones' medication and help them get extra to have on hand. Help them also get food, medical supplies and other necessities so they can minimize trips to the store. Create a plan for if they get sick and if you get sick. You have to identify backups to take care of them. Everyone has a role to play to protect our family members, friends, colleagues, and neighbors who are at most risk. I understand these recommendations may not be popular and that maybe — and that they may be difficult for some people. At CDC, our number one priority is the health and safety of the American people. These are the kind of recommendations that I have made to my parents and I'm taking the appropriate steps recommended for family members of vulnerable people.

Other staff at CDC are doing the same. We have more than 1,500 people who have worked on this response so far. And we take the health and safety of our employees very seriously. CDC is an essential component of the U.S. critical infrastructure on this response. To date no one in CDC's workforce has tested positive for COVID-19. We will continue to work with the Office of Personal Management on federal government strategies and guidance. Some businesses and local governments are already taking similar measures. The point of these is to reduce exposures, reduce illness which in turn can protect our most vulnerable. But it's also a strategy to keep workplaces up and running though on a modified basis. Government officials and public health departments will make decisions based on local conditions at the time. We urge you to follow their lead. Before I close, I want to give you an update on public lab capacity. 78 state and local public health labs across 50 states now have the capacity to test up to 75,000 people for COVID-19. We will have more information online this afternoon for clinicians on how to access the tests. The information will also be about the commercially available kits. However, we want to caution people that different states will have different capacity for testing as well as different policies about who should be tested. Lastly, I want to recognize and share your concern about the outbreak and what might happen here in the United States.

We've gotten a lot of questions about events and conferences where cases have been identified. CDC is working with state and local public health departments to reach these people but we also want those who attended these functions to monitor themselves for COVID-19 symptoms and call their health care provider if they become ill. Especially if they're in a high risk group. During an outbreak with the new virus, there is a lot of uncertainty. Our guidelines and recommendations are likely to be interim and subject to change as we learn more. We know that in South Korea no one under the age of 30 has died and in Japan no one under the age of 50 has died. Data from these countries help us understand the potential risk here in the U.S. That's why it's so important for older adults and people with serious underlying health conditions to be prepared. I'll be happy to take questions now.

If you'd like to ask a question, please press star 1. Record your name slowly and clearly. Your name is required to introduce your question. Our first question is from Tom Howell with the Washington Times, your line is open.



The first publicly documented case in mid-January is someone that traveled from China to Washington. I want to know what about is there anything about that fact that speaks to what we're seeing now in Washington state? I'm just wondering if contact tracers investigated that and if there is any link to what we're seeing now. Thank you.

Messonnier: You may remember that the response to that initial case in the United States was quite aggressive with the health department having the lead in CDC supporting them. They did very aggressive contact tracing looking to identify anybody who had had contact with that initial case and sort of concentric circles outward. They didn't find any evidence of COVID-19 in any of those contacts. Now I think you're probably referring to a publication that came out within the past couple of weeks looking at the genetic sequencing data of the initial patient versus — and comparing it to the cases that are now circulating in Washington state. And one hypothesis that the author made was that the changes between the initial case and now suggested that the strain had been circulating in the population. I think that's an interesting hypothesis. But another hypothesis is that a secondary seeding of the community and the strain causing the more recent cases in Washington state matches sequences that have been posted from China. So I think that's an interesting hypothesis. I expect we'll see more of it. But there are alternate explanations of the same findings.

Thank you. Next question, please.

Thank you. Our next question comes from Issam Ahmed with AFP. Your line is open.

Yeah. Thank you for doing this. I was wondering with regards to your advice about, you know, higher risk Americans inviting them to stock up on groceries and medicine at this point. Where would you draw that cutoff at this point? Is that for over 60? Thank you.

Messonnier: Thanks for letting me clarify. You know, I want to clarify the reason to stock up is that there is a rational for being in a higher risk group wanting to avoid congregate settings. So it's not — the reason to stock up now is so you can stick close to home. The reason I went into data in greater detail is because it's important for the American public to understand the risk. We use the broad categories of over 60 or over 65, but the data really says that as you get older, the risk goes up and so in the broader age category of over 60 or over 65, over 80 or older has the greatest risk. So I would recommend that people make their own decisions based on an understanding of that risk. My parents are in their 80s. They're not in an area where there is currently community transmission. But I've asked them to stick close to home so they can avoid the potential risk of being in congregate settings.

Next question.

Thank you. Our next question comes from Eben Brown with FOX news. Your line is open.

Thank you very much for taking my call. I just want to piggyback on an earlier question. There is even just for my own personal goings about a lot of empty shelves in stores and things like that. There seems to be — I was in an airport the other day where someone had not just a regular old mask but like a big molded plastic mask with canisters on. There seems to be like a growing — I don't want to say panic, but kind of headed that way. Is there a way that we all can provide some sobriety here because the last thing I think we all need is a panic but we want to be people vigilant and make the right decisions.

Messonnier: I think that's a really great point. And really important thing for the media to try to communicate. You know, right now in the United States most communities by far the vast majority of communities are not having community transmission. This is a time for people to prepare for what they might need to do but not a time for people to clear out the shelves. And I really want to focus on the United States and the families at highest risk because in the setting where it's really clear that it is older Americans who are at the highest risk right now, we want to make sure that they're taking every precaution to prepare themselves so that if there is more widespread transmission, they can stick close to home. In terms of masks, as you implied and I'll say, we really do not think this is the time for Americans to be going out and getting masks. Masks are really important for those at highest risk in the health care setting and we want to make sure that we save enough masks for our health care workers

on the front lines who will need to continue to be able to do their work and take care of all of us. So in particular in the setting of concern about masks, I ask people to please fight the urge to buy a mask and make sure we save them for the people that really need them.

Next question.

Thank you. Our next question comes from Andrew Joseph from STAT. Your line is open.

Hi. Thanks. Can you elaborate a little more on how you all see this potentially playing out? Obviously, there are mitigation efforts and hopefully they work. But you're saying many people will get exposed this year or next. So if you can just sort of explain what that might look like if it is kind of persists for months to years.

Messonnier: Yeah. I think that as we said since the beginning, respiratory viruses that's spread like this tend to spread. And what we as a community need to do is do everything we can to protect ourselves and our families and our communities so that the — if it does spread, it is in a slower fashion so that we're all better prepared and so that our health care sector can take care of patients. We continue to believe that in most communities contact tracing is really appropriate because it identifies the contacts and keeping them from spreading can have a significant role in slowing this down. You likely will see in some communities like in Seattle and in California more efforts towards broad based community mitigation as an attempt at a community level to slow this spread. I think we need to be — we need to make sure that we're listening to our local health departments. I also think people need to understand that there are personal responsibilities that we're asking everyone in the United States to take to make sure that they're doing their best to protect themselves and their families and their communities and right now especially to make really strong efforts to protect those who are older and at underlying risk. As a community, the United States we can really mitigate the impact of this disease and as long as we work together that, will continue to be CDC's goal.

Next question, please.

Thank you. Our next question comes from Lindsey Tanner with the Associated Press. Your line is open.

Lindsey, your line is open. (No response)

Our next question comes from Roni Rabin with the New York Times. Your line is open.

Hi. Dr. Messonnier, can you be more specific by with have a high rate of diabetes and chronic conditions in people that are much younger than 80s, can you be more specific about people in their 40s and 50s should be doing and people in their 60s and 70s?

Messonnier: I think it's really important for us to stress as we have I think throughout the course of this that we are making recommendations based on the available data and when more data becomes available fine tuning them and trying not to get beyond what we know. What we know from the data is the highest risk is those in both older and with underlying health conditions. There are reports of individuals who are adults but with serious underlying health conditions who have also had more serious outcomes. And I think that if you're in one of those groups separately or together that is underlying illness, underlying illness and older adult or underlying illness and younger, you need to be thinking towards what personal precautions you might want to take. And certainly for those with diabetes and high blood pressure, managing your diabetes and high blood pressure is a priority. When more data becomes available from our investigations in the United States and from our work globally investigating we'll certainly provide more direct data. But right now, there is not data to be as precise as we're asking.

Next question, please.

Thank you. Our next question comes from Brenda Goodman from WebMD. Your line is open.

Hi, Dr. Messonnier, I was hoping that you could explain a little bit about the difference between containment and mitigation. And also tell us if there are any communities in the U.S. that have moved from containment to mitigation, for example, Seattle? And why.

Messonnier: Sure. That's a great question. I think it's really important to make it really clear that this is not an on/off switch that you switch from one to the other. In general, containment means that you stop the spread. What it has meant in this setting is decreasing the number of potentially exposed people coming into the United States through border control. And then tracking every case and every potential contact, every case in order to keep them from spreading it further. So very much sort of what you would imagine when you think about person x had in contact with person y and person y had contact with six others and tracking down every one of those individuals and asking them to stay home, you can, we've seen you can keep it from spreading further. Mitigation is more community level interventions. And what that means is that you're working to decrease the impact of the disease on a community. In Seattle and in California, they haven't stopped entirely contact tracing but they have started mitigation. And I think that you will likely see local health departments deciding when there is community spread to start turning on more of the mitigation measures even while they're still doing some level of contact tracing. So again, it's not an on/off switch. It's a dimmer. You will see I think lots more communities starting to implement some kind of mitigation measures when they're seeing community spread. It will look different in different places and that's why it's really important for folks to stay informed of what is going on in their local area and to follow their advice of the local health department.

We have time for three more questions. Next question, please.

Thank you. Our next question comes from Jose Palley with Univision. Your line is open.

Hi, doctor. My question is New York City is an area with community transmission and earlier in the call you mentioned people should avoid crowds and poorly ventilated spaces. My question is what does that mean for subways and busses where commuters like myself are regularly pressing up against each other in very tight closed spaces.

Messonnier: Again, I think it's really important for two different things. One is to pay attention to the recommendations from your local health department which are going to be more tailored to the specific situation in terms of spreading your community and the risks. In terms of avoiding crowded settings, our focus really is on those with the higher risk and oldest among us and especially those with underlying illnesses. So for people again, older and underlying illnesses, we are recommending avoiding crowds, congregate settings because those are places where in general there is lots of transmission of respiratory diseases. We're asking individuals to be aware of the risks but individuals are going to have to make personal decisions based on their own situations.

Next question, please.

Thank you. Our next question comes from John Tozzi with Bloomberg News. Your line is open.

Thank you for taking the question. I want to clarify. You said earlier that 78 state and local health labs have the capacity to test up to 75,000 people. Is that 75,000 in what period? Is that cumulative? Daily 75,000? Weekly?

Messonnier: Cumulative. Again, it's the public health sector CDC lab kits, 75,000 but more are coming onboard soon. 75,000 cumulatively. But, I think as you know the number of commercially available kits, the number of commercially available tests is much larger than that and our expectation within the next couple weeks is more and more commercial entities become – come onboard is the majority of the available testing will actually be from the commercial sector.

Okay. Last question, please.

Thank you. Our last question comes from Brianna Abbott with The Wall Street Journal. Your line is open.

Hi. Thanks for taking my question. As you mentioned, there have been cases that are now starting to be linked to conferences and mass gatherings. Companies have taken steps to cancel these. I wonder from a public health perspective, is cancelling mass gatherings something we should broadly start doing or is that an overreaction? Where do we stand on that?



Messonnier: It is really difficult to make those kind of pronouncements broadly. I think the thing at this point we're recommending is consideration of the local situation, consideration of what is going on in the locale where the event is being held. But and also where people are coming from and what the event is and how big it is. So the decisions, for example, in Seattle may look quite different than the decisions being made in a location right now where there is not community spread. I think that we're going to need to follow the local community's lead. And again, a lot depends on the population. So we're looking both at risk of exposure but also the risk to the individuals and as you look at those two factors together, in consultation with local and state health departments, decisions may be different in different events and different locations.

Thank you, Dr. Messonnier and thank you all for joining us for today's briefing. Please check CDC's COVID-19 website for the latest updates on CDC's response efforts. If you have more questions, please call our number or e-mail us. Thank you.

That concludes today's conference. Thank you for participating, you may disconnect at this time.

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[U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES](#)

*CDC works 24/7 protecting America's health, safety and security. Whether disease start at home or abroad, are curable or preventable, chronic or acute, or from human activity or deliberate attack, CDC responds to America's most pressing health threats. CDC is headquartered in Atlanta and has experts located throughout the United States and the world.*

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**From:** Mileur, Claudinne R CTR (USA)  
**Sent:** Thu, 13 Feb 2020 17:46:08 +0000  
**To:** Mileur, Claudinne R CTR (USA)  
**Subject:** COVID-19 SITREP 13 FEB 2020 (View in HTML)

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## **(U) COVID-19 SITREP 13 FEB 2020 (View in HTML)**

FEBRUARY 13, 2020 BY [CLAUDINNE MILEUR](#)

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### **Featured Headlines**

- [Japanese broadcaster NHK announces second fatality attributed to the virus outside China – Washington Post](#)
- [Coronavirus Cases Seemed to Be Leveling Off. Not Anymore. – NYT](#) On Thursday, on Thursday, officials added more than 14,840 new cases to the tally of the infected in Hubei Province alone, bringing the total number to 48,206, the largest one-day increase so far recorded. The death toll in the province rose to 1,310, including 242 new deaths. Officials in Hubei now seem to be including infections diagnosed by using lung scans of symptomatic patients. This shortcut will help get more patients into needed care
- [Scientists fear coronavirus spread in countries least able to contain it – Nature](#)
- [Some coronavirus testing kits sent around the world are not working properly – Live Science](#) At least some of the testing kits that were sent across the U.S. and to dozens of other countries aren't working properly, the Centers for Disease Control and Prevention (CDC) announced during a news conference today (Feb. 12).
- [Wuhan doctors battle outbreak as masks rub their faces raw – South China Morning Post](#)



- [Most coronavirus cases are mild, complicating the response – Washington Post](#) 82% of the cases — including all 14 in the United States — have been mild, with symptoms that require little or no medical intervention. And that proportion may be an undercount.
- [Coronavirus May Be Tied to Adverse Outcomes in Pregnancy – Medscape](#)
- [There's No Specific Drug That Kills Coronavirus. But Doctors Have Ways To Treat It – NPR](#)
- [Coronavirus Is Spreading Because Humans Are Healthier – The Atlantic](#)  
For the first time in recorded history, bacteria, viruses, and other infectious agents do not cause the majority of deaths or disabilities in any region of the world. Since 2003, the number of people who die each year from HIV/AIDS has fallen by more than 40 percent. Deaths from malaria, tuberculosis, and diarrheal diseases have declined by more than 25 percent each. In 1950, there were nearly 100 countries, including almost every nation in sub-Saharan Africa, South Asia, and Southeast Asia, where at least one-fifth of children died—most of them from infectious diseases—before their fifth birthday. Today, there are none. The average life expectancy in developing countries has risen to 70.
- [Holland America Cruise ship in Thailand refused entry by fifth port due to coronavirus fears – The Hill](#)
- [Easy COVID-19 test tops research priorities as cases climb – CIDRAP](#)

## Surveillance

### [WHO Dashboard for Coronavirus \(COVID-19\)](#)

### [Link to Johns Hopkins CSSE Live Mapping of COVID-19](#)

### [EUROPE – Links to individual country health agencies providing information on 2019 nCoV](#)

## World Health Organization (WHO)

- [WHO SITREP #23 FEB 12 2020](#)

Total and new cases in last 24 hours:

1. Globally: 45,171 confirmed (2,068 new)
2. China: 44,730 confirmed (2,022 new) 8,204 severe (871 new) 1,114 deaths (97 new)
3. Outside of China: 441 confirmed (46 new) 24 countries 1 death

## [China – National Health Commission Update on February 12, 2020](#)

Confirmed cases: 2,015 new, 44,653 total.

Suspected cases: 3,342 new, 16,067 total.



Deaths: 97 new, 1,113 total.  
Recoveries: 744 new, 4,740 total.

## European Centre for Disease Prevention and Control (ECDC)

CONTINENT COUNTRY / AREA		CONFIRMED CASES	DEATHS	COMMENTS
Asia	China	44 724	1 114	Including 33366 cases from Hubei province
Asia	Singapore	47	0	
Asia	Thailand	33	0	
Asia	Republic of Korea	28	0	
Asia	Japan	25	0	
Asia	Taiwan	18	0	
Asia	Malaysia	18	0	
Asia	Vietnam	15	0	
Asia	United Arab Emirates	8	0	
Asia	India	3	0	
Asia	Philippines	3	1	
Asia	Nepal	1	0	
Asia	Sri Lanka	1	0	

CONTINENT	COUNTRY / AREA	CONFIRMED CASES	DEATHS	COMMENTS
Asia	Cambodia	1	0	
Other	Cases on an international conveyance Japan	174	0	
Europe	Germany	16	0	
Europe	France	11	0	
Europe	United Kingdom	8	0	
Europe	Italy	3	0	
Europe	Spain	2	0	
Europe	Russia	2	0	
Europe	Sweden	1	0	
Europe	Finland	1	0	
Europe	Belgium	1	0	
America	United States of America	13	0	
America	Canada	7	0	
Oceania	Australia	15	0	
<b>Total</b>	Source: ECDC	<b>45 179</b>	<b>1 115</b>	

**Cases have been reported on the following continents:**

**Asia:** China (PRC) (44 665), Hong Kong (Special Administrative Region) (49), Macao (Special Administrative Region) (10), Singapore (47), Thailand (33), Republic of Korea (28), Japan (25), Taiwan (18), Malaysia (18), Vietnam (15), United Arab Emirates (8), India (3), the Philippines (3), Cambodia (1), Nepal (1) and Sri Lanka (1).

**America:** the United States (13) and Canada (7).

**Europe:** Germany (16), France (11), United Kingdom (8), Italy (3), Spain (2), Russia (2), Belgium (1), Finland (1), and Sweden (1).

**Oceania:** Australia (15).

**Other:** Cases on an international conveyance (Japan) (174).

Of the 1 115 deaths reported, 1 114 have been reported from China: Hubei (1068), Heilongjiang (8), Henan (8), Anhui (4), Beijing (3), Chongqing (3), Hainan (3), Gansu (2), Hebei (2), Hunan (2), Tianjin (2), Guangdong (1), Guangxi Zhuangzu (1), Guizhou (1), Jiangxi (1), Jilin (1), Shandong (1), Shanghai (1), Sichuan (1), and one death has been reported from Hong Kong (Special Administrative Region). Outside China, one death has been reported from the Philippines. [Source: ECDC](#)

**U.S. Centers for Disease Control and Prevention (CDC)**

*People Under Investigation (PUI) in the United States as of Feb 12 – Source: [CDC](#)*

<b>POSITIVE</b>	14
<b>NEGATIVE</b>	347
<b>PENDING§</b>	66
<b>TOTAL</b>	427

**Surveillance Headlines**

- [USA: Second Person Tests Positive For COVID-19 In San Diego – KPBS](#)
- [In Coronavirus Quarantine, Diamond Princess Passengers Form Unique Online Community – NPR](#)
- [Coronavirus: Hunt for contacts of latest UK case – BBC](#)
- [Epidemiologist Veteran of SARS and MERS Shares Coronavirus Insights after China Trip – Scientific American](#) Columbia University professor W. Ian Lipkin looks for lessons from the new disease COVID-19 to prevent the next disaster.
- [Japan reports 44 more cases of virus on quarantined ship – ABC News](#)
- [Indonesia: Health Ministry tracing contacts of COVID-19 patient in Bali- Jakarta Post](#)
- [Japan: Tokyo taxi driver and Wakayama surgeon test positive for COVID-19 – Japan Times](#)



- [Japan: Questions raised over protective gear as Japan quarantine officer gets COVID-19 – Japan Times](#)
- [UK: Emergency Department Worker Tests Positive for COVID-19 – Medscape](#)

## **Response**

## **Humanitarian Issues**

## **Travel Advisories**

- [Source: US Dept of State](#)
- [U.S. CDC Travel Advisories](#)

## **Science and Tech**

- [How 2019-nCoV Spreads – CDC](#)
- [Molecular Diagnostics Sits at Heart of the Fight Against the Coronavirus, According to New IDTechEx Report – Yahoo Finance](#)

## **Zoonotic**

- [Covid-19 Carriers: What Do China's Wildlife Protection Laws Say about Pangolins? – China Briefing](#)
- [We discovered a coronavirus similar to the covid-19 virus 7 years ago – New Scientist](#)

## **Antiviral**

- [Coronavirus: China's BrightGene Manufactures APIs of Gilead's Remdesivir – Genetic Engineering & Biotech News](#)
- [Emory Researchers Think They Have A Drug To Fight The New Coronavirus – WABE/Atlanta News](#)
- [We'll soon know if covid-19 can be treated with HIV and Ebola drugs – New Scientist](#)

## **Testing**

- [Diagnostics Firms Rush to Develop Rapid Point-of-Care Tests for Novel Coronavirus – 360 DX](#)

## **R&D**

- [Vir Biotechnology Inc. \(VIR\) Identifies Two Antibodies That Bind to the Spike Protein of 2019-nCoV – Street Insider](#)
- [CytoDyn Signs Letter of Intent for the Joint Development and Licensing of Leronlimab in China with Longen China Group – Yahoo Finance](#)

## **Vaccine News**

- [J&J Signs Deal With HHS to Develop Coronavirus Vaccine – Yahoo Finance](#)
- [Timetable For A Vaccine Against The New Coronavirus? Maybe This Fall – NPR](#)

## **Published Research**

- [Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records – Lancet](#)

**Pre-Pub (not yet peer reviewed, should not be regarded as conclusive)**

## **Infographics for Briefings**

- [How novel coronavirus spread across the world – visual explainer – The Guardian](#)
- [Coronavirus mapped: the latest figures as the outbreak spreads – Financial Times](#)
- [Coronavirus: Everything you need to know in a visual explainer \(updated daily\) – South China Morning Post](#)

## **Policy & Guidance**

- [CDC outlines U.S. process of evaluating patients for novel coronavirus – Medical Express \[Link to CDC MMWR\]\(#\)](#)
- [A bit chaotic.' Christening of new coronavirus and its disease name create confusion – Science](#)

## **Preparedness**

- [Inundated With Flu Patients, U.S. Hospitals Brace for Coronavirus – NYT](#)
- Resources are already stretched during flu season. Public health experts are also closely watching reserves of vital medical supplies and medications, many of which are made in China. Some hospitals in the United States are already “critically low” on respirator masks, according to Premier Inc., which secures medical supplies and equipment on behalf of hospitals and health systems. And China is the dominant supplier of the raw ingredients needed for penicillin, ibuprofen and even aspirin — drugs taken daily by millions of Americans and dispensed routinely to hospital patients.

- [Threats Posed to Infection Preventionists and Others from Wuhan Coronavirus Still Being Calculated – Infection Control Today](#)
- [8 ways to protect doctors caring for patients with COVID-19 – American Medical Assn.](#)
- [Europe: EU ministers hold emergency talks on COVID-19 virus – ABC News](#)

## **Economic Impact**

- [As Coronavirus Stifles China, Economic Logjams Build Worldwide – NYT](#) BHP, which has headquarters in London and Melbourne and is one of the world's largest copper mining companies, has been in talks to possibly delay shipments to Chinese ports. And from Qatar to Indonesia, exporters of liquefied natural gas face the prospect of disrupted shipments after a crucial importer in China is reportedly turning back deliveries after invoking clauses in long-term contracts that blame a "greater force."
- [GSMA cancels Mobile World Congress due to coronavirus concerns – Tech Crunch](#)

## **Foreign Relations**

- [U.S. Sen. Ed Markey calls for transparency from China in its response to coronavirus, looks to honor doctor who first sounded alarm on outbreak's severity – Mass Live](#)



**From:** Jim Ainsworth  
**Sent:** Mon, 2 Mar 2020 09:06:07 -0500  
**To:** Azar, Alex (OS/IOS); Adams, Jerome (HHS/OASH); Kadlec, Robert (OS/ASPR/IO); Fauci, Anthony (NIH/NIAID) [E]; Hauguel, Teresa (NIH/NIAID) [E]  
**Subject:** Former FDA Director Scott Gottlieb Warns US Coronavirus Cases Likely Already In The "Low 1000s"

## ***2nd Death Confirmed In Washington State, Gottlieb Warns US Cases Likely Already In The "Low 1000s": Virus Updates***



by [Tyler Durden](#)

Mon, 03/02/2020 - 08:15

### **Summary:**

- 2nd US death reported in Washington State
- Gottlieb warns US cases likely in 'low thousands'
- BMW tells 150 to quarantine after Munich employee infected
- Jordan reports first two cases
- OECD warns global growth could fall by half
- Indonesia reports first cases
- "Progress is being made" toward a vaccine
- Cuomo says NY expects more cases
- India confirms 2 more cases
- 'Official' Iran death toll hits 66
- EU confirms 38 deaths across 18 members
- First cases confirmed in Fla.
- 2 Amazon employees test positive in Milan
- Virus now in 7 US states: Washington, California, Illinois, Rhode Island, New York, Florida and Oregon
- San Antonio virus patient re-hospitalized after testing positive
- China warns it could face 'locust invasion'

\* \* \*

**Update (0800ET):** Former FDA Director Scott Gottlieb, who has been far more vocal than the current FDA director thanks to his regular appearances on CNBC and other cable news channels, warned during

an interview on CNBC Monday morning that the public shouldn't trust the administration's rhetoric.

The fact is, things are far from 'Okay', Gottlieb said. Now that the government is expanding testing, the US case count will 'grow rapidly'. The public should start stocking up on supplies and preparing for widespread disruptions. Gottlieb warned that the number of cases in the US has probably already reached the 'low thousands'. Hundreds could be confirmed by the end of the week.



***Scott Gottlieb***

As the GT pointed out earlier, the CDC is telling Americans that wearing facemasks in public right now isn't necessary. We suspect Gottlieb would beg to differ.

Meanwhile, Jordan has reported its first 2 cases as the coronavirus outbreak in the Middle East spreads.

BMW has reportedly told 150 R&D employees to quarantine at home for two weeks after coming into contact with an employee in Munich contracted the virus. Large companies that have now confirmed employees have been infected include Amazon, Nike, Google and BMW.

Before we go, we'd just like to point out: In the past 24 hours, Moscow, New Delhi, NYC, Berlin, Rome and Brussels have all confirmed their first cases, as have Indonesia, Portugal and now Jordan on Monday morning.



And yet...



Ben Hunt✓@EpsilonTheory

And the World Health Organization still won't call this a pandemic.

<https://twitter.com/norbertelekes/status/1234461834763231233> ...

Norbert Elekes@NorbertElekes

First cases of coronavirus in past 24 hours:

- Moscow
- Delhi
- Berlin
- Rome
- Brussels
- New York City

53

8:08 AM - Mar 2, 2020

[Twitter Ads info and privacy](#)

29 people are talking about this

\* \* \*

Update (0730ET): As we reported last night, a group of drug company CEOs are on their way to meet with President Trump at the White House. "Progress is being made" toward a vaccine, Trump said.



Donald J. Trump✓@realDonaldTrump

I am meeting with the major pharmaceutical companies today at the White House about progress on a vaccine and cure. Progress being made!

29.5K

7:26 AM - Mar 2, 2020

[Twitter Ads info and privacy](#)

10.6K people are talking about this

Meanwhile, NY Governor and Trump nemesis Andrew Cuomo told [CNN](#) Monday that he expects more cases to be confirmed in New



York. NYC's first patient is a woman in her late 30s who contracted the virus while traveling abroad in Iran.

Amazingly, despite all of Cuomo's boasts about his state's state of the art labs and medical resources, the woman is apparently "isolated in her home."

\* \* \*

Update (0715ET): A Reuters headline from late Sunday just caught our eye, and we felt obligated to share: China's State Forestry and Grasslands Administration has warned that the world's second-largest economy could face a devastating "locust invasion".

### • CHINA FACES RISK OF LOCUST INVASION - FORESTRY AND GRASSLAND ADMINISTRATION

Last month, [we reported](#) that China was deploying an "army of ducks" to help Pakistan fight an invasion of locusts, a plague that is also hurting farmers across Africa.

Looks like Beijing is going to need its ducks back.

The Global Times, meanwhile, is now mocking the CDC for refusing to recommend that Americans should wear facemasks.



[Hu Xijin 胡锡进✓@HuXijin\\_GT](#)

Suggesting people not wear face mask is seriously misleading. All of the Chinese experts have advised people to wear face mask when in contact with others during time of epidemic and consider it one of the most effective measures. Please heed suggestion of Chinese experts.

#### PREVENT THE SPREAD OF CORONAVIRUS

The CDC has offered some tips it believes will help prevent the spread of the disease:

- Avoid close contact with people who are sick.
- Avoid touching your eyes, nose, and mouth.
- Stay home when you are sick.
- Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
- Clean and disinfect frequently touched objects and surfaces using a regular household cleaning spray or wipe.
- Follow CDC's recommendations for using a facemask.
  - CDC does not recommend that people who are not sick wear a facemask to protect themselves from respiratory diseases, including COVID-19.
  - Facemasks should be used by people who show symptoms of COVID-19 to help prevent the spread of the disease to others. The use of facemasks is also crucial for health workers and people who are taking care of someone in close settings (at home or in a health care facility).
- Wash your hands often with soap and water for at least 20 seconds, especially after going to the bathroom, before eating, and after blowing your nose, coughing, or sneezing.
  - If soap and water are not readily available, use an alcohol-based hand sanitizer with at least 70% alcohol. Always wash hands with soap and water if hands are visibly dirty.

**Update (0640ET): Japan reports 15 new coronavirus cases, Reuters reports, bringing the country total to 271, excluding the 705 from the Diamond Princess.**

**\* \* \***

**Update (0615ET): Stella Kyriakides, the European Commissioner for Health and Food Safety, confirmed on Monday that the EU Has 2,100 confirmed cases and 38 confirmed deaths across 18 member states. The bloc has also raised its risk alert level from "moderate" to "high".**

**Yet all the borders remain open...**

**Shortly after South Korea raised its confirmed case toll to roughly 4,300 overnight, South Korea's transport ministry said flights from South Korea to the US would begin screening all passengers with mandatory temperature checks - techniques that have already been shown to be not entirely effective.**

**Trump has seemed hesitant to slap South Korea and Italy with the same travel restrictions he used on China. If he cares about being reelected, he might want to reconsider.**

**\* \* \***

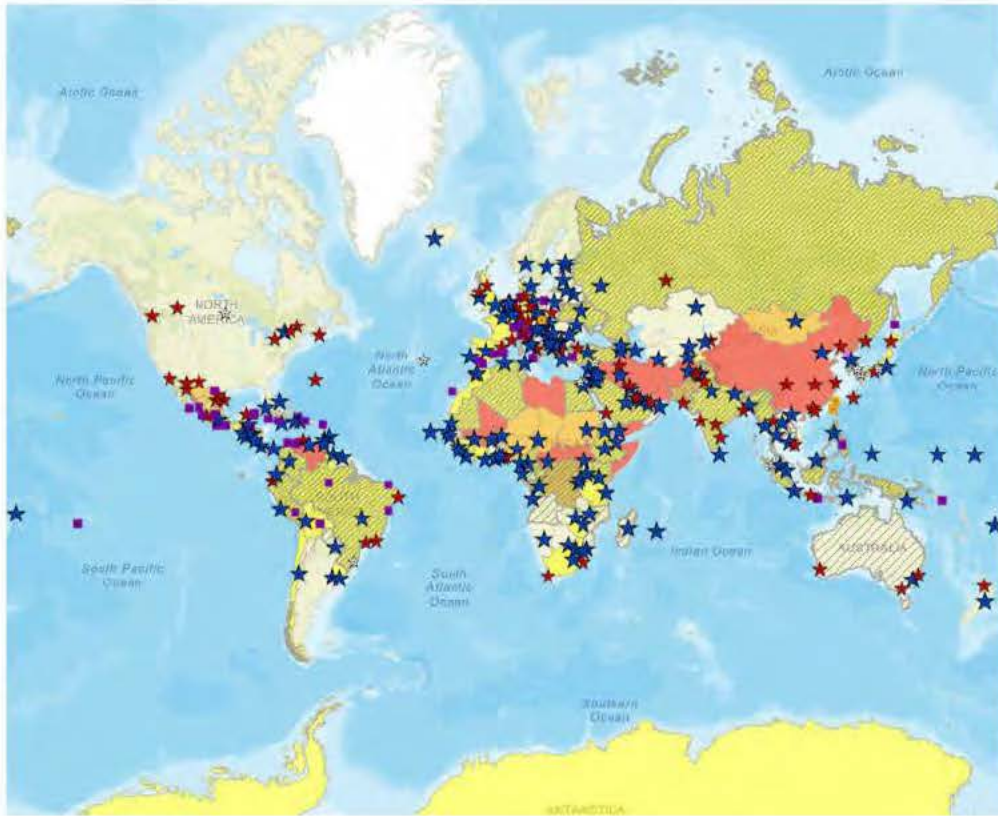
**Update (0600ET): After [six weeks of speculation about how Indonesia had managed to avoid an outbreak](#), especially considering the thousands of travelers from Hubei that visited the country, the government of the world's fourth-largest country had confirmed that two patients had tested positive on Monday, [Reuters](#) reports.**

**In other news, Goldman Sachs has postponed all non-essential travel for its staff "effective immediately" according to a memo seen by Reuters.**

**\* \* \***

**Meanwhile, here's [the State Department's 'Travel Advisory' map](#). Areas marked 'red' indicate 'Do Not Travel', areas in yellow or yellow-black stripes are 'exercise increased caution' (it's not clearly visible, but Italy has yellow-black stripes).**





The CDC has its own travel advisory map (courtesy of NPR):



## Coronavirus: Where The CDC Says To Avoid Travel Or Take Precautions

WARNING LEVEL 3	ALERT LEVEL 2	WATCH LEVEL 1
RECOMMENDATION Avoid Nonessential Travel	RECOMMENDATION Practice Enhanced Precautions	RECOMMENDATION Practice Usual Precautions
AFFECTING China, South Korea, Iran, Italy	AFFECTING Japan	AFFECTING Hong Kong



■ All other countries with confirmed cases

### Notes

Data as of March 1

Source: Centers for Disease Control and Prevention; The Centre for Health Protection of the Department of Health of Hong Kong; The Center for Systems Science and Engineering at Johns Hopkins University

Credit: Daniel Wood and Stephanie Adeline/NPR

\*\*\*

**As the wild swings in US equity futures over the last few hours would suggest, we're headed for another insane week of coronavirus news as America comes to grips with the outbreak as it claims a second life and spreads to the country's largest city.**

**The American coronavirus outbreak accelerated rapidly over the weekend, as health officials confirmed the first virus-linked death on Saturday, before confirming a second death of a US citizen - this time a 70-year-old man - in the same area of Washington State.**

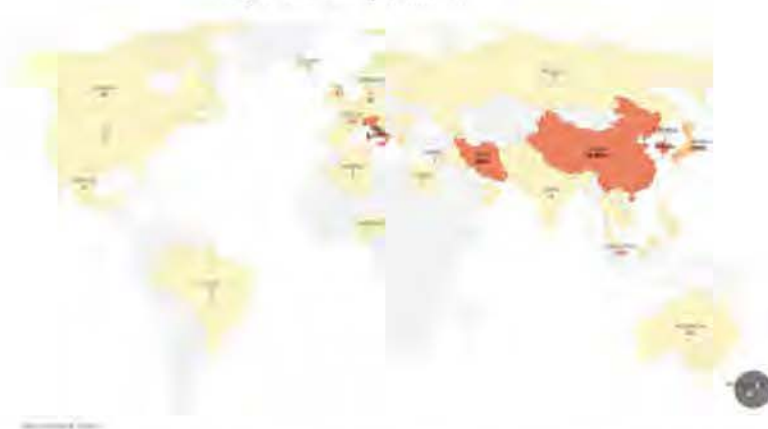


As [we explained last night](#), state and federal public-health officials are focusing on what appears to be a cluster of confirmed cases in Washington, where both deaths have occurred, as well as outbreaks in Oregon and California where patients had no clear path of transmission for the virus, leading officials to suspect that a more widespread outbreak has already begun. Late Sunday night, Gov. Cuomo confirmed the first case in Manhattan, involving a woman who had recently traveled to Iran. The news followed a seemingly unceasing stream of scares and negative tests in America's largest city, according to the New York Times.

As we pointed out, the global death toll climbed above 3,000 last night as China reported another 42 deaths.

"Coronavirus Czar" and Vice President Mike Pence reiterated promises to make more testing kits available to state officials, reiterating promises made over the weekend. President Trump and other administration officials are also scheduled to meet with drug company execs on Monday.

The global total: Nearly 87,000 cases.



The cases confirmed over the weekend were found in seven states: Washington, California, Illinois, Rhode Island, New York, Florida and Oregon, and included a mix of people who had traveled to high-risk countries, and others believed to have contracted the virus in the US.

Republican-controlled Florida defied Pence's urges to 'remain calm' and declared a state of emergency on Sunday after the governor's office confirmed 2 "presumptively positive" cases late Sunday, according to [a Florida TV station](#).

The cases were discovered in Florida's Manatee County and Hillsborough County.

A patient in San Antonio, one of the evacuees, appeared to recover from the coronavirus illness and had been released from a health care facility after having tested negative twice in more than 24 hours was placed back into isolation, even after the CDC's Dr. Anthony Fauci insisted that there was no evidence that people could be 'reinfected' after recovering from the virus.



[Carl Quintanilla](#) ✓ @carlquintanilla

Mayor of San Antonio. [#covid19](#)

[https://twitter.com/ron\\_nirenberg/status/1234287498181926912](https://twitter.com/ron_nirenberg/status/1234287498181926912) ...



Mayor Ron Nirenberg ✓@Ron\_Nirenberg

Today we learned that the CDC mistakenly released a patient from the Texas Center for Infectious Disease who later returned a positive COVID-19 reading.

The fact that the CDC allowed the public to be exposed to a patient with a positive COVID-19 reading is unacceptable.

Full:

The CDC issued the following information on March 1, 2020:

The Centers for Disease Control and Prevention (CDC) is releasing an individual who was released from isolation for COVID-19 at a local healthcare facility yesterday (Monday) (individual met the criteria for release, including two negative test results), but later returned to isolation after a pending, subsequent lab test came up positive for the virus that causes COVID-19.

This patient had been under isolation while being treated at a local medical facility for neurological issues following a return to the U.S. from Wuhan, China, to a State Department chartered flight. At the time of discharge from the facility, the patient was asymptomatic and met all of CDC's criteria for release -- resolution of any symptoms and two consecutive sets of negative test results, collected more than 24 hours apart. Following the patient's return, results of a subsequent sample were inconclusive and deemed to be undetectable. Out of an abundance of caution, CDC decided to bring the individual back into isolation at a local medical facility. The discharged patient had some contact with others while out of isolation, and CDC and local public health partners are following up to trace possible exposures and notify them of their potential risk.

It's important to remember that this is a new virus and we are learning more about it every day. The cycle of infection with COVID-19 is not yet well understood, but the amount of virus is typically highest when the person is sick. As the illness resolves, the amount of virus falls.

CDC is aware that others have encountered similar situations where test results have alternated back and forth between negative and positive. That is part of why CDC criteria states that a patient must have two negative test results from specimens taken more than 24 hours apart. The cycle of the ongoing infection in this particular patient is longer than what has been previously seen.

This is an evolving situation with many questions. CDC is making decisions on a case-by-case basis using the best available science at the time. CDC's priority is to protect both patients and communities.

For more information about COVID-19, visit <https://www.cdc.gov/coronavirus/>.

"major quarantine protocols and the closing of border and border control as the main strategy to stop the virus from spreading."

**Monday morning and 11 new deaths, bringing the total to 1,501 cases confirmed and 66 dead.**

**After advising employees to stop non-essential travel over the weekend, Amazon said late Sunday that two of its employees in Milan have contracted the virus and are now under quarantine, the NYT reports.**

**"We're supporting the affected employees who were in Milan and are now in quarantine," company spokesman Dan Perlet said.**

**The world's biggest online retailer said it was unaware of any U.S. employees who had contracted the virus. On Friday, Amazon told employees to stop non-essential travel, within the United States and beyond. The company also confirmed on Sunday it is moving some recruiting interviews to video rather than in person.**

**Over in China, on-the-ground reports claim that most Chinese have returned to work at this point. However, in the rush back to work, the CCP appears to have overlooked a few things...like worker-safety standards.**

***Click on the image in the Twitter box below if you care to see the 2-minute & 20-second Twitter video:***



曾鈺 Jennifer Zeng@jenniferatntd

**Chinese workers are working under these kinds of conditions to boost #CCP's GDP, which they are very proud of.**

中共的 #GDP 有多少是底层民众的血与汗与命换来的。



新闻自由

Candice Wong



1,434

6:12 PM - Mar 1, 2020

[Twitter Ads info and privacy](#)

938 people are talking about this

**As Chinese officials continue their campaign to convince the world, and the Chinese population, that the outbreak is subsiding and that everything will soon return to normal, State TV reports the first of 16 hospitals specially built in Wuhan to tackle the coronavirus epidemic.**

**Sent:** Fri, 21 Feb 2020 13:33:12 +0000  
**Subject:** FW: FDA Request  
**Attachments:** FDA Clearance Letter.pdf, Nepal Corona Virus Paper.pdf

**From:** Hudson, Thomas J  
**Sent:** Mon, 16 Mar 2020 13:46:41 +0000  
**To:** Collins, Francis (NIH/OD) [E]  
**Cc:** Marston, Hilary (NIH/NIAID) [E]; Fauci, Anthony (NIH/NIAID) [E]  
**Subject:** RE: Confidential and urgent request regarding

Thank you Francis. I will contact WHO.

---

**THOMAS HUDSON**  
Senior Vice-President, R&D  
Chief Scientific Officer



**AbbVie, North Chicago**  
1 North Waukegan Rd  
R473, Building AP9-1  
N Chicago, IL 60064  
**TEL (OFFICE)** 847-938-3689  
**EMAIL** [thomas.hudson@abbvie.com](mailto:thomas.hudson@abbvie.com)

[abbvie.com](http://abbvie.com)

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**From:** Collins, Francis (NIH/OD) [E] (b) (6)  
**Sent:** Monday, March 16, 2020 8:43 AM  
**To:** Hudson, Thomas J <[thomas.hudson@abbvie.com](mailto:thomas.hudson@abbvie.com)>  
**Cc:** Marston, Hilary (NIH/NIAID) [E] (b) (6); Fauci, Anthony (NIH/NIAID) [E]  
(b) (6)  
**Subject:** [EXTERNAL] RE: Confidential and urgent request regarding

Tom,

Thanks again for reaching out. I can only imagine the logistical difficulty you are facing supplying lopinavir/ritonavir around the world for this evolving pandemic. Like you, we have heard that this study may be coming out soon but have not seen the manuscript. However, the WHO has publicly stated that most manuscripts, particularly those from Chinese investigators, are being shared with their research team. This manuscript should be no exception. Therefore, I think it would be very reasonable to ask WHO for some access to those data, particularly given the need to plan ahead for impending changes in demand. They have called for data transparency so the request could be framed in that light as well. Of course, I cannot guarantee that they will grant this request.



The best contacts would be the WHO Chief Scientist Soumya Swaminathan

(b) (6) and potentially Director General Tedros

(b) (6)

Let me know if you hit a roadblock with WHO. I might then want to weigh in too.

Francis

---

**From:** Hudson, Thomas J <[thomas.hudson@abbvie.com](mailto:thomas.hudson@abbvie.com)>

**Sent:** Monday, March 16, 2020 9:16 AM

**To:** Collins, Francis (NIH/OD) [E] (b) (6)

**Subject:** RE: Confidential and urgent request regarding

Thank you.

---

**THOMAS HUDSON**

Senior Vice-President, R&D

Chief Scientific Officer



**AbbVie, North Chicago**

1 North Waukegan Rd

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N Chicago, IL 60064

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[abbvie.com](http://abbvie.com)

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**From:** Collins, Francis (NIH/OD) [E] (b) (6)

**Sent:** Monday, March 16, 2020 8:14 AM

**To:** Hudson, Thomas J <[thomas.hudson@abbvie.com](mailto:thomas.hudson@abbvie.com)>

**Cc:** Marston, Hilary (NIH/NIAID) [E] (b) (6)

**Subject:** [EXTERNAL] RE: Confidential and urgent request regarding

Hi Tom,

Got your message, am looking into it, hope to get back to you later today.

Best, Francis

---

**From:** Hudson, Thomas J <[thomas.hudson@abbvie.com](mailto:thomas.hudson@abbvie.com)>

**Sent:** Monday, March 16, 2020 9:10 AM

**To:** Collins, Francis (NIH/OD) [E] (b) (6); Collins, Francis (NIH/OD) [E]

(b) (6)

**Subject:** RE: Confidential and urgent request regarding

---

This follow-up message is a duplicate that I am sending to another e-mail address that I have on file.

Dear Francis,

I am sending this brief note as a request for guidance on an evolving situation with COVID-19 and reports from Chinese investigators that an HIV combo drug (lopinavir/ritonavir; brand names Kaletra and Aluvia) is active in vitro against SARS-CoV-2 and in the clinic; a randomized study conducted in Wuhan China apparently shows that Kaletra provides benefits in regards to symptom scores, decreased ICU times and related complications. We are told by the clinician that a manuscript is under review at the NEJM. AbbVie is also tracking over 25 other studies (mostly in China) and we are working closely with global health authorities (including CDC) to design additional studies and share information on supplies and allocations.

We are increasingly concerned by pressures related to Kaletra allocations in different parts of the world that are based on data that has not been shared with AbbVie or other agencies that we partner with. At the very least, we would want health authorities and AbbVie to be prepared to deal with repercussions of a significant publication.

I am reaching out to you to see if you have any suggestions or individuals that we should contact.

Best wishes,

Tom

---

**THOMAS HUDSON**

Senior Vice-President, R&D  
Chief Scientific Officer



**AbbVie, North Chicago**

1 North Waukegan Rd  
R473, Building AP9-1  
N Chicago, IL 60064

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**EMAIL** [thomas.hudson@abbvie.com](mailto:thomas.hudson@abbvie.com)

**[abbvie.com](http://abbvie.com)**

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**From:** Paul Elias Alexander  
**Sent:** Tue, 17 Mar 2020 18:00:59 +0000 (UTC)  
**To:** Beigel, John (NIH) [E]; Fauci, Anthony (NIH/NIAID) [E]  
**Cc:** Kim, Sonnie (NIH/NIAID) [E]  
**Subject:** Re: Treatment guidelines for COVID-19 Dr. Fauci  
**Attachments:** COVID updated risk factors\_Wu\_JAMA\_2020.pdf

Dr. Fauci, here is a recent series on 201 Wuhan patients published but I think very important as it is comparative and shows the risk of death using a Cox modelling and also possible benefit of corticosteroid. I know this is non randomized evidence but what is fascinating is the high fever (39 °C) was associated with higher likelihood of ARDS development (HR, 1.77; 95% CI, 1.11-2.84) and lower likelihood of death (HR, 0.41; 95% CI, 0.21-0.82). This latter finding is fascinating and begs consideration and study.

I decided to share with you.

Best,

Paul E. Alexander, MSc, MHSc, PhD  
Assistant Professor  
<http://hei.mcmaster.ca/>  
McMaster University, 1280 Main Street W.  
Hamilton, ON L8S 4K1  
GUIDE Research Methods Group  
<http://guidecanada.org/>

**From:** Wojtowicz, Emma (NIH/OD) [E]  
**Sent:** Tue, 3 Mar 2020 18:20:39 +0000  
**To:** Collins, Francis (NIH/OD) [E]; Tabak, Lawrence (NIH/OD) [E]; Bianchi, Diana (NIH/NICHD) [E]; Fauci, Anthony (NIH/NIAID) [E]; Gibbons, Gary (NIH/NHLBI) [E]; Sharpless, Norman (NIH/NCI) [E]; Volkow, Nora (NIH/NIDA) [E]; Wolinetz, Carrie (NIH/OD) [E]; Hallett, Adrienne (NIH/OD) [E]; Shapiro, Neil (NIH/OD) [E]  
**Cc:** Wood, Gretchen (NIH/OD) [E]; McManus, Ayanna (NIH/OD) [E]; Schwetz, Tara (NIH/OD) [E]; Burklow, John (NIH/OD) [E]; Williams, Paul (NIH/NICHD) [E]; Billet, Courtney (NIH/NIAID) [E]; Johnson, Lenora (NIH/NHLBI) [E]; Garrett, Peter (NIH/NCI) [E]; Stein, Jack (NIH/NIDA) [E]; Higgins, Lauren (NIH/OD) [E]; Mitchell, Michelle (NIH/OD) [E]; OCPLPressTeam  
**Subject:** News clips, releases, targeted grant factsheet for House Appropriations Hearing  
**Attachments:** News Clips\_House Appropriations Hearing.docx, Releases\_House Appropriations Hearing.docx, NIMH\_Monkeys\_Reward\_Processing\_Emotion\_03.02.2020\_Final.docx

Greetings-

In preparation for tomorrow's House Appropriations Hearing, please see attached for the following documents:

- News clips on topics that may be of particular interest. Please note that given the extensive coverage of coronavirus we did not include articles on that topic; please see the Bulletin Intelligence daily news clips for the most recent coverage: <https://nih.bulletinintelligence.com/>
- Recent relevant news releases and media availabilities
- Fact sheet for NIMH NHP study on neural substrates of reward processing and emotion targeted by White Coat Waste: <https://blog.whitecoatwaste.org/2020/02/23/breaking-wcw-lawsuit-reveals-secret-videos-of-nih-monkey-business/>

Thank you-  
Emma

**Emma Wojtowicz**  
Public Affairs Specialist  
National Institutes of Health  
Tel: (b) (6)  
Email: (b) (6)

*NIH . . . Turning Discovery Into Health*

**From:** Microsoft Outlook  
**Sent:** Tue, 18 Feb 2020 20:18:33 +0000  
**To:** Fauci, Anthony (NIH/NIAID) [E]  
**Subject:** Undeliverable: FW: AMA WH Task Force Meeting  
**Attachments:** FW: AMA WH Task Force Meeting



Your message to IMCEAEX-

\_o=ExchangeLabs\_ou=Exchange+20Administrative+20Group+20+28FYDIBOHF23SPDLT+29\_cn=Recipients\_cn=304976799a5740459ed128a2dee7cfa1-vancemm@namprd09.prod.outlook.com couldn't be delivered.

Your email program is using outdated address information  
for IMCEAEX-

\_o=ExchangeLabs\_ou=Exchange+20Administrative+20Group+20+28FYDIBOHF23SPDLT+29\_cn=Recipients\_cn=304976799a5740459ed128a2dee7cfa1-vancemm@namprd09.prod.outlook.com.

afauci	Office 365	IMCEAEX-_o=ExchangeL.
Action Required		Recipient
Outdated To address		

## How to Fix It

To stop your email program from using outdated address information, clear the recipient Auto-Complete List in Outlook or Outlook on the web by following the steps in [this article](#), or by doing the following:

- Identify the recipient who didn't receive your message by looking at the To or CC information located in the **Original Message Headers** section below. Recipients whose names are followed by a set of characters that start with 'IMCEAEX' or 'imceaex' didn't receive your message.
- Click **New mail** (in Outlook) or **New Email** (in Outlook on the web).
- In the **To** box, start typing the recipient's name or email address until the recipient's name appears in the drop-down list.



- Use the **Down Arrow** and **Up Arrow** keys to select the recipient, and then press the **Delete** key to delete the Auto-Complete List entry.
- In the **To** box retype the recipient's email address and then resend the message.

If the problem continues, forward this message to your email admin. If you're an email admin, refer to the **More Info for Email Admins** section below.

Was this helpful? [Send feedback to Microsoft.](#)

---

## More Info for Email Admins

Status code: 550 5.1.11

The recipient email address is a LegacyExchangeDN address, which isn't used by the Office 365 service. You might see this error if you've migrated your organization's email from on-premises to the cloud, or if your organization has a hybrid configuration and you synchronize your on-premises directory with Office 365. If clearing the recipient Auto-Complete List from the user's Outlook or Outlook on the web doesn't solve the problem, try to clear the related LegacyExchangeDN address from your on-premises Active Directory. Then synchronize the directory again.

For more information, see [Fix email delivery issues for error code 5.1.11 in Office 365](#).

### Original Message Details

Created  
Date: 2/18/2020 8:18:33 PM

Sender  
Address: (b) (6)

Recipient  
Address: IMCEAEX-  
\_o=ExchangeLabs\_ou=Exchange+20Administrative+20Group+20+28FYDIBOHF23SPDLT+;  
9\_cn=Recipients\_cn=304976799a5740459ed128a2dee7cfa1-  
vancemm@namprd09.prod.outlook.com

Subject: FW: AMA WH Task Force Meeting

### Error Details

Reported error: 550 5.1.11 RESOLVER.ADR.ExRecipNotFound; Recipient not found by Exchange Legacy  
encapsulated email address lookup

DSN

generated by: MN2PR09MB4761.namprd09.prod.outlook.com

## Message Hops

H O P	TIME (UTC )	FROM	TO	WITH	RE LA Y T I M E
1	2/18 /2020 08:18:33 PM	MN2PR09MB3342.namprd09.prod.outlook.com	MN2PR09MB3342.namprd09.prod.outlook.com	Microsoft SMTP Server	*
2	2/18 /2020 08:18:33 PM	MN2PR09MB3342.namprd09.prod.outlook.com	MN2PR09MB4761.namprd09.prod.outlook.com	Microsoft SMTP Server (version=TLS1_2, cipher=TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384)	*

## Original Message Headers

Authentication-Results: namprd09.prod.outlook.com; dkim=none (message not signed) header.d=none; namprd09.prod.outlook.com; dmarc=none action=none header.from=hhs.gov;

Received: from MN2PR09MB3342.namprd09.prod.outlook.com (20.179.22.204) by MN2PR09MB4761.namprd09.prod.outlook.com (20.180.64.23) with Microsoft SMTP Server (version=TLS1\_2, cipher=TLS\_ECDHE\_RSA\_WITH\_AES\_256\_GCM\_SHA384) id 15.20.2750.17; Tue, 18 Feb 2020 20:18:33 +0000

Received: from MN2PR09MB3342.namprd09.prod.outlook.com ([:1]) by MN2PR09MB3342.namprd09.prod.outlook.com ([fe80::b07c:7e52:e1be:14e0%3]) with Microsoft SMTP Server id 15.20.2729.032; Tue, 18 Feb 2020 20:18:33 +0000

Content-Type: application/ms-tnef; name="winmail.dat"

Content-Transfer-Encoding: binary

From: "Secretary Scheduler (OS/IOS)" (b) (6)

To: "Vance, Meaghan (NIH/NIAID) [C]"

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vancemm@namprd09.prod.outlook.com>;

"Conrad, Patricia (NIH/NIAID) [E]" (b) (6)

Subject: FW: AMA WH Task Force Meeting

Thread-Topic: AMA WH Task Force Meeting

Thread-Index: AdXcKpqhxCObUGq0UavLPHwe2eC6QKbfzp/

Sender: "Fauci, Anthony (NIH/NIAID) [E]" (b) (6)

References:

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In-Reply-To:

<DM6PR09MB4645869FFD53A844714ED7CFBE110@DM6PR09MB4645.namprd09.prod.outlook.com>

Accept-Language: en-US  
X-MS-Has-Attach: yes  
X-MS-Exchange-Inbox-Rules-Loop: afauci@niaid.nih.gov  
X-MS-TNEF-Correlator: ef6eb62a-4b6b-4bd1-8a11-1f5d1b0faf8e  
MIME-Version: 1.0  
Date: Tue, 18 Feb 2020 20:18:33 +0000  
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Auto-Submitted: auto-generated  
X-MS-Exchange-Generated-Message-Source: Mailbox Rules Agent  
Return-Path: afauci@niaid.nih.gov  
X-MS-PublicTrafficType: Email  
X-MS-Office365-Filtering-Correlation-Id: 9ec839b0-0033-497f-c294-08d7b4afba13  
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X-Forefront-Antispam-Report:  
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X-MS-Exchange-Transport-Forked: True



**From:** Fauci, Anthony (NIH/NIAID) [E] on behalf of "Secretary Scheduler (OS/IOS)"  
(b) (6)  
**Sent:** Tue, 18 Feb 2020 20:18:33 +0000  
**To:** Vance, Meaghan (NIH/NIAID) [C]; Conrad, Patricia (NIH/NIAID) [E]  
**Subject:** FW: AMA WH Task Force Meeting  
**Attachments:** 2. PPE prioritization\_18 Feb2020.docx, USAID 2019-nCoV initial tranche USAID support for country readiness\_18Feb2020.docx, TF Decsions 18 Feb.docx, White House Task Force on Coronavirus Meeting 2-18-20\_FINAL.docx

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**From:** Secretary Scheduler (OS/IOS)  
**Sent:** Tuesday, February 18, 2020 3:18:12 PM (UTC-05:00) Eastern Time (US & Canada)  
**To:** AMA2 (OS/IOS); Apple, Matthew (HHS/IOS); Callaghan-Arguelles, Christine (HHS/IOS); Harrison, Brian (HHS/IOS); Mango, Paul (HHS/IOS); Puesan, Cesar (HHS/OS/IOS); Stecker, Judy (OS/IOS); Tignor, Beth (HHS/IOS); Conrad, Patricia (NIH/NIAID) [E]; Fauci, Anthony (NIH/NIAID) [E]; Redfield, Robert R. (CDC/OD); Williams, Teresa (CDC/OD/OCS); Kadlec, Robert (OS/ASPR/IO); Ford-Barnes, Arwenethia (OS/ASPR/IO); Cetron, Marty (CDC/DDID/NCEZID/DGMQ); Grigsby, Garrett (HHS/OS/OGA); Zebley, Kyle (HHS/OS/OGA); Schmoyer, Michael (OS/ONS); Stimson, Brian (HHS/OGC); Kerr, Lawrence (HHS/OS/OGA); Hall, Bill (HHS/ASPA); Chang, William (HHS/OGC); Stannard, Paula (HHS/IOS)  
**Subject:** AMA WH Task Force Meeting  
**When:** Tuesday, February 18, 2020 4:00 PM-4:30 PM.  
**Where:** 610-F



Good Afternoon WHTF,

Please accept this invitation for a proposed **White House Task Force on Coronavirus UNCLASSIFIED CONFERENCE CALL TODAY, Tuesday, February 18, 2020, from 4:00 – 4:30 p.m.** The requested participation is **Task Force Member ONLY.**

An Agenda and supporting documents are forthcoming.

In order to access the conference as a participant, dial the number below and enter the

Participant Code:

Participant Dial-In: (b) (4), (b) (5), (b) (6)

Participant Code: (b) (4), (b) (5), (b) (6)

**From:** Robert Levitt  
**Sent:** Wed, 18 Mar 2020 02:03:54 +0000  
**To:** Robert Levitt  
**Subject:** Dr. Levitt's COVID-19 Update for EVENING 17 March 2020/TELL ME IF ICU BED CALCULATION WRONG AND WHY PLEASE  
**Attachments:** IMG\_3934.JPG, ATT00001.txt, IMG\_3933.JPG, ATT00002.txt, IMG\_3932.JPG, ATT00003.txt, Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1 NEJM.mht

Dear All,

Today I watched the Coronavirus Task Force press briefing and reviewed the current statistics on COVID-19 from the World Bank, Chinese CDC, and GISAID. The WB and CCDC data are attached as photos from newspaper articles above. The first photograph has South Korea on the left column and Italy on the right column (photo is sideways).

**The most striking finding is that South Korea has a death rate of 0.6% and Italy has a death rate of 7% (2503 deaths/31,506 with COVID-19 according to Google tonight).** Italy has an older population than South Korea, has a less robust testing program, and COVID-19 in South Korea affected younger adults rather than the seniors and elderly who were infected in Italy

**So I accept Italy's situation as the 'worst case scenario'.** In that case, we can expect that the U.S. with 6 times the Italian population will have a minimum of 189,000 COVID-19 cases and 15,000 deaths IF WE DO NOTHING.

But we are doing everything that we can now except mandatory lockdowns and restricted domestic travel. **So multiplying the Italian numbers by 6, the maximum number of ICU beds we need for COVID-19 should be less than 200,000 protected ICU beds, 200,000 protected ventilators, and 18 million sets of PPE per 8 hour shift (assuming each COVID-19 patient interacts with 30 HCW/shift).**

*I understand that this is not how modeling is done by the experts, but a recipient of this email needs to show me why I am wrong. I do not believe the Imperial College (London) modeling of 2.2 million Americans with COVID-19 and 1.1 million deaths over the course of the pandemic. **We need our own modeling experts at Fred Hutch and the Broad Institute to verify the Imperial College's assumptions, data, calculations, and conclusions. The primary assumption by the Imperial College that the U.S. does nothing to combat SARS-CoV-2 is just plain wrong.** See:*

*<https://www.weforum.org/agenda/2020/03/3-charts-that-changed-coronavirus-policy-in-the-uk-and-us/>*

**CDC tonight released a report on why the cruise ship workers in Yokohama harbor became infected with COVID-19.**

See: [https://www.cdc.gov/mmwr/volumes/69/wr/mm6911e2.htm?s\\_cid=mm6911e2\\_e&deliveryName=USCDC\\_921-DM22863](https://www.cdc.gov/mmwr/volumes/69/wr/mm6911e2.htm?s_cid=mm6911e2_e&deliveryName=USCDC_921-DM22863)



The workers bunked next to one another or worked with one another in the kitchen, etc. Proximity was the culprit in this cluster of workers. That's why social distancing is so important.

CDC released this afternoon its latest update on COVID-19. **Most importantly, the CDC is giving a Webinar on EPIC tomorrow at Noon Saint Louis time.** All hospitals should have as many doctors, nurses watch the Webinar as possible over this lunch hour and make a copy of the Webinar to show to all shifts. The CDC will be forthright outside the WH Press Briefing Room. See:  
[https://www.cdc.gov/coronavirus/2019-ncov/index.html?deliveryName=USCDC\\_2067-DM22150](https://www.cdc.gov/coronavirus/2019-ncov/index.html?deliveryName=USCDC_2067-DM22150)

**NYT** recently had an Ed/Op on **how doctors will need to ration ventilators and decide who lives and who dies** in COVID-19 patients. See:  
<https://www.nytimes.com/2020/03/12/opinion/coronavirus-hospital-shortage.html> I don't believe that doctors alone decide who and when someone dies in an ICU. Doctors and family members and clergy and the patient together decide whether palliative care is indicated and how much. That's what Advance Directives are all about.

**Becker's ...** reports tonight that **Memorial Sloan Kettering has run low on N95 masks:**  
[https://www.beckershospitalreview.com/supply-chain/with-8-covid-19-patients-memorial-sloan-kettering-has-a-week-s-supply-of-face-masks.html?origin=BHRE&utm\\_source=BHRE&utm\\_medium=email&oly\\_enc\\_id=0573J6191345F30](https://www.beckershospitalreview.com/supply-chain/with-8-covid-19-patients-memorial-sloan-kettering-has-a-week-s-supply-of-face-masks.html?origin=BHRE&utm_source=BHRE&utm_medium=email&oly_enc_id=0573J6191345F30)

That's terrible. **But see also that 3 patients in hospital and FIVE hospital workers have COVID-19.** Again, proximity is the culprit. We need to convince CEOs that we need 18,000,000 PPE sets/8 hour shift to take care of potential COVID-19 patients. Convince them or have President Trump enact war-time measures and force them to produce the masks.

**NEJM** has a Correspondence today that says the SARS-CoV-2 can live on surfaces for 72 hours. See attached pdf above.

Finally, I once again give the **Task Force the Vox article that includes the 9 charts you need for combating COVID-19.** See:

<https://www.vox.com/future-perfect/2020/3/12/21172040/coronavirus-covid-19-virus-charts>

Be well,

RGL, M.D.

If you wish to unsubscribe to this email service, please contact Dr. Robert Levitt at (b) (6) and include in the subject line: Unsubscribe.

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From: Robert Levitt (b) (6)  
Sent: Tuesday, March 17, 2020 8:58 PM



**From:** Robert Levitt  
**Sent:** Tue, 10 Mar 2020 02:08:52 +0000  
**To:** Robert Levitt  
**Subject:** Dr. Levitt's COVID-19 Update for 9 March 2020  
**Attachments:** Furin and S Spike.pdf

Dear All,

Here are the articles I read online today or in journals which I believe add to the control of the novel coronavirus:

**CDC** issued today its COVID-19 Update: [https://www.cdc.gov/coronavirus/2019-nCoV/?deliveryName=USCDC\\_2067-DM21539](https://www.cdc.gov/coronavirus/2019-nCoV/?deliveryName=USCDC_2067-DM21539)

Take note of the item listed under travel for seniors. **The group name is seniors, not the elderly.** So we have cancelled our Spring Break trip to Florida with the grandchildren; we explained to them we are 'old'.

**SHEA** also issued today its COVID-19 Update:

[https://contentsharing.net/actions/email\\_web\\_version.cfm?ep=N8\\_79D-p--sUGwsLnJINQYJ2WCRJVBc5Ov0edxZzIYsyk4Kk3di-ILC\\_Lz46V6lZeMDgmSUUjN6jaD9d7qkj-5jl23m6rGlegCyGoWqKG0Gh4-3DplSYma00\\_4dm2POq](https://contentsharing.net/actions/email_web_version.cfm?ep=N8_79D-p--sUGwsLnJINQYJ2WCRJVBc5Ov0edxZzIYsyk4Kk3di-ILC_Lz46V6lZeMDgmSUUjN6jaD9d7qkj-5jl23m6rGlegCyGoWqKG0Gh4-3DplSYma00_4dm2POq)

**Thank you SHEA for intervening so that hospitals can now 'build' their own testing kits for SARS-CoV-2.** The Update also gives advice for optimal use of the limited number of N95 masks available at each hospital.

**Note that India and China are conserving drugs made in these countries for their own peoples. Your patients with chronic conditions may contact their pharmacies for backup meds in case of requirement to stay at home.** President Trump has spoken to Big Pharma and Big Insurance. It did the trick: we received extra inhaler for a family member's chronic asthma today without a problem or full charge. Thank you President Trump and VP Pence.

**NYT** has a fascinating interview with **Bruce Aylward, the WHO chief representative who went to China for two week visit:** [https://www.nytimes.com/2020/03/04/health/coronavirus-china-aylward.html?utm\\_source=Nature+Briefing&utm\\_campaign=9dd44b4364-briefing-dy-20200309&utm\\_medium=email&utm\\_term=0\\_c9dfd39373-9dd44b4364-42078415](https://www.nytimes.com/2020/03/04/health/coronavirus-china-aylward.html?utm_source=Nature+Briefing&utm_campaign=9dd44b4364-briefing-dy-20200309&utm_medium=email&utm_term=0_c9dfd39373-9dd44b4364-42078415)

Aylward pulls no punches; he's seen it all for years. He says that China, after initial errors in reporting and containment, turned it over to the scientists. **Then everything went online: consultations with doctors, food delivery, online work, etc.** CXR were not obtained on PUI because CXRs do not show early COVID-19. Instead **chest CTs were done, at the rate of 200 per day. RT-PCR tests for the novel coronavirus were done in 4 hours, while the PUI waited on site.** Aylward ate a table by himself as did each of his team. Only a single passenger per row in the buses.

China is fighting a war against the novel coronavirus. Government paid for the RT-PCR test and all costs for COVID treatment when insurance ran out. **Aylward's advice for U.S.: Go to war against the novel coronavirus and pay for cost of testing, hospitalization, treatment. I would add: feds pay for lost wages while under treatment or when off work due to respiratory symptoms (fever, cough).**

Nature has a summary of **why the novel coronavirus is so infectious to humans:**

[https://www.nature.com/articles/d41586-020-00660-x?utm\\_source=Nature+Briefing&utm\\_campaign=9dd44b4364-briefing-dy-20200309&utm\\_medium=email&utm\\_term=0\\_c9dfd39373-9dd44b4364-42078415](https://www.nature.com/articles/d41586-020-00660-x?utm_source=Nature+Briefing&utm_campaign=9dd44b4364-briefing-dy-20200309&utm_medium=email&utm_term=0_c9dfd39373-9dd44b4364-42078415)

The summary says the **S spike has an affinity to furin which is found in many human tissues.**

The original article is posted on bioRxiv and is attached above.

**Swiss Medical Weekly** shows how a single symptomatic COVID patient can spread infection world wide by traveling: <https://smw.ch/article/doi/smw.2020.20212>

**A few individuals with symptoms are responsible for half of all the COVID cases in U.K.**

**WSJ** has a complementary article by Niall Ferguson to Swiss Medical Weekly. Ferguson's Ed/Op hones in on **transportation hubs as a major cause of the pandemic.** By the time scientists realized that airplanes had spread COVID worldwide, the cat was out of the bag. Ferguson uses mathematics; Swiss Medical Weekly uses case reports and branching trees.

Thank you President Trump for going to the Senate tomorrow for more action against the novel coronavirus. **If you are looking for what to do, read the Aylward NYT interview above and do exactly as the Chinese have done. Ask President Xi to partner with you.** Xi has contained and controlled the epidemic in his country. Some drastic actions, but mostly using IT and making it a war. For U.S., a war means quarantine of Seattle/its county, a War Production Board for testing kits, PPE, vaccine, home grown meds, COVID hospitals built by Corps of Engineers, making breaking quarantine a felony, and so on.

RGL,M.D.

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**From:** (b) (6)  
**Sent:** Tue, 31 Mar 2020 21:17:29 +0000 (UTC)  
**To:** Fauci, Anthony (NIH/NIAID) [E]; NIAID Ocpstoffice (NIH/NIAID)  
**Subject:** Fwd: Prospective Herbal Treatment for Novel Coronavirus Pandemic Disease  
**Attachments:** Coronavirus (2).docx

Dr Fauci / Ms. Kara M. Harris:

I received your response to my initial email correspondence, and was quite pleased that you and your office took the time to respond to what I had to say. This is in furtherance of that correspondence. I was not sure if to send to one or both of you, as you, Dr. Fauci, are a busy man doing important work, and it is not my intention to feel as if I am bothering you incessantly. But I felt both your eyes need to see this, and as such I am sending to both email addresses. Dr. Fauci I was quite pleased with your recent press conference detailing the potential scenario of the Coronavirus seasonal progression in the Northern and Southern hemispheres, as I am quite concerned about the African continent and its limited health and medical resources. Your talk was quite enlightening and well-explained in a most scientific manner.

Dr. Fauci we in the public are constantly warned not to fall for social media claims and rumor, but that is exactly what is happening because official government pronouncements are totally lacking in credibility, such as the 15 Covid-19 cases would quickly fall to zero, and now stands at 100,000. You are one of the few voices that is considered credible, and you should see to continuing to informing the public.

In addition to emailing me please feel free to contact me at the phone numbers listed in the letter if you, or your office, so chooses. Thank you.

Yours truly  
Ben Roberts

-----Original Message-----

**From:** grandt730 (b) (6)  
**To:** grandt730 (b) (6)  
**Sent:** Mon, Mar 30, 2020 10:34 am  
**Subject:** Prospective Herbal Treatment for Novel Coronavirus Pandemic Disease



September 14, 2020

Prospective Research & Testing Collaborator:

When the Coronavirus microbe COVID-19 made its debut I considered engaging the expansive, enlightening, and effervescent mind of one of America's best herbalist, Dr. James Duke, who I so enjoyed engaging during a Herb Walk at his farm, to suggest that he come up with, or collaborate with me on a patent herb prescription to turn back this menace. Sadly, and to my dismay, I found that the good doctor had left us from in 2012. What a miss. This man would have been a much-needed national resource at this time. Despite my dismay, my mind began to churn and I thought: "But all is not lost. We have the renowned Dr. Fauci at NIH, the NCCIH also at NIH, and my oasis-in-the-desert alma mater Traditional Acupuncture Institute (TAI), now Maryland Institute of Integrative Health (MUIH), and the World Health Organization (WHO). I will just contact one, or all of them, in an effort to partner my skill and knowledge towards contributing to mediating and stopping this disaster." Hence my contact:

I am Benjamin Roberts, degree-trained and certified in both Eastern and Western Medicine as an Acupuncturist and Medical Technologist. Add to that my years of novel work in the Biotechnology Research field with an employer who did studies for NIH, National Toxicology Program (NTP), Johns Hopkins, and legions of private companies that included overseas firms. My tomes of Chinese Herbal Medicine patents; leading Western herbal texts; invaluable texts on Alternative Medicine and folk medicines used on various continents by different cultures; and an oft-consulted invaluable CD archive of herbal remedies for just about any medical ailment, have afforded me great insight into the utilization of these powerful gifts of nature. With all this I feel the need to add my voice, and in my ability, to collaborate with entities to greatly retard and turn back the scourge of this pandemic using time tested herbs. Not unlike the Chinese have done, along with strict quarantining, in flattening their curve.

I stand somewhat nonplussed and dismayed at our Western response to the lethal march of this virus. We pretend we are 'sitting duck' victims devoid of resources to turn back this assault. Perish the thought! We each are possessed of an 'Anti-Pathogenic Factor' called our Immune System. It is each one's army of platelets, leucocytes, antibodies, immunoglobulins, and hormones that work in concert to allow us to best the 'Pathogenic Factor' that are the formidable microbes, fungi, and parasites from without. And if that were not enough, we each have a cauldron of boiling acid called our 'Stomach,' that is lethal to these invaders. This has been the case from time immemorial. At least that is what I have been teaching elementary and high school students in my Health Enrichment Learning Program (HELP) presentations on Career Day and at other requested times, outside my home state, and once even overseas on a contract basis. What's more is that Nature has gifted us with these herbs that not only supercharge those Immune Systems and organ systems to ward off these 'Pathogenic Factor' invaders, but are also capable of disabling, destroying, and eliminating them from our systems.

To this end I propose and allow your review of two prophylactic formulations that ward off infection by Covid-19, and one the more potent actual treatment for the illness. The prophylactics constitute herbs used by cultures on two continents, while the treatment formulation uses a combination of herbs commonly used by cultures on three continents. Hence it's added potency. These carefully selected herbs in the formulations, and in the concentrations put forward, have been arrived at solely by me, after extensive review of my personal herbal information resources. They appear nowhere else prior to this. As such this material is proprietary and copyrighted, requiring permissions for any attempted usage. Nonetheless, I am willing to partner and share recognition and any benefits with a suitable individual or entity, in making available and trial-testing what I have created. The alphabetic legend accompanying each herb will be explained at a later point in time. Thank you, please acknowledge receipt, and I most certainly look forward to hearing back from you on this most important matter soon.

Yours truly

Benjamin Roberts MT ASCP, M. Ac, L. Ac.

(b) (6) (H)

(b) (6) [C]

(b) (6)

**From:** KABIR, Sophia  
**Sent:** Wed, 1 Apr 2020 09:57:24 +0000  
**To:** SHOC;Office of the Director-General;Redfield, Robert R.  
(CDC/OD); (b) (6)  
(b) (6)  
David Heymann;Felicity Harvey  
(b) (6);Chris.Elias (b) (6);J.Farrar; (b) (6)  
(b) (6);Fauci, Anthony (NIH/NIAID) [E]; (b) (6)  
(b) (6);GREIN, Thomas;COX, Paul Michael;SCHWARTLANDER, Bernhard F.;MINHAS, Raman; (b) (6);Conrad, Patricia (NIH/NIAID) [E];MAHJOUR, Jaouad;FALL, Ibrahima Soce;Thomas R. Frieden;elhadj.sy;Lynn Banks;President | Resolve to Save Lives; (b) (6);AL-SHORBAJI, Farah (b) (6);Robynn Leidig;DRURY, Patrick Anthony;Dr VAN KERKHOVE, Maria; (b) (6);cherylc;GRAAFF, Peter Jan;POOLE, Marcia;Tarik Mohammed (b) (6);Carlos Navarro Colorado; (b) (6);Ryan Morhard;BRIAND, Sylvie;MORGAN, Oliver;Harries, Jenny;Awwad, David (NIH/NIAID) [C];SIMONSON, Stewart;SINGER, Peter Alexander;Jayatunga, Wikum; (b) (6);Julie.HALL;Amelie RIOUX; (b) (6);rosesper;SHIN, Young-Soo; (b) (6);Feng Ding; (b) (6)  
(b) (6);SMITH, Ian Michael;AYLWARD, Raymond Bruce J.; (b) (6)  
**Cc:** SHOC;Office of the Director-General;SCHWARTLANDER, Bernhard F.;MAHJOUR, Jaouad;FALL, Ibrahima Soce;GREIN, Thomas;MINHAS, Raman;COX, Paul Michael;AL-SHORBAJI, Farah;POOLE, Marcia;DRURY, Patrick Anthony;GRAAFF, Peter Jan;Dr VAN KERKHOVE, Maria;FARES, Christine Youssef  
**Subject:** Global health leaders call, Wednesday, 1 April at 13:00 CET  
**Attachments:** 200331\_COVID\_GHL.PDF

Dear colleagues,

On behalf of Mike Ryan, allow me to share with you today's COVID-19 update and analysis ahead of the informal coronavirus teleconference today at 13.00 CET.

Please find below, the key questions for your consideration and input today. We do not expect you all to address/speak on all the questions but just as a guide to your thinking and the ones you have views/advice/ideas.

(b) (4)

The dial-in number and passcode are attached.



If you experience any technical difficulties joining this conference call, please contact the WHO HQ EOC operator at: (b) (6)

Kind regards,

Sophia

**Sophia Kabir**

Executive Officer

Office of the Executive Director

WHO Health Emergencies Programme (WHE)

Tel. (b) (6)

Mobile (b) (6)

Website: [WHO in emergencies](#) | [WHO Facebook](#) | [WHO Twitter](#)



**From:** Mileur, Claudinne R CTR (USA)  
**Sent:** Tue, 18 Feb 2020 17:15:42 +0000  
**To:** Mileur, Claudinne R CTR (USA)

## **(U) COVID-19 SITREP 18 FEB 2020**

FEBRUARY 18, 2020 BY [CLAUDINNE MILEUR](#)

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- [More outbreak details emerge as COVID-19 cases top 70,000 – CIDRAP](#)
- [The director of a hospital at the heart of the outbreak has died from the virus -NBC NY](#)
- [Nebraska's specialized medical care has handled Ebola. Now it's taking on the novel coronavirus – CNN](#)
- [Chinese doctors using plasma therapy on coronavirus, WHO says 'very valid' approach – Reuters](#)
- [U.S. Epidemiologist Who Traveled To China To Investigate Coronavirus Relays Findings – NPR](#)
- [Tokyo, Wakayama and Aichi report new COVID-19 cases as 88 more aboard Diamond Princess test positive – Japan Times](#)
- [France Has Reported the First COVID-19 Death Outside Asia – Time](#)
- [Despite Coronavirus Alarm Bells, Global Health Security Remains Underfunded – UN Foundation/John Lange](#)

### **Surveillance**

[WHO Dashboard for Coronavirus \(COVID-19\)](#)

[Link to Johns Hopkins CSSE Live Mapping of COVID-19](#)

[EUROPE – Links to individual country health agencies providing information on 2019 nCoV](#)

## World Health Organization (WHO)

- [WHO SITREP #26 FEB 15 2020](#)
- [WHO SITREP #27 FEB 16 2020](#)
- [WHO SITREP #28 FEB 17 2020](#)

Total and new cases in last 24 hours:

1. Globally: 71,429 confirmed (2162 new)
2. China: 70,635 confirmed (2051 new) 1772 deaths (106 new)
3. Outside of China: 794 confirmed (111 new) 25 countries 3 deaths

## China – National Health Commission Update on February 18, 2020

### February 18, 2020

Confirmed cases: 1,886 new, 72,436 total.

Suspected cases: 1,432 new, 6,242 total.

Deaths: 98 new, 1,868 total.

Recoveries: 1,701 new, 12,552 total.

## European Centre for Disease Prevention and Control (ECDC)

CONTINENT COUNTRY / AREA		CONFIRMED CASES	DEATHS	COMMENTS
Asia	China	72508	1869	Including 59989 cases from Hubei province
Asia	Singapore	77	0	
Asia	Japan	59	1	
Asia	Thailand	35	0	
Asia	Republic of Korea	31	0	



CONTINENT	COUNTRY / AREA	CONFIRMED CASES	DEATHS	COMMENTS
Asia	Taiwan	22	1	
Asia	Malaysia	22	0	
Asia	Vietnam	16	0	
Asia	United Arab Emirates	9	0	
Asia	India	3	0	
Asia	Philippines	3	1	
Asia	Nepal	1	0	
Asia	Sri Lanka	1	0	
Asia	Cambodia	1	0	
Other	Cases on an international conveyance Japan	454	0	
Europe	Germany	16	0	
Europe	France	12	1	
Europe	United Kingdom	9	0	
Europe	Italy	3	0	
Europe	Spain	2	0	

CONTINENT COUNTRY / AREA		CONFIRMED CASES	DEATHS	COMMENTS
Europe	Russia	2	0	
Europe	Sweden	1	0	
Europe	Finland	1	0	
Europe	Belgium	1	0	
America	United States of America	15	0	
America	Canada	8	0	
Oceania	Australia	15	0	
Africa	Egypt	1	0	
<b>Total</b>	<a href="#">Source: ECDC</a>	<b>73328</b>	<b>1873</b>	

*For comparison, as of last Friday Feb 14:*

*Confirmed Cases: 64,544*

*Deaths: 13,83*

**Cases have been reported on the following continents:**

**Africa:** Egypt (1).

**Asia:** China (PRC) (72 438), Hong Kong (Special Administrative Region) (60), Macao (Special Administrative Region) (10), Singapore (77), Japan (59), Thailand (35), Republic of Korea (31), Malaysia (22), Taiwan (22), Vietnam (16), United Arab Emirates (9), India (3), Philippines (3), Cambodia (1), Nepal (1) and Sri Lanka (1).

**America:** United States (15) and Canada (8).

**Europe:** Germany (16), France (12), United Kingdom (9), Italy (3), Spain (2), Russia (2), Belgium (1), Finland (1), and Sweden (1).

**Oceania:** Australia (15).

**Other:** Cases on an international conveyance (Japan) (454).

**[U.S. Centers for Disease Control and Prevention \(CDC\)](#)**

People under Investigation (PUI) in the United States as of Feb 17

<b>POSITIVE</b>	15
<b>NEGATIVE</b>	392
<b>PENDING§</b>	60
<b>TOTAL</b>	467

## Surveillance Headlines

- [Airlines, officials trace path of couple diagnosed with coronavirus that flew from Hawaii – USA Today](#)
- [14 Americans Taken Off Cruise Ship And Flown To U.S. Test Positive For Coronavirus – NPR](#)
- [Thailand reports new coronavirus case, to increase entry screening – Reuters](#)
- [China is disinfecting and destroying cash to contain the coronavirus – CNN Business](#)
- [COVID-19: Singapore confirms four new cases – Yahoo News](#)
- [Two more COVID-19 cases confirmed in Taiwan – ECNS News](#)

## Response

- [Saudi Arabia Sends Support for China to Fight the New Coronavirus – PR Newswire](#)
- [The global responders: Who is leading the charge against the coronavirus outbreak – Stat](#)
- [UNICEF appeals for US\\$42.3 million to support the global Covid-19 outbreak response](#)

## Travel Advisories

- [Source: US Dept of State](#)
- [U.S. CDC Travel Advisories](#)

## Science and Tech

- [Seegene launches KFSA Approved COVID-19 Assay – Yahoo Finance](#)
- [“The disruption is enormous.” Coronavirus epidemic snarls science worldwide – Science Magazine](#)
- [Israeli device to help coronavirus patients nears market in China – Israel21](#)
- [Hong Kong-based AI healthtech startup opens up resources to global drug firms for free – Tech in Asia](#)
- [Penn State joins global effort for open access to emerging coronavirus research – Penn State](#)



## Zoonotic News

- PORCINE CORONAVIRUS VACCINES – [US Patent application](#) The present invention relates to a vaccine for protecting a pig against diseases associated with corona virus infection including porcine epidemic diarrhea virus (PEDV) and/or porcine deltacoronavirus (PDCoV). The vaccine commonly includes inactivated/killed PEDV (e.g., chemically inactivated PED virus), and/or recombinant PEDV antigen, and/or an adjuvant inactivated/killed PDCoV (e.g., chemically inactivated PDCoV virus), and/or recombinant PDCoV antigen and an adjuvant. Methods for protecting pigs against diseases associated with PEDV and/or PDCoV and methods of producing the porcine epidemic diarrhea virus and/or porcine deltacoronavirus vaccine are also provided.

## Antivirals

- [First antiviral drug approved to fight novel coronavirus – ZME Science](#)
- [Mobilizing Drug Development Efforts Against the Novel Coronavirus – BioSpace](#)
- [Antimalarial drug confirmed effective on COVID-19 – China.org](#)

## Vaccine News

- [Sanofi announces it will work with HHS to develop coronavirus vaccine – Stat](#)

## Published Research

- [Molecular Basis of Binding between Middle East Respiratory Syndrome Coronavirus and CD26 from Seven Bat Species – Journal of Virology](#)
- [Protecting health-care workers from subclinical coronavirus infection – Lancet](#)

## Pre-Pub (not yet peer reviewed, should not be regarded as conclusive)

- [Potentially highly potent drugs for 2019-nCoV – Department of Electrical and Computer Engineering – Michigan State University](#)
- [The Wuhan Pneumonia outbreak: 2019-nCoV virus possesses an open reading frame similar to SARS-CoV ORF6 protein – State Key Laboratory of Biocontrol, Guangdong](#)
- [Structural genomics and interactomics of 2019 Wuhan novel coronavirus, 2019-nCoV, indicate evolutionary conserved functional regions of viral proteins – Bioinformatics and Computational Biology Program, Worcester Polytechnic Institute](#)
- [Overview of The 2019 Novel Coronavirus \(2019-nCoV\): The Pathogen of Severe Specific Contagious Pneumonia \(SSCP\) – Division of Microbiology, Taipei, Taiwan](#)

- [Healthcare-resource-adjusted vulnerabilities towards the 2019-nCoV epidemic across China](#)

## **Infographics for Briefings**

- [How novel coronavirus spread across the world – visual explainer – The Guardian](#)
- [Coronavirus mapped: the latest figures as the outbreak spreads – Financial Times](#)
- [Coronavirus: Everything you need to know in a visual explainer \(updated daily\) – South China Morning Post](#)

## **Policy & Guidance**

- [U.S. Marine Corps Disease Containment reparedness Planning Guidance for 2019 Novel Coronavirus – USMC](#)
- [Preparing for COVID-19 : Guidance for Pacific Islands and areas in the WHO Western Pacific Region – WHO Pacific Region](#)
- [US Dept of Labor OSHA Recommendations for COVID-19 – US Dept of Labor](#)

## **Preparedness**

## **Economic Impact**

- [Comprehensive Analysis of COVID-19 Outbreak's Impact on Global High-Tech Industry – TrendForce](#)
- [Covid-19 restrictions hit Mongolia's coal exports – Hellenic Shipping News](#)

## **Foreign Relations**

## **Opinion Articles**

- [We're Reading the Coronavirus Numbers Wrong – NYT](#)



**Sent:** Mon, 24 Feb 2020 18:38:06 +0000  
**To:** Moughalian, Jen (HHS/ASFR); McGowan, Robert (Kyle) (CDC/OD/OCS); Shuy, Bryan (OS/ASPR/IO); Kadlec, Robert (OS/ASPR/IO); Grigsby, Garrett (HHS/OS/OGA); Zebley, Kyle (HHS/OS/OGA); Lenihan, Keagan (FDA/OC); Redfield, Robert R. (CDC/OD)  
**Cc:** Cochran, Norris (HHS/ASFR); Cabezas, Miriam (HHS/ASFR); Hittle, Taylor (HHS/ASFR)  
**Subject:** RE: Close Hold Review - Send comments by 1:40 pm

Jen:

See my suggested edits in **red**.

Thanks,

Tony

Anthony S. Fauci, MD  
Director  
National Institute of Allergy and Infectious Diseases

(b) (6)

The information in this e-mail and any of its attachments is confidential and may contain sensitive information. It should not be used by anyone who is not the original intended recipient. If you have received this e-mail in error please inform the sender and delete it from your mailbox or any other storage devices. The National Institute of Allergy and Infectious Diseases (NIAID) shall not accept liability for any statements made that are the sender's own and not expressly made on behalf of the NIAID by one of its representatives.

---

**From:** Moughalian, Jen (HHS/ASFR) (b) (6)  
**Sent:** Monday, February 24, 2020 1:18 PM  
**To:** McGowan, Robert (Kyle) (CDC/OD/OCS) (b) (6); Shuy, Bryan (OS/ASPR/IO) (b) (6); Kadlec, Robert (OS/ASPR/IO) (b) (6); Grigsby, Garrett (HHS/OS/OGA) (b) (6); Zebley, Kyle (HHS/OS/OGA) (b) (6); Fauci, Anthony (NIH/NIAID) [E] (b) (6); Lenihan, Keagan (FDA/OC) (b) (6); Redfield, Robert R. (CDC/OD) (b) (6)  
**Cc:** Cochran, Norris (HHS/ASFR) (b) (6); Cabezas, Miriam (HHS/ASFR) (b) (6); Hittle, Taylor (HHS/ASFR) (b) (6)  
**Subject:** Close Hold Review - Send comments by 1:40 pm  
**Importance:** High



Close hold. Please see below draft OMB language for a possible emergency supplemental request. Due to the fast moving nature of this process, please send comments by 1:40 PM. Numbers are still under discussion, and we will share more info in the daily update.

(b) (5)



Jen Moughalian

Assistant Secretary for Financial Resources (ASFR)

US Department of Health and Human Services

(b) (6) (Office)

(b) (6) (Cell)

**From:** Clark Tibbs PhageVax-VHO  
**Sent:** Wed, 19 Feb 2020 14:23:36 -0500  
**To:**

valer@janelia.hhmi.org; keeleyj@hhmi.org; valer@janelia.hhmi.org; ron.vale@ucsf.edu; mcgowanke@janelia.hhmi.org; phoebe.grigg@ucsf.edu; nan.zhang2@ucsf.edu; Zhen.Chen@ucsf.edu; rui.dong@ucsf.edu; Christina.Gladkova@ucsf.edu; agard@msg.uscf.edu; (b) (6); (b) (6)  
(b) (6); Whistleblower.Coordinator; Armstrong, Kimberly  
(OS/ASPR/BARDA); (b) (6)  
(b) (6)  
(b) (6)

**Cc:** Bright, Rick  
(OS/ASPR/BARDA); (b) (6); Kadlec, Robert  
(OS/ASPR/IO); cidrap@umn.edu; Gerry.Shih@washpost.com; simon.denyer@washpost.com; adam.taylor@washpost.com; reis.thebault@washpost.com (b) (6); Otobor, Tammy  
(CDC/DDID/NCIRD/ISD) (CTR) (b) (6)  
(b) (6); Maryn  
McKenna-BioWriter, (b) (6)  
(b) (6)  
(b) (6); Kadlec, Robert  
(OS/ASPR/IO) (b) (6); Otobor, Tammy (CDC/DDID/NCIRD/ISD) (CTR); CDC Lauren Peel JD Contracting Officer Office of the Chief Operating Officer; Perry, Wendy (AHRQ/OC); Khanna, Gopal (AHRQ/IOD); Meyers, David (AHRQ/IOD); (b) (6); Whistleblower.Coordinator; Stecker, Judy  
(OS/IOS) (b) (6); Flick, Heather  
(OS/OGC); (b) (6); porpora@siadvance.com; (b) (6)  
(b) (6); Gerry.Shih@washpost.com; simon.denyer@washpost.com; adam.taylor@washpost.com; reis.thebault@washpost.com (b) (6); Otobor, Tammy (CDC/DDID/NCIRD/ISD) (CTR); (b) (6)  
(b) (6); CDC Lauren Peel JD Contracting Officer Office of the Chief Operating Officer; Fauci, Anthony (NIH/NIAID) [E]; Conrad, Patricia (NIH/NIAID)  
[E]; (b) (6); julie.bartkey@state.mn.us; anne.hendrickson@state.mn.us; andrea.ahneman@state.mn.us; michael.schommer@state.mn.us; scott.smith@state.mn.us; doug.schultz@state.mn.us; (b) (6)  
(b) (6)

(b) (6); Armstrong, Kimberly  
(OS/ASPR/BARDA); Kadlec, Robert (OS/ASPR/IO); Adams, Peter (OS/ASPR/BARDA); Erlandson, Karl (OS/ASPR/BARDA); Schneider, Timothy; Khanna, Gopal (AHRQ/IOD); Meyers, David (AHRQ/IOD); Bierman, Arlene (AHRQ/CEPI); Cohen, Joel W. (AHRQ/CFACT); Brady, Jeff



(AHRQ/CQIIPS);Holland, Howard (AHRQ/OC);Chesley, Francis (AHRQ/OEREP);Toven, Jay P.  
(AHRQ/OMS);Perry, Wendy  
(AHRQ/OC);keithka@umich.edu;lonamody@umich.edu;saint@umich.edu;Rachel

Ramoni; (b) (6)

(b) (6);mmodaffe@med.umich.edu;kefowler@med.umich.edu;lonamody@umich.edu; (b) (6)

(b) (6);Rachel

Ramoni; (b) (6)

(b) (6)

**Subject:** To HHMI & CONGRESS :: Need Help :: Phage-based Vaccine vs. COVID-19  
Coronavirus .... via PhageVax 740-366-9013 cta

**Attachments:** To NIH ~ FULL (MODEL for Vaccine vs COVID-19) T4 PHAGE-Based Dual Vaccine  
vs Anthrax & Plague (Oct 2018).pdf

To:

Ronald D. Vale, PhD [valer@janelia.hhmi.org](mailto:valer@janelia.hhmi.org) ; [ron.vale@ucsf.edu](mailto:ron.vale@ucsf.edu)

HHMI Vice President & Executive Director, Janelia Research Campus

Ref: <https://www.janelia.org/people/ronald-vale>

19700 Helix Drive, Ashburn, Virginia 20147

Main Phone: 571.209.4000

-and-

Kevin McGowan, PhD [mcgowanke@janelia.hhmi.org](mailto:mcgowanke@janelia.hhmi.org)

-

Dr. Vale was formerly at: ... Dept. of Cellular & Molecular Pharmacology, UCSF, CA 94158

Ms. Phoebe Grigg [phoebe.grigg@ucsf.edu](mailto:phoebe.grigg@ucsf.edu)

Office: 415-476-6380 Direct: 415-502-6305

Lab Mgr: Nan Zhang [nan.zhang2@ucsf.edu](mailto:nan.zhang2@ucsf.edu)

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Zhen Chen, PhD [Zhen.Chen@ucsf.edu](mailto:Zhen.Chen@ucsf.edu)

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Christina Gladkova, PhD [Christina.Gladkova@ucsf.edu](mailto:Christina.Gladkova@ucsf.edu)

Ref: <https://valelab.ucsf.edu/contact>

-and-

David A. Agard, PhD [agard@msg.uscf.edu](mailto:agard@msg.uscf.edu)  
Dept. of Biochemistry & Biophysics, UCSF  
Howard Hughes Medical Institute, Chevy Chase, MD

-and-

Gira Bhabha, PhD (b) (6)  
Applied Bioinformatics Labs, NYU of Medicine, NYC, USA  
Phone: +1 212 263 2959

-  
Email list: [valer@janelia.hhmi.org](mailto:valer@janelia.hhmi.org) ; [ron.vale@ucsf.edu](mailto:ron.vale@ucsf.edu) ; [megowanke@janelia.hhmi.org](mailto:megowanke@janelia.hhmi.org) ; [phoebe.grigg@ucsf.edu](mailto:phoebe.grigg@ucsf.edu) ;  
[nan.zhang2@ucsf.edu](mailto:nan.zhang2@ucsf.edu) ; [Zhen.Chen@ucsf.edu](mailto:Zhen.Chen@ucsf.edu) ; [rui.dong@ucsf.edu](mailto:rui.dong@ucsf.edu) ; [Christina.Gladkova@ucsf.edu](mailto:Christina.Gladkova@ucsf.edu) ; [agard@msg.uscf.edu](mailto:agard@msg.uscf.edu) ;  
(b) (6)

Jim Keeley [301.215.8858](tel:301.215.8858) [keeleyj@hhmi.org](mailto:keeleyj@hhmi.org) << I left a v-m for you, sir.

**Start: When funded:** PhageVax, Inc. needs **\$300,000** to Start.  
This is equal to the yearly salaries for 2 PhDs at most Universities.

2 WEEKS ... to find the **optimal epitopes** to **decorate** the T-4 Lambda Bacteriophage (Phage) Heads .....  
..... via 20 to 25+ Candidates tested in mouse model .....

1 WEEK ... to verify the optimal epitopes did raise optimal antibodies in mouse model. **May** begin  
challenge-testing in **rabbit model**.

-

We humans are going to need all the support we can get from the US Government .....  
..... however the HHS Decision-makers **are ignoring** this critical information.

My name is Clark Tibbs 1-740-366-9013 Question: Can Government and/or HHMI assist in this effort ?

-

-

---

**From:** Clark Tibbs PhageVax-VHO [mailto:[PhageVax@roadrunner.com](mailto:PhageVax@roadrunner.com)]

**Sent:** Wednesday, February 19, 2020 8:01 AM

**To:** (b) (6)

(b) (6)

**Subject:** To Sen. Tom Cotton via Staff :: Need Help :: Phage-based Vaccine vs. COVID-19  
Coronavirus .... via PhageVax 740-366-9013



*Today is: Weds. Feb. 19th, 2020*

To:

SEN. TOM COTTON (AR)

... via ...

Chief of Staff (b) (6)

Scheduler (b) (6)  
Legislative Director (b) (6)  
Press Secretary (b) (6)

-  
United States Senate -- 326 Russell Senate Office Building, Washington, DC 20510

Phone: (b) (6) Fax: 202-228-0908

Ref: <https://www.cotton.senate.gov/?p=contact>

Email list: (b) (6)

(b) (6)

-  
**Hello Sen. Cotton and Staff,** My name is Clark Tibbs 1-740-366-9013

-  
For the USA, alone, we will need **700 Million Vaccine Doses** of the Phage-based Vaccine vs. COVID-19 Coronavirus.

-  
We claim we can make the **700 M Doses in only 13 Weeks**. See below.

-  
..... The new Coronavirus **COVID-19** ... can remain viable on surfaces for up to **8 to 9 days**.

..... Some victims may not show symptoms for up to **24 days**.

-  
It is good to see that you are interested in this GLOBALLY IMPORTANT EFFORT.

We humans are going to need all the support we can get from the US Government .....

..... however the HHS Decision-makers **are ignoring** this critical information.

-  
Now, here is an ***excellent vaccine*** example vs. **Anthrax and Plague** ... which can serve as a Vaccine vs. COVID-19

-  
-----  
PhageVax™ and its science-base of experts may need to enhance the epitopes whilst using **Codon Harmonization**.

Please consider this Novel "Tunable Lambda Phage-Head" Vaccine Platform vs. the new Coronavirus **COVID-19** ...

PhageVax™, hereby, offers to plan & organize diverse teams of well-established scientists to defeat/prevent various global Viral & Bacterial & Fungal & Parasite Diseases ... after funding from any responsible global organization. **Gated communities will not stop disease.**

**'One Health'** is observed and the primary paradigm at PhageVax™. Typical international travel from 1<sup>st</sup> world nations *has become hazardous to your health*.

*Finally*, Nation-states and other Terrorist-organizations are contemplating the low financial cost and high kill-rate of easy to genetically-modify and rapidly distributed Viral Diseases. **The USA**



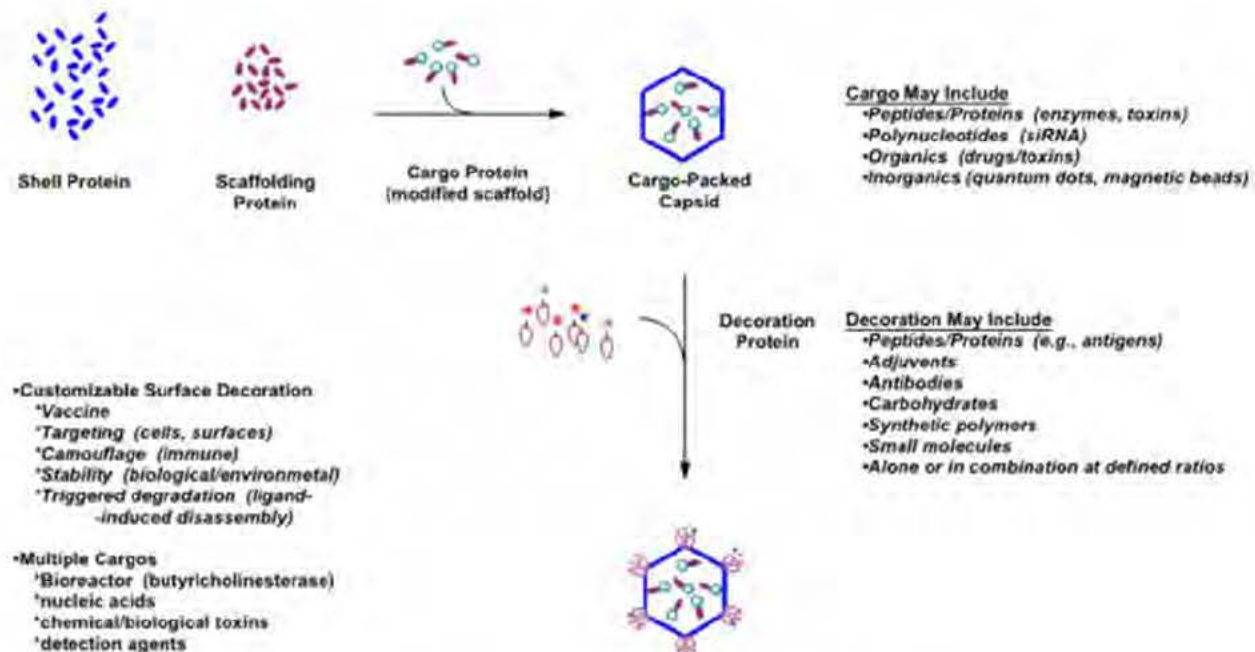
is not ready. The World is not ready. This vaccine-platform documented below makes steps toward desired 'readiness'.

## Tunable Designer Nanoparticles™ for Theragnostic™, Vaccine and Bioreactor Applications

**Overview:** Historically, nanoparticles fall into two broad classes, viral and synthetic; each has advantages and disadvantages. To address these issues, we have developed a system that marries viral and synthetic design principles to afford “designer” nanoparticles for use in therapeutic, diagnostic and vaccine applications. Specifically, we have adapted the *phage lambda system* to afford nanoparticles whose surface can be *selectively* decorated with a variety of protein, carbohydrate and synthetic polymer-based macromolecules.

These can be displayed alone or in combination in *rigorously defined ratios* that are *precisely displayed* on the **shell (capsid) surface**. This feature is unprecedented in nanoparticle design. In addition, the particle can be *simultaneously loaded* with a variety of **cargo (phage-head packaging)**, again tailored to specific end-user requirements. Potential cargos include peptide, nucleic acid, organic and inorganic molecules, including drugs, toxins, quantum dots and metallic beads.

The system is *modular, tunable and adaptable*, which allows the design and construction of semi-synthetic nanoparticles for rapid deployment of particles tailored to specific “theragnostic™”, bioreactor, and vaccine applications.



Designer Nanoparticle™ Construction and Applications

Our partners have shown that (i) small molecules, antibodies, glycoproteins and synthetic polymers can be used to decorate the shell surface in defined ratios, and that (ii) DNA and enzymes can simultaneously be “packaged into” each of the particles as cargo.

Here we propose to develop the system as a defined and tuned antigen particle for vaccine applications vs. Parasites, Viruses, Bacteria

Modular paradigm affords **plug-n-play** as universal platform.

Briefly, the decoration protein will be modified to display peptides derived from the target glycoprotein(s).

The nanoparticle shell can be decorated with a single sequence, or with a single and/or variety of different peptide sequences, glycosylated and non-glycosylated.

The epitopes will be displayed in defined ratios to optimize the antibody response. Importantly, the modified decoration proteins assemble as trimers at 140 sites that are symmetrically displayed on the shell (capsid) surface. This feature affords a particle that presents antigens in high concentration and that are displayed in a predictable manner. In addition, the particle can be designed to simultaneously display antigens and many permutations of various types of adjuvants to engender a *highly antigenic* particle.

The platform can be *rapidly and specifically adapted* to generate a highly antigenic particle for vaccine development vs. any pathogen. Fewer steps to completion.

Thus, the modular system is ideally suited to rapid development and deployment of viable vaccines for emerging viral and bacterial threats, both natural and those developed as bioterror agents.

As an example: At least Three (3) to Four (4) individual vaccines (vs. the target pathogen) ... can be add-mixed to: **inform** the T-cells; **inform** the B-Cells; **inform** the Dendritic Cells (DCs); **inform** the Hematopoietic Stem Cells (HSC) (if needed) ? ... please see *recent discovery* below.

**Note:** When/if ... **cytokine storms** are observed in non-human primates and/or other Test Animals, then the PhageVax™ Teams will simply dial-back the tune-ability mechanisms that are built into these superior vaccine tools:

Please see: <https://www.ncbi.nlm.nih.gov/pubmed/?term=cytokine+storm+review>

The Phage-heads may be more heat-stable than current preparations for **less dependence on the cold-chain**.

The Lambda Phage Heads have distinct advantages over **Ad5** or **MVA** or **Lentivirus** or **Cell Culture** or **VLPs** or **Baculovirus**



---

Recent discovery (Sept. 2018):

Eva Kaufmann receives the prize for describing a new mechanism for protection against tuberculosis with the vaccine Mycobacterium bovis Bacillus Calmette-Guérin (BCG). Tuberculosis is an infectious disease caused by mycobacteria. With approximately 1.7 million deaths per year, the disease is one of the ten most frequent causes of death worldwide. BCG is so far the only tuberculosis vaccine approved worldwide. The vaccine consists of attenuated, non-infectious bovine tuberculosis bacteria that are used as live vaccines. It is known that macrophages play a decisive role in the defence against tuberculosis infections. Unfortunately, macrophages are only very short-lived. Therefore, vaccine strategies directly targeting macrophages would have only a limited effect on the generation of longterm immunological memory. In contrast to macrophages, their precursor cells, the Hematopoietic Stem Cells (HSC) in the bone marrow, are very long-lived. HSC generate all cells of the blood system. Eva Kaufmann's work in the mouse model shows that the access of BCG to the bone marrow leads to a reprogramming of HSCs.

---

### COVID-19 SEQUENCES AS OF MID-FEB 2020

<http://virological.org/c/novel-2019-coronavirus/ncov-2019-evolutionary-history/35>

<http://virological.org/c/novel-2019-coronavirus/ncov-2019-genomic-epidemiology/36>

<http://virological.org/c/novel-2019-coronavirus/ncov-2019-diagnostics-and-vaccines/37>

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<https://www.ncbi.nlm.nih.gov/genbank/2019-ncov-seqs/>

2019-nCoV Sequences (Wuhan coronavirus) ..... The tables below list the 2019-nCoV (Wuhan coronavirus) sequences currently available in GenBank and the Sequence Read Archive (SRA). ..... The sequence lists were last updated Friday Feb 07 10:45 2020 EST, and are updated as additional sequences are released. The table content is available for [download](#).

---

>>> How many Doses can **CEPI Sponsored Companies** claim over what period of time? <<<

For the USA, alone, we will need 700 Million Vaccine Doses of the Tunable T-4 Lambda Bacteriophage-Head Vaccine vs. COVID-19:

See these Timeline & Volume Estimates: +/- 10%

- The Tunable T-4 Lambda Phage Head Vaccine Platform vs. the 2019-nCoV Coronavirus

- COVID-19 VACCINE ... STEPS ... TIME ... VOLUME [ Manufactured to FDA cGMP and cGLP Standards ]

**Start: When funded:** PhageVax, Inc. needs \$300,000 to Start.  
This is equal to the yearly salaries for 2 PhDs at most Universities.

2 WEEKS ... to find the **optimal epitopes** to **decorate** the T-4 Lambda Bacteriophage (Phage) Heads .....  
..... via 50+ Candidates tested in mouse model .....

- 1 WEEK ... to verify the optimal epitopes did raise optimal antibodies in mouse model. Begin challenge-testing in **rabbit model**.  
-



2 WEEKS ... 10+ Vaccine Candidates are grown in 1 liter flasks for viability and other proprietary standards.

2 WEEKS ... 2+ Vaccine Candidates are transferred to (2 Qty) **GE Wave Bioreactors** and grown overnight to  $10^{13}$  Phage Heads Titer.

[ Note: **25 LITERS** disposable plastic bags ]

1 WEEK ...  $10^{13}$  Phage Heads Titer ... are **diluted** in proper medium to  $10^7$  Phage Heads Titer = **10 Million Doses** for typical human.

1 WEEK ... Challenge-testing in **rabbit model** ... must prove **90% effective**, otherwise must re-construct the Phage Heads

4 WEEKS ... After all testing is completed: (35 to 40 Qty) GE Wave Bioreactors = **25 LITERS/each** = **700 Million Doses** for typical human.

**diluted** to  $10^7$  Phage Heads Titer

### 13 WEEKS

#### NOTE:

Various administration routes will be tested in **Human Clinical Trials**, however the typical **Intramuscular (IM)** route is preferred.

<https://www.ncbi.nlm.nih.gov/pubmed/?term=Rao+VB> See 10, as example.-

<https://www.ncbi.nlm.nih.gov/pubmed/?term=Chopra+AK+Rao+VB> Excellent Scientists -

<https://www.ncbi.nlm.nih.gov/pubmed/?term=Chopra+AK> See 2 VERY IMPORTANT-

<https://www.ncbi.nlm.nih.gov/pubmed/?term=Catalano+CE> Another Bacteriophage Expert.

Here are **US Government Officials** (in Washington, DC) who can verify this need:

**HHS Secretary** - Alex M. Azar Direct (b) (6)

... via ... (b) (6)

HHS HQ, U.S. Dept.of Health & Human Services, 200 Independence Ave. SW., Wash., D.C. 20201

CDER Small Business & Industry Assistance (SBIA) << **FDA's CDER can verify this need.**

Contact the CDER SBIA staff ... (b) (6)

**FROM:** <https://www.fda.gov/drugs/development-approval-process-drugs/cder-small-business-industry-assistance-sbia>

**Robert Kadlec, MD** (b) (6) << **This man can verify this need.**

Assistant Secretary for Preparedness and Response (ASPR)

Ref: <https://www.hhs.gov/about/leadership/robert-kadlec/index.html>

(Judiciary) [Shadawn Reddick-Smith](#) (b) (6)

(Judiciary) [Daniel Schwarz](#) (b) (6)

(Oversight) [Aryele Bradford](#) (b) (6)  
(Homeland Security) [Adam Comis](#) (b) (6)

-

(b) (6) (b) (6)

-

Judiciary Cmte. (b) (6), Oversight Cmte. (b) (6), Cmte. on Homeland Security (b) (6)

-

To: Adam Comis (Asst. to Chair) with US House DHS Cmte: (b) (6)

-

To: (b) (6) ( US Rep. Troy Balderson [OH-12] ) (b) (6)  
Timothy Schneider - Constituent Caseworker Congressman Troy Balderson | OH-12

(b) (6) (b) (6)

-

=====

Clark Tibbs, CEO

PhageVax, Inc. [www.PhageVax.com](http://www.PhageVax.com)

CAGE CODE: 4M4V6 [www.sam.gov](http://www.sam.gov)

Phone: [740.366.9013](tel:740.366.9013) Fax: [740.366.5230](tel:740.366.5230) Cell: (b) (6)

E-mail: [Clark@PhageVax.com](mailto:Clark@PhageVax.com) -or- [CTA@ee.net](mailto:CTA@ee.net)

General Offices & HQ: 855 Sharon Valley Road, Suite 101 Newark, Ohio 43055-2860 USA

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-

**From:** Mileur, Claudinne R CTR (USA)  
**Sent:** Fri, 21 Feb 2020 14:39:20 +0000  
**To:** Mileur, Claudinne R CTR (USA)  
**Subject:** COVID-19 SITREP 21 FEB 2020 (View in HTML)

## COVID-19 SITREP 21 FEB 2020

FEBRUARY 21, 2020 BY [CLAUDINNE MILEUR](#)

UNCLASSIFIED

**Produced by U.S. European Command J2 Open Source Element (ECOSE)**

[See our website for more information \(CAC or PIV Required\)](#)  
(Website Updated hourly)

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(b) (6)

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### Featured Headlines

- [South Korea Says COVID-19 Cases Doubled In 24 Hours – NPR](#)
- [S. Korea reports 2nd death of coronavirus patient – Yonhap News](#)
- [South Korea declares Daegu 'special management zone' after COVID-19 death as infections surge – Japan Times](#)
- [Confusion mounts over China's counting methods as coronavirus numbers swing wildly – Washington Post](#)
- [Iran notes more COVID-19 cases as 2 from Diamond Princess die – CIDRAP](#)
- [Wuhan still struggling to get medical supplies after nearly a month of lockdown – South China Morning Post](#)
- [How COVID-19 Is Spread – The Scientist](#) COVID-19 is spread primarily via respiratory droplets released as someone coughs, sneezes, or talks. Viruses contained in these droplets can infect other people via the eyes, nose, or mouth—either when they land directly on somebody's face or when they're transferred there by people touching their face with contaminated hands. Because respiratory droplets are too heavy to remain suspended in the air, direct person-to-person transmission normally only happens when people are in close contact—within about six feet of each other, according to the US Centers for Disease Control and Prevention (CDC). It could also occur in a medical setting, if someone has to handle respiratory secretions such as saliva or mucus from an infected person.

---

### Surveillance



[WHO Dashboard for Coronavirus \(COVID-19\)](#)

[Link to Johns Hopkins CSSE Live Mapping of COVID-19](#)

[EUROPE – Links to individual country health agencies providing information on 2019 nCoV](#)

## World Health Organization (WHO)

- [WHO SITREP #31 FEB 20 2020](#)

Total and new cases in last 24 hours:

1. Globally: 75,748 confirmed (548 new)
2. China: 74,675 confirmed (399 new) 2,121 deaths (115 new)
3. Outside of China: 1,073 confirmed (149 new) 26 countries (1 new) 8 deaths (5 new)

---

## China – National Health Commission Update on February 21, 2020

[February 21, 2020](#)

Confirmed cases: 889 new, 75,465 total.

Suspected cases: 1,614 new, 5,206 total.

Deaths: 118 new, 2,236 total.

Recoveries: 2,109 new, 18,264 total.

---

## European Centre for Disease Prevention and Control (ECDC)

*as of Feb 21, 2022 ECDC*

**Africa:** Egypt (1).

**Asia:** China (74 595), Hong Kong (65), Macao (10), Singapore (84), Japan (84), South Korea (82), Thailand (35), Taiwan (24), Malaysia (22), Vietnam (16), United Arab Emirates (9), India (3), Philippines (3), Islamic Republic of Iran (2), Cambodia (1), Nepal (1) and Sri Lanka (1).

**America:** United States (15) and Canada (8).

**Europe:** Germany (16), France (12), United Kingdom (9), Italy (3), Spain (2), Russia (2), Belgium (1), Finland (1), and Sweden (1).

**Oceania:** Australia (15)

**Other:** Cases on an international conveyance (Japan) (621).

*For comparison, Feb 20 stats:*

*Confirmed Cases: 75,744*

*Deaths: 2,128*

CONTINENT	COUNTRY / TERRITORY / AREA	CONFIRMED CASES	DEATHS	COMMENTS
Asia	China	74670	2120	Including 62031 cases from Hubei province
Asia	Japan	84	1	
Asia	Singapore	84	0	
Asia	Republic of Korea	82	0	
Asia	Thailand	35	0	
Asia	Taiwan	24	1	
Asia	Malaysia	22	0	
Asia	Vietnam	16	0	
Asia	United Arab Emirates	9	0	
Asia	Philippines	3	1	
Asia	India	3	0	
Asia	Iran (Islamic Republic of)	2	2	
Asia	Sri Lanka	1	0	
Asia	Cambodia	1	0	

CONTINENT	COUNTRY / TERRITORY / AREA	CONFIRMED CASES	DEATHS	COMMENTS
Asia	Nepal	1	0	
Other	Cases on an international conveyance Japan	621	2	
Europe	Germany	16	0	
Europe	France	12	1	
Europe	United Kingdom	9	0	
Europe	Italy	3	0	
Europe	Spain	2	0	
Europe	Russia	2	0	
Europe	Sweden	1	0	
Europe	Finland	1	0	
Europe	Belgium	1	0	
America	United States of America	15	0	
America	Canada	8	0	
Oceania	Australia	15	0	
Africa	Egypt	1	0	



CONTINENT	COUNTRY / TERRITORY / AREA	CONFIRMED CASES	DEATHS	COMMENTS
Total		75744	2128	

## U.S. Centers for Disease Control and Prevention (CDC)

People under Investigation (PUI) in the United States – [FEB 19 CDC](#)

POSITIVE	15
NEGATIVE	412
PENDING§	52
TOTAL	479

## Surveillance Headlines

- [South Korea: USFK limits soldiers' travel to Daegu, closes several facilities amid surge in coronavirus cases – Korean Herald](#)
- [Israel: Israel says cruise passenger flown home from Japan has virus – Washington Post](#)
- [Iran: 2 more Covid-19 related deaths in Iran, 13 new cases confirmed – Hindustan Times](#)
- [China Prison: 34 inmates in East China prison confirmed to have been infected with COVID-19 – Xinhua](#)
- [More Covid-19 cases in Iran's Qom; religious gatherings under threat – Malay Mail](#)
- [Doctor infected in Iran – Iran MOH](#) [machine translated from Iran MOH] Based on laboratory evidence, three patients hospitalized in Qom and Arak have been approved for Covid 19 and the patients are currently in hospital Are in care. Dr. Kianoush Jahanpour, speaking to a Webda reporter, said: As of this morning, the tests revealed two new cases in Qom and one in Arak to Kovid 19, all three patients were Iranian nationals and the affected person was in Arak. He is also a resident of Qom and one of our physician associates. Taking this into account, there are five confirmed cases of CVD in the country.
- [USA: Olympia woman tests positive for coronavirus after cruise – My Northwest](#)
- [USA: SF Hospital Treating Case of Novel Coronavirus – NBC San Francisco](#)
- [USA: 11 Americans at Omaha facility tested positive for coronavirus – CNN](#)
- [USA: California – First case of novel Coronavirus confirmed in Humboldt County – Humboldt News](#)
- [Japan: Three boys with COVID-19 are Japan's youngest cases – Japan Times](#)

- [Japan: What a Party in Japan May Tell Us About the Coronavirus's Spread – NYT](#) At a party with 90 guests of a local taxi association who were celebrating the new year as their boat floated down the Sumida River. Also on board, unbeknown to them, was a coronavirus capable of spreading ferociously.
- [Health officials expect coronavirus to spread worldwide – Harvard Gazette](#)
- [China Loses \(another\) Young Doctor To COVID-19 – Medical Express](#)

## Response

- [China withholds permission to India for delivering relief in Wuhan – Mathrubhumi News](#)

## Travel Advisories

- [New Travel advisory issued for Hong Kong – Dept of State](#)
- [Department of State Travel Advisory List](#)
- [U.S. CDC Travel Advisories](#)

## Science and Tech

- [The Cardiac Implications of Novel Coronavirus – Diagnostic and Interventional Cardiology](#)
- [New Israeli technology presents COVID-19 diagnostic that may significantly reduce testing time – Homeland Preparedness News](#)
- [Specialized respirators are key to stopping spread of coronavirus to medical staff – Live Science \[link to pre-pub report: Association between 2019-nCoV transmission and N95 respirator use\]](#)

## Zoonotic News

- [Bats Harbor Hundreds Of Coronaviruses, And Spillovers Aren't Rare – NPR](#)

## Antivirals

- [Five new drugs in clinical trials for COVID-19 treatment – UNTV](#)
- [Columbia University Researchers Awarded \\$2 Million To Identify Antiviral Drugs for New Coronavirus – Columbia University](#)

## Vaccine News

- [COVID-19 Vaccine Will Close in on the Spikes – PLoS](#)



## Published Research

Pre-Pub (not yet peer reviewed, should not be regarded as conclusive)

- [Association between 2019-nCoV transmission and N95 respirator use – RXiv](#)

## Infographics for Briefings

- [How novel coronavirus spread across the world – visual explainer – The Guardian](#)
- [Coronavirus mapped: the latest figures as the outbreak spreads – Financial Times](#)
- [Coronavirus: Everything you need to know in a visual explainer \(updated daily\) – South China Morning Post](#)
- [Visualizing the spread of the coronavirus – USA Today](#)

## Policy & Guidance

- [U.S. Marine Corps Disease Containment reparedness Planning Guidance for 2019 Novel Coronavirus – USMC](#)
- [Preparing for COVID-19 : Guidance for Pacific Islands and areas in the WHO Western Pacific Region – WHO Pacific Region](#)
- [US Dept of Labor OSHA Recommendations for COVID-19 – US Dept of Labor](#)

## Preparedness

## Economic Impact

- [Covid-19 presents economic policymakers with a new sort of threat – The Atlantic](#)
- [Prices rising in North Korea following COVID-19 shutdown – UPI](#)
- [How the Coronavirus is Impacting Chemical Companies – Powder and Bulk Solids](#) [Editor's note: I didn't know this source existed either...]
- [COVID-19 And Global Supply Chains: Watch Out For Bullwhip Effects – Forbes](#)

## Foreign Relations

## Opinion Articles



**From:** Jose Maria Miro Meda  
**Sent:** Wed, 18 Mar 2020 06:25:22 +0000  
**To:** Folkers, Greg (NIH/NIAID) [E]  
**Cc:** Conrad, Patricia (NIH/NIAID) [E]; Fauci, Anthony (NIH/NIAID) [E]  
**Subject:** RE: Virtual CROI 2020 Coronavirus presentation / FROM FAUCI OFFICE  
**Attachments:** 2020-03-14\_Dr. Miro Summary COVID19 PostCROI 2020 Web-2.pdf

Sorry, there was a minor mistake in the previous presentation. This is the right presentation.  
Thanks, Jose

---

**De:** Jose Maria Miro Meda <josemaria@miomoreno.org>  
**Enviado el:** miércoles, 18 de marzo de 2020 6:41  
**Para:** Folkers, Greg (NIH/NIAID) [E] (b) (6)  
**CC:** Conrad, Patricia (NIH/NIAID) [E] (b) (6); (b) (6)  
**Asunto:** RE: Virtual CROI 2020 Coronavirus presentation / FROM FAUCI OFFICE

Dear Greg, thank you very much for your help. Attached you will find the presentation I did yesterday. Please, thanks to Dr. Fauci. Hoping he is fully recovered. Best regards, Jose

---

**De:** Folkers, Greg (NIH/NIAID) [E] (b) (6)  
**Enviado el:** martes, 10 de marzo de 2020 23:37  
**Para:** Jose Maria Miro Meda (b) (6)  
**CC:** Conrad, Patricia (NIH/NIAID) [E] (b) (6)  
**Asunto:** RE: Virtual CROI 2020 Coronavirus presentation / FROM FAUCI OFFICE

Dr Miro,  
I am responding on Dr Fauci's behalf.  
Thank you for the kind words.  
Here are those slides.

Regards,

*Greg*  
Gregory K. Folkers, M.S., M.P.H.  
Chief of Staff, Immediate Office of the Director  
National Institute of Allergy and Infectious Diseases (NIAID)  
National Institutes of Health/DHHS  
9000 Rockville Pike  
Bldg. 31, Room 7A-05  
Bethesda, MD 20892  
@greg\_folkers  
(b) (6)

---

**From:** Jose Maria Miro Meda <[josemaria@miromoreno.org](mailto:josemaria@miromoreno.org)>

**Sent:** Tuesday, March 10, 2020 2:23 PM

**To:** Fauci, Anthony (NIH/NIAID) [E] (b) (6); Fauci, Anthony (NIH/NIAID) [E]

(b) (6)

**Subject:** Virtual CROI 2020 Coronavirus presentation

Dear Dr. Fauci,

I have seen your excellent presentation at virtual CROI2020 on coronavirus. Please, could you send me your PowerPoint presentation? I would like to use some slides for the post-CROI meeting that we have in Barcelona and I would like to use some of them. The meeting is attended by students, residents and young staff physicians. Your presentation would be of help for us.

Thanks in advance for considering my proposal. I wish you a speedy recovery from your hoarseness. It really is very meritorious what you have done.

Best regards,

Jose

Dr. Jose M. Miro  
Consultant, Infectious Diseases Service  
Associate Professor of Medicine  
Hospital Clinic - IDIBAPS  
University of Barcelona  
Helios - Villarroel Building - Desk no. 26 Villarroel, 170  
08036 - Barcelona (Spain)

Phone # 34-93-2275400 (Ext. No. 2765)

Cellular (b) (6) (only working days from 9:00 to 17:00 hours)

Beeper (b) (6)

Fax # 34-93-4514438

Email 1 # [jmmiro@ub.edu](mailto:jmmiro@ub.edu) (Work)

Email 2 # [josemaria@miromoreno.org](mailto:josemaria@miromoreno.org) (Home)

<https://www.clinicbarcelona.org/>

**From:** Jason Gale (BLOOMBERG/ NEWSROOM:)  
**Sent:** Sat, 14 Mar 2020 12:06:43 -0000  
**To:** undisclosed-recipients:  
**Subject:** Greetings from Bloomberg: Re: COVID-19 news

Hi there,

I have been maintaining a list of contacts to whom I share Bloomberg news related to Covid-19. I did something similar during the H1N1 pandemic in 2009 and with H5N1 avian flu before that. I have also shared stories with some of you about AMR.

I view sharing our news as a way of reciprocating information (and a form of passive peer-review). Hopefully, it also generates some goodwill, transparency around what we do as journalists, and genuinely informs in a helpful way.

I am, though, conscious of spamming people. Apologies if you're already irritated by this unsolicited email! If, on the other hand, you would find stories like the one attached useful, please let me know.

If you would like to receive more Covid-19 news from me, so that I can send you more appropriate news (and avoid spamming you), please indicate your area of interest:

- \* breaking news (YES/NO)
- \* basic science/epidemiology (YES/NO)
- \* policy (YES/NO)

Would be willing to be interviewed or answer questions occasionally on or off the record? (YES/NO)

If I don't hear from you, I'll take it that you'd like to pass, and I'll stop spamming you. In any case, I'll try not to send you more than a few emails a day. I know I'm struggling under the weight of the info-demic!

Kindest regards and all the best,

Jason

---

Coronavirus Tally May Be Tip of Iceberg as Sick Go Untested  
2020-03-14 08:20:01.130 GMT

By Naomi Kresge and Corinne Gretler  
(Bloomberg) -- Nizana Brautmann found out her 6-year-old son had been exposed to coronavirus via a note on the locked door of his Berlin daycare center on Monday morning. It told parents to take their kids home and wait.  
That was the last clear information she got. The center asked parents to decide whether to quarantine their families. Her doctor told her to stay away from his office and take over-



the-counter cold remedies. A medical hotline advised herbal tea. Though her son had a cough and Brautmann was running a slight fever and had some trouble drawing a full breath, a test was surprisingly hard to come by.

Brautmann is just one among many. As the focus of the new pandemic shifts to Europe, authorities there have been slower to embrace the aggressive testing credited with helping to curb the spread in Asia. The U.K. changed its rules late Thursday to test only the most severe cases -- people who require hospitalization -- as officials there warned that as many as 10,000 Britons may be infected.

Meanwhile, a shortage of tests in the U.S. has left the true scope of the pandemic unclear. While restrictions help prevent authorities from wasting precious detection kits and staff time on hypochondriacs, not casting a wide enough net can give the pathogen a chance to spread undetected. The World Health Organization issued a stern warning on the matter this week as case numbers spiked.

"You can't fight a virus if you don't know where it is,"

WHO Director-General Tedros Adhanom Ghebreyesus said Thursday.

"That means robust surveillance to find, isolate, test and treat every case, to break the chains of transmission."

Though four out of five people will probably have mild symptoms, the new coronavirus can be deadly for the elderly and people with conditions such as diabetes and high blood pressure. There are signs things could start to pick up in the U.S.

Roche Holding AG has won emergency approval from the federal government for a highly automated test, potentially speeding up tenfold the ability to diagnose patients. Anthony Fauci, director of the National Institute for Allergy and Infectious Diseases, told MSNBC on Friday that testing will accelerate within the next week because of increased coordination with private companies.

Meanwhile, the challenge of tracking the chains of infection when this coronavirus gives some people barely any symptoms means the existing number of worldwide cases, currently above 135,000, is an understatement. The U.K. estimate of 10,000 is more than 12 times the official tally of confirmed cases as of Friday.

### 'Disastrous' Decision

"Testing only the most severe cases is a disastrous public-health decision," said Ralph Baric, a professor at the University of North Carolina's Gillings School of Global Public Health and a veteran coronavirus researcher. People with few to

no symptoms can easily pass the virus, he said, predicting “hundreds of thousands of additional infections” from uncontrolled spread without broader testing.

When Spain expanded its criteria in early March beyond just those with a link to recent travel to China, its case tally surged from just a handful to several hundred. A death that had been attributed to another cause was swiftly uncovered. In the Seattle area, the virus began circulating in January but remained undetected until patients at a nursing home started dying.

In France, health authorities readily acknowledge that the official figures don’t reflect reality. Only “the tip of the iceberg” is visible, says Jerome Salomon, France’s director general for health. But he points to other ways of identifying clusters: One person in the hospital means at least six or seven others must have a more benign form of the virus, he said at a briefing Wednesday. One death signals that at least 100 others are infected in the area.

In European countries including France, Germany, Switzerland and Austria, authorities are sticking to a policy of testing mainly those who had traveled to a virus hotspot or had contact with a confirmed Covid-19 patient, even as the infection spreads more broadly through the community.

The WHO is urging countries to go further and test anyone with unexplained respiratory illness who has been in an area where the virus is being passed locally. Such community transmission is happening in much of Europe, as well as in the U.S.

“Diagnostic testing algorithms that only test a small proportion of people who are likely to be Covid-19 is not the way forward in this epidemic,” said Michael Ryan, head of the WHO’s emergencies program.

In Germany, authorities are doing some broader testing as part of a working group on influenza. Patient samples are also being checked for coronavirus, according to the Robert Koch Institute, the country’s public health authority.

## Success Stories

There’s evidence that broader testing helps. In South Korea, where authorities are assessing 10,000 people a day, there were more coronavirus recoveries than fresh infections for the first time this week. Proactive testing was part of the arsenal that Taiwan and Singapore used to limit the outbreak in their countries despite strong ties with China, where the virus originated.

Casting a wider net could create its own set of problems, however, according to Rosanna Peeling, director of the International Diagnostics Centre at the London School of Hygiene and Tropical Medicine. Random testing would certainly uncover additional cases, but might also cause panic.

“You’d want to isolate or quarantine them, but still it’s so late by the time we know this that the virus has already taken off,” Peeling said in an interview last week.

Brautmann, the mom in Berlin, could have taken her sick child to a testing station in Berlin. The line at the location in her district was more than four hours long on Monday. She opted not to go, reasoning that if they were positive, they would expose others. Instead, she put herself and her son in home quarantine for two weeks.

They go outside once a day, before the neighborhood begins to stir, to run around a nearby soccer field. Her son’s daycare will remain closed until March 20, operator Kindergaerten NordOst said.

Brautmann, 40, believes the official number of cases that have been identified in Berlin -- 158 as of Friday -- is misleading.

“It’s a joke because nobody is testing us,” she said.

--With assistance from John Lauerman and Agatha Cantrill.

To contact the reporters on this story:

Naomi Kresge in Berlin at [nkresge@bloomberg.net](mailto:nkresge@bloomberg.net);

Corinne Gretler in Zurich at [cgretler1@bloomberg.net](mailto:cgretler1@bloomberg.net)

To contact the editors responsible for this story:

Eric Pfanner at [epfanner1@bloomberg.net](mailto:epfanner1@bloomberg.net)

Anne Pollak, Marthe Fourcade



**From:** info@thepoetryloft.org  
**Sent:** Fri, 20 Mar 2020 17:41:55 -0700  
**To:** Fauci, Anthony (NIH/NIAID) [E]  
**Subject:** Research Study on the efficacy of cloth masks  
**Attachments:** cloth masks safety.pdf

Dear Dr. Fauci,

I've attached a study for your review on the efficacy of cloth masks. In desperation, many hospitals workers are considering making and using cloth masks which is very concerning. The CDC has recently recommended using cloth masks such as bandanas if N95 masks are not available.

Thank you very much.

Most gratefully,

Beatrice Lazarus

**From:** Jahr, Jonathan S.  
**Sent:** Fri, 20 Mar 2020 14:47:35 +0000  
**To:** Fauci, Anthony (NIH/NIAID) [E]  
**Cc:** Franck ZAL  
**Subject:** Fw: need help  
**Attachments:** Protocol ARDS HEMO2life-1.pdf, Protocol ARDS HEMO2life-2.pdf, Covid-19\_VA.pdf

Good morning Dr. Fauci, and thanks for the outstanding work you are doing!  
After studying HBOCs and Oxygen Therapeutics at UCLA for the past 20+ years, my colleague in France, Dr. Franck Zal, from Hemarina, has emailed me as below and would like to find out how

(b) (4)

Please see his attached information and kindly respond to both of us, as I can connect the dots and make this happen at UCLA and elsewhere in short order.

Many thanks again for your incredible service to the nation and world!

With best,

Jonathan S. Jahr, MD, DABA, FASA  
Professor Emeritus of Anesthesiology and Perioperative Medicine  
David Geffen School of Medicine at UCLA  
Ronald Reagan UCLA Medical Center/UCLA HEALTH  
757 Westwood Plaza, Suite 3325  
Los Angeles, California 90095  
310.267.8693 fax 310.267.3899 cell (b) (6)

jsjahr@mednet.ucla.edu

[j.s.jahr@ucla.edu](mailto:j.s.jahr@ucla.edu); (b) (6)

[jonathan.jahr.2012@anderson.ucla.edu](mailto:jonathan.jahr.2012@anderson.ucla.edu)

**From:** Franck ZAL <franck.zal@hemarina.com>  
**Sent:** Friday, March 20, 2020 12:29 AM  
**To:** Jahr, Jonathan S. <JSJahr@mednet.ucla.edu>  
**Subject:** need help

**CAUTION - EXTERNAL EMAIL:** Do not click links or open attachments unless you recognize the sender.

Dear Jonathan Hope all is well for you. I need your help getting this information to the US health authorities.  
We are going to

(b) (4) I do not know how to contact the

American authorities in charge of this crisis to let them know that our solution is also available for the us citizens. Could you help us to transmit this information? Best regards Franck

---

Dr. Franck ZAL - PhD / HDR / EMBA  
Directeur Général / Chief Executive Officer  
Directeur Scientifique / Chief Scientific Officer  
Directeur Général / Chief Executive Officer

Directeur Scientifique / Chief Scientific Officer

HEMARINA SA  
Aéropôle centre  
Biotechnopôle  
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FRANCE

Tel : 02 98 88 04 86  
Fax : 02 98 88 38 94  
Mobile : (b) (6)

Phone USA office : 617-850-9076

[www.hemarina.com](http://www.hemarina.com)  
<http://www.linkedin.com/pub/franck-zal/14/641/12>  
[https://www.researchgate.net/profile/Franck\\_Zal2/publications/](https://www.researchgate.net/profile/Franck_Zal2/publications/)  
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**From:** Morens, David (NIH/NIAID) [E]  
**Sent:** Wed, 4 Mar 2020 14:51:07 +0000  
**To:** Folkers, Greg (NIH/NIAID) [E]  
**Cc:** NIAID OD AM;NIAID OCGR Leg;NIAID COGCORE  
**Subject:** Re: DAVID --- National Science Review: On the origin and continuing evolution of SARS-CoV-2 <http://bit.ly/2uW6rxG>  
**Attachments:** image001.png, ATT00001.htm, image001.png, ATT00002.htm, Daily Mail TWO strains of the killer coronavirus are spreading around the world – and 70% of infected patients have caught the more aggressive and contagious type, study claims.eml, ATT00003.htm

PS, in case i wasn't clear, [REDACTED] (b) (5)  
[REDACTED] d

Sent from my iPhone  
David M Morens  
OD, NIAID, NIH

On Mar 4, 2020, at 09:48, Morens, David (NIH/NIAID) [E] [REDACTED] (b) (6) wrote:

Greg, i just saw this and haven't had a chance to read carefully so here is a quick impression.

[REDACTED] (b) (5)

Though not in time for 10, it would be worth sending to Jeff T and Eddie Holmes. d

Sent from my iPhone  
David M Morens  
OD, NIAID, NIH

On Mar 4, 2020, at 08:42, Folkers, Greg (NIH/NIAID) [E] [REDACTED] (b) (6) wrote:

David, this may come up in ASF's 10:00 hearing. What do you make of this paper and the attendant press coverage?

## On the origin and continuing evolution of SARS-CoV-2

Xiaolu Tang, Changcheng Wu, Xiang Li, Yuhe Song, Xinmin Yao, Xinkai Wu, Yuange Duan, Hong Zhang, Yirong Wang, Zhaohui Qian ... [Show more](#)

#### Author Notes

*National Science Review*, nwaa036, <https://doi.org/10.1093/nsr/nwaa036>

Published:

03 March 2020

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**From:** Levine, Arthur Samuel  
**Sent:** Wed, 1 Apr 2020 18:23:24 +0000  
**To:** Fauci, Anthony (NIH/NIAID) [E]  
**Cc:** Gallagher, Patrick David; Jeffrey Romoff (b) (6); Steve Shapiro (shapiro@d@upmc.edu); Gambotto, Andrea A; Louis D. Falo, Jr  
**Subject:** Pittsburgh SARS-CoV-2 vaccine  
**Attachments:** EBIOM102743\_202004001802661225.pdf

Dear Tony,

I have attached a paper from Pittsburgh that will be published tomorrow. As far as I know, it is the first SARS-CoV-2 vaccine paper to appear. The paper describes the development of a trimeric subunit vaccine, injected intra-dermally by microneedles in mice. A robust antibody response ensued, although it will take some time to determine if these are true neutralizing antibodies.

Best,

Art

Arthur S. Levine, M.D.  
Senior Vice Chancellor for the Health Sciences  
John and Gertrude Petersen Dean, School of Medicine  
Professor of Medicine and Molecular Genetics  
University of Pittsburgh  
3550 Terrace Street, Suite 401  
Pittsburgh, PA 15261, USA  
Phone 1-412-648-8975  
Fax 1-412-648-1236  
[alevine@pitt.edu](mailto:alevine@pitt.edu)



**From:** Jim Ainsworth  
**Sent:** Wed, 26 Feb 2020 13:07:25 -0500  
**To:** Azar, Alex (OS/IOS); Adams, Jerome (HHS/OASH); Kadlec, Robert (OS/ASPR/IO); Fauci, Anthony (NIH/NIAID) [E]; Hauguel, Teresa (NIH/NIAID) [E]  
**Subject:** UK Government Document Warns Coronavirus Could Infect 80 Per Cent, Kill Half A Million Brits

## ***UK Government Document Warns Coronavirus Could Infect 80 Per Cent, Kill Half A Million Brits***

***Worst case scenario leaked.***

**[Paul Joseph Watson](#) | Infowars.com - February 26, 2020**



**A leaked UK government document warns that under a worst case scenario, 80 per cent of Brits could be infected with the coronavirus and half a million would die.**

**The document, which was leaked to the Sun newspaper, outlines “the reasonable worst case” outcome in which four fifths of the country to succumb to the virus.**

**“The current planning assumption is that 2-3 per cent of symptomatic cases will result in a fatality,” states the document, meaning that 500,000 would die.**

**A spokesman for the Department of Health and Social Care emphasized that such numbers were a worst case scenario and “this does not mean we expect it to happen.”**

**Earlier today, more than 300 staff members of American oil company Chevron were evacuated from a building in London’s Canary Wharf after an employee returning from an infected country reported flu symptoms.**

**There are currently only 13 confirmed cases of coronavirus in England, although the World Health Organization just warned countries outside of China that they were “simply not ready” for the spread of the virus.**

**“It can get ready very fast, but the big shift has to be in the mindset,” said Dr Bruce Aylward, the WHO’s China envoy.**

**For the first time, more new cases have been reported in countries outside of China than inside, with 411 inside China and 427 outside.**

**The WHO’s Tedros Adhanom Ghebreyesus said the sudden rise in coronavirus cases in Italy, Iran and South Korea was “deeply concerning.”**

**As we [highlighted yesterday](#), despite the rapid spread of the virus in Italy, EU officials have refused to consider closing the borders.**



**From:** Whiting, Michael R.  
**Sent:** Wed, 1 Apr 2020 14:41:18 +0000  
**To:** Auchincloss, Hugh (NIH/NIAID) [E]; Fauci, Anthony (NIH/NIAID) [E]  
**Subject:** FW: Minimize COVID 19 Death Rate - white paper / brief - HBOT impact on COVID 19  
**Attachments:** Minimize Coronavirus Death Rate - Brief to COVID 19 Taskforce 3-27-2020.pdf, CoVID-19 HBOT Treatment Brief v033120.pdf

Dr. Fauci/Dr. Auchincloss

This email was sent to Congressman Murphy's office. I believe that this could provide a viable solution to mitigate the impact of CoVID-19.

Very respectfully,

Mike Whiting

Sent from [Mail](#) for Windows 10

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**From:** [Edward di Girolamo, PE](#)  
**Sent:** Tuesday, March 31, 2020 6:13 PM  
**To:** [Whiting, Michael R.](#)  
**Subject:** FW: Minimize COVID 19 Death Rate - white paper / brief - HBOT impact on COVID 19  
**Importance:** High

Just spoke to Murphy... I understand it is at the top now.

---

**From:** Edward di Girolamo, PE  
**Sent:** Tuesday, March 31, 2020 3:32 PM  
**To:** Lindy Robinson (b) (6); Ray Celeste (b) (6)  
**Cc:** 'Edward di Girolamo, PE' <ed@extivita.org>  
**Subject:** FW: Minimize COVID 19 Death Rate - white paper / brief - HBOT impact on COVID 19  
**Importance:** High

Congressman Murphy,

I hope you, your family and team are well and staying safe! I believe we have an opportunity to take the death rate down quickly and believe your leadership could help network this to the right people. Its potential impact is far reaching and just might help the country lead the world to getting on a better track.

In short, I believe hyperbaric oxygen therapy needs to have its day in court as part of the COVID 19 treatment solution. China HBOT success reports need to be validated. The Extivita clinic (largest free standing in the US) is available to vet procedures and results. Airliners are a viable resource for accelerating a global treatment regimen against COVID-19. As I asked the



Hyperbaric Medicine International board I sit on, "do we scream from the mountain top or stay quiet? My path is to scream if we can save lives and here, perhaps millions.

The attached brief and whitepaper summarizes the opportunity we have to validate and execute on saving lives now. I have included some compelling science behind why HBOT is a viable treatment for COVID 19. And offer to utilize a state of the art standalone HBOT clinic as the epicenter to treat patients in Durham NC. This has far-reaching potential to decrease the burden some hospitals are already seeing, and save lives.

Simultaneously, while validating the use of HBOT as part of the treatment regimen, some USNA alumni ++ are evaluating the feasibility of using airliners as pressure chambers. At sea level, today's airliners can reach differential pressures similar to what Cunningham applied successfully during the Spanish flu pandemic (1.6atm +/-) and what the HBOT chamber in Wuhan, China used to successfully arrest critical conditions. Ongoing discussions with airline and military pilots and engineers have indicated that this can be done with reasonable modifications. Imagine mobilizing the world, literally overnight, repurposing existing, grounded resources, to join the fight. Airport terminals could become reception and treatment areas.

Please feel free to use the attached in any way you see fit. Perhaps we can bring about a quick end to the suffering that seems inevitable today. I hope to hear back with your thoughts.

Sincerely,

Ed

**From:** RYAN, Michael J.  
**Sent:** Tue, 24 Mar 2020 08:14:29 +0000  
**To:** SHOC;Office of the Director-General;Redfield, Robert R.  
(CDC/OD); (b) (6)  
David Heymann;Felicity Harvey  
(b) (6);Chris.Elias (b) (6);J.Farrar; (b) (6)  
(b) (6);Fauci, Anthony (NIH/NIAID) [E]; (b) (6)  
(b) (6);GREIN, Thomas;COX, Paul Michael;SCHWARTLANDER, Bernhard F.;MINHAS, Raman; (b) (6);Conrad, Patricia (NIH/NIAID) [E];MAHJOUR, Jaouad;FALL, Ibrahima Soce;Thomas R. Frieden;elhadj.sy;Lynn Banks;President | Resolve to Save Lives; (b) (6);AL-SHORBAJI, Farah; (b) (6);Robynn Leidig;DRURY, Patrick Anthony;Dr VAN KERKHOVE, Maria; (b) (6);cherylc;G RAAFF, Peter Jan;POOLE, Marcia;Tarik Mohammed (b) (6);(SPmig) Carlos Navarro Colorado; (b) (6);Ryan Morhard;BRIAND, Sylvie;MORGAN, Oliver;Harries, Jenny;Awwad, David (NIH/NIAID) [C];SIMONSON, Stewart;SINGER, Peter Alexander;Jayatunga, Wikum; (b) (6);Julie.HALL;Amelie RIOUX (b) (6)  
(b) (6);rosesper;SHIN, Young-Soo; (b) (6);AYLWARD, Raymond Bruce J.;SMITH, Ian Michael  
**Subject:** Informal coronavirus teleconference  
**Attachments:** (b) (4), (b) (6) Swisscom Call code.pdf

Dear colleagues,

Dr Tedros would like to invite you to the next informal discussion about the ongoing 2019 novel coronavirus.

The teleconference will be hosted on Wednesday, 25 March at 13:00 CET and the dial-in number with a passcode is attached.

If you experience any technical difficulties joining this conference call, please contact the WHO HQ EOC operator at: +41227912490

It would be appreciated if you could kindly confirm your participation to Ms Sophia Kabir, email: (b) (6); mobile no. (b) (6)

Best,

Mike

**Sent:** Wed, 26 Feb 2020 15:13:41 +0000  
**Subject:** FW: COVID 19 collaboration  
**Attachments:** H7N9 vaccine Clinical Fries et al NEJM c1313186.pdf



**From:** RYAN, Michael J.  
**Sent:** Mon, 9 Mar 2020 16:25:39 +0000  
**To:** SHOC;Office of the Director-General;Redfield, Robert R.  
(CDC/OD) (b) (6)  
(b) (6)  
David Heymann;Felicity Harvey  
(b) (6);Chris.Elias (b) (6);Jeremy  
Farrar; (b) (6);Fauci, Anthony (NIH/NIAID)  
[E]; (b) (6);GREIN, Thomas;COX,  
Paul Michael;SCHWARTLANDER, Bernhard F.;MINHAS, Raman; (b) (6);Conrad, Patricia  
(NIH/NIAID) [E];MAHJOUR, Jaouad;FALL, Ibrahima Soce;Thomas R. Frieden;elhadj.sy;Lynn  
Banks;President | Resolve to Save Lives (b) (6);AL-  
SHORBAJI, Farah; (b) (6);Robynn Leidig;DRURY, Patrick Anthony;Dr VAN  
KERKHOVE,  
Maria; (b) (6);cherylc;G  
RAAFF, Peter Jan;POOLE, Marcia;Tarik Mohammed; (b) (6);(SPmig) Carlos Navarro  
Colorado; (b) (6);Ryan Morhard;BRIAND, Sylvie;MORGAN, Oliver;Harries,  
Jenny;Awwad, David (NIH/NIAID) [C];SIMONSON, Stewart;SINGER, Peter Alexander;Jayatunga,  
Wikum; (b) (6); (b) (6);Julie.HALL;Amelie RIOUX  
**Subject:** Informal coronavirus teleconference  
**Attachments:** (b) (4), (b) (6) Swisscom Call code.pdf

Dear colleagues,

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If you experience any technical difficulties joining this conference call, please contact the WHO HQ EOC operator at: +41227912490

It would be appreciated if you could kindly confirm your participation to Ms Sophia Kabir, email:

(b) (6) ; mobile no. (b) (6)

Best,

Mike

**From:** Jim Ainsworth  
**Sent:** Sat, 22 Feb 2020 16:18:48 -0500  
**To:** Azar, Alex (OS/IOS); Adams, Jerome (HHS/OASH); Kadlec, Robert (OS/ASPR/IO); Fauci, Anthony (NIH/NIAID) [E]; Hauguel, Teresa (NIH/NIAID) [E]  
**Subject:** Weeks Before Wuhan Coronavirus Outbreak, China Engaged In Emergency Drills Of A Simulated Outbreak Of A Novel Coronavirus

## ***Weeks Before Wuhan Coronavirus Outbreak, China Engaged In Emergency Drills Of A Simulated Outbreak Of A Novel Coronavirus***

In this segment from the Friday, February 21, 2020 edition of [Infowars](#), host Alex Jones interviewed guest [Spiro Skouras](#), who revealed that not only did nearly 10,000 military personnel from 110 nations, including a division of Chinese dressed as United Nations military personnel, participate in the World Military Games, held in Wuhan, China, weeks before the coronavirus outbreak, but a United Nations-themed pandemic simulation of a global coronavirus outbreak called "[Event 201](#)" also took place on the same day in New York City, on October 18, 2019.

Event 201 was hosted by the Johns Hopkins Center for Health Security in partnership with the World Economic Forum and the Bill and Melinda Gates Foundation, with participation by the United Nations, the World Health Organization, the American and Chinese CDC, the media, major banks, and vaccine manufacturers.

Prior to these events, on September 18, 2019, China began a 30-day countdown to the World Military Games with emergency drills involving a simulated outbreak of a novel coronavirus.

*Click on the link below to watch the report in MP4 format:*

<https://assets.infowarsmedia.com/videos/817ef3e3-f3e0-442a-ad15-85d47f2ec102.mp4>

**From:** Folkers, Greg (NIH/NIAID) [E]  
**Sent:** Wed, 26 Feb 2020 20:02:17 +0000  
**To:** Fauci, Anthony (NIH/NIAID) [E]  
**Cc:** Eisinger, Robert (NIH/NIAID) [E]  
**Subject:** RE: ASF and CLIFF ----- DRAFT response to Eli at NEJM

Will do


---

**From:** Fauci, Anthony (NIH/NIAID) [E] (b) (6) >  
**Sent:** Wednesday, February 26, 2020 3:02 PM  
**To:** Folkers, Greg (NIH/NIAID) [E] (b) (6)  
**Cc:** Eisinger, Robert (NIH/NIAID) [E] (b) (6)  
**Subject:** Re: ASF and CLIFF ----- DRAFT response to Eli at NEJM

Please send this to Eli. Thanks

On Feb 26, 2020, at 12:49 PM, Folkers, Greg (NIH/NIAID) [E] (b) (6) wrote:

(b) (4), (b) (5)





Reference:

Coronavirus Disease 2019 (COVID-19) in the U.S. Atlanta: Centers for Disease Control and Prevention, February 26, 2020 (<https://www.cdc.gov/coronavirus/2019-ncov/cases-in-us.html>).

---

**From:** Laurencot, Elizabeth <[elaurencot@nejm.org](mailto:elaurencot@nejm.org)>  
**Sent:** Wednesday, February 26, 2020 11:54 AM  
**To:** Fauci, Anthony (NIH/NIAID) [E] (b) (6)  
**Cc:** Folkers, Greg (NIH/NIAID) [E] (b) (6); Conrad, Patricia (NIH/NIAID) [E] (b) (6); Eisinger, Robert (NIH/NIAID) [E] (b) (6); Lane, Cliff (NIH/NIAID) [E] (b) (6)  
**Subject:** RE: NEJM content proof (Fauci)  
**Importance:** High

Dear Dr Fauci,

I have a follow-up query regarding the following revised text:

(b) (4)

Also, attached is the proof of the new article by Guan et al. The Journal editors ask that you please add a mention of this article to your editorial. If you could please send me the revised portion of the text to include in your editorial by noon tomorrow (Thursday, Feb 27), that will be most helpful. Please do let me know if you have any concerns or questions.

Thank you very much for your consideration!

Best,  
Eli

---

**From:** Laurencot, Elizabeth  
**Sent:** Wednesday, February 26, 2020 9:04 AM  
**To:** Fauci, Anthony (NIH/NIAID) [E] (b) (6)  
**Cc:** Folkers, Greg (NIH/NIAID) [E] (b) (6); Conrad, Patricia (NIH/NIAID) [E] (b) (6)

(b) (6); Eisinger, Robert (NIH/NIAID) [E] (b) (6); Lane, Cliff (NIH/NIAID) [E] (b) (6)  
**Subject:** RE: NEJM content proof (Fauci)

Dear Dr Fauci,

Many thanks for your quick reply and for the clear list of responses regarding the proof. I will review today and will let you know if there are any items needing further discussion.

The current plan is for publication early Friday afternoon. As I mentioned yesterday, there is a new article on Covid-19 that is also scheduled for publication that day, and the Journal editors would like you to mention it in your editorial. I expect to be able to send you a proof of that article sometime today.

Best,  
Eli

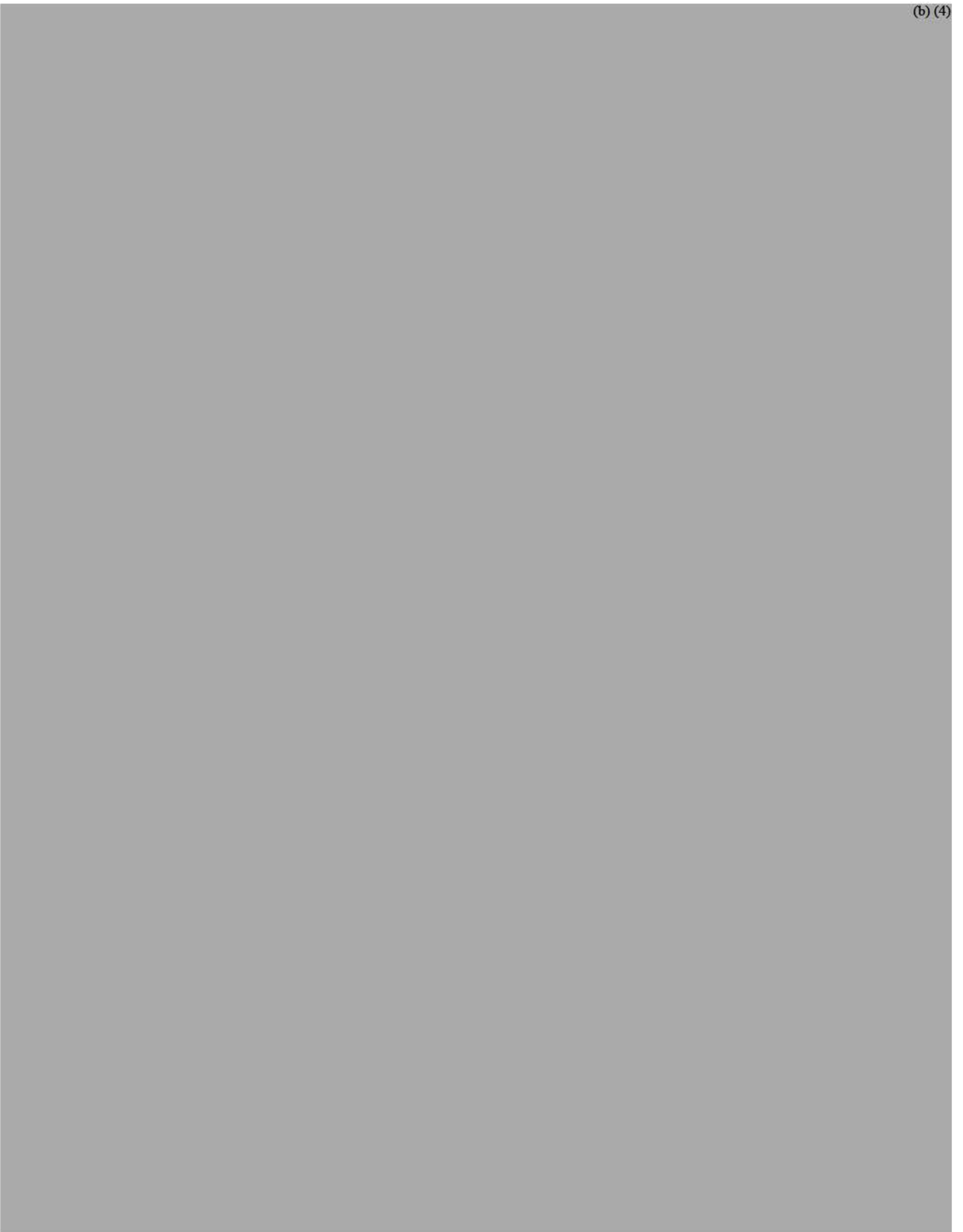
---

**From:** Fauci, Anthony (NIH/NIAID) [E] (b) (6)  
**Sent:** Wednesday, February 26, 2020 7:37 AM  
**To:** Laurencot, Elizabeth <[elaurencot@nejm.org](mailto:elaurencot@nejm.org)>  
**Cc:** Folkers, Greg (NIH/NIAID) [E] (b) (6); Conrad, Patricia (NIH/NIAID) [E] (b) (6); Eisinger, Robert (NIH/NIAID) [E] (b) (6); Fauci, Anthony (NIH/NIAID) [E] (b) (6); Lane, Cliff (NIH/NIAID) [E] (b) (6)  
**Subject:** RE: NEJM content proof (Fauci)

Dear Eli,  
Here are my answers to your queries, and couple other minor changes:

(b) (4)







Thanks,

Tony

Anthony S. Fauci, MD

Director

National Institute of Allergy and Infectious Diseases

(b) (6)

The information in this e-mail and any of its attachments is confidential and may contain sensitive information. It should not be used by anyone who is not the original intended recipient. If you have received this e-mail in error please inform the sender and delete it from your mailbox or any other storage devices. The National Institute of Allergy and Infectious Diseases (NIAID) shall not accept liability for any statements made that are the sender's own and not expressly made on behalf of the NIAID by one of its representatives.

---

**From:** Laurencot, Elizabeth <[elaurencot@nejm.org](mailto:elaurencot@nejm.org)>

**Sent:** Tuesday, February 25, 2020 8:51 AM

**To:** Fauci, Anthony (NIH/NIAID) [E] (b) (6)

**Subject:** NEJM content proof (Fauci)

**Importance:** High

Dear Dr Fauci,

Attached is the content proof of your editorial. **Please read *\*ALL\** of the following instructions and information carefully before** you begin reviewing your proofs.

First, please **stop and take a moment now** to confirm receipt, so that we can be assured that your proofs did not end up in a spam folder.

Your editorial has been edited for grammar, consistency, readability, adherence to Journal style, and clarity for nonspecialist readers. To expedite publication, we do not ask authors for specific approval of routine changes; please read the entire article to make sure your meaning has been retained. Note that we may be unable to make changes that conflict with Journal style or create grammatical or other problems. Finally, please note that a delayed or incomplete response may delay publication of your editorial.

Please read the entire proof carefully, including all queries. Please return your query replies and proof corrections **\*\*before 12pm (US Eastern) this Friday, February 28, 2020\*\***.

Instructions are provided below. Note that you will be reading for content only; the article will be rendered for print after the content has been finalized.

The Journal's senior medical editors will be reading your article at this stage. If they have any additional comments or queries for you, I will forward them to you in the next few days.

**TO ANSWER THE QUERIES:** The proof contains in-line numbered query markers and a numbered list of queries at the end. The query markers and the queries are linked, so you can jump back and forth within the file. Please respond to all the queries (see below for instructions; please do **\*\*NOT\*\*** use e-annotation tools) and convey any additional changes as needed.

**TO RESPOND BY E-MAIL:** If your corrections and your responses to the queries are straightforward, we encourage you to respond by replying to this message. Please copy and paste the list of queries into an e-mail message or a Word document and type your responses there. You may also include a list of changes (e.g., page 1, line 20, change xxx to yyy). Again, please do **\*\*NOT\*\*** use e-annotation tools in the PDF file; the marks are small and easy to miss, which may lead to errors in your article.

Please note that this material is confidential and embargoed until publication. If you have questions about our embargo policy, please contact NEJM Media Relations at 781-434-7847 or at [Mediasupport@nejm.org](mailto:Mediasupport@nejm.org).

Again, please do confirm receipt at this time. Thank you very much for your efforts with these content proofs!

Best,  
Eli

Elizabeth Laurençot  
Senior Manuscript Editor  
New England Journal of Medicine

617-487-6547

[elaurencot@nejm.org](mailto:elaurencot@nejm.org)

**TO READ THE PROOF:** You will need Adobe Acrobat Reader software (version 4.0 or later) to view this file. Acrobat Reader is available free of charge at the Adobe Web site (<http://www.adobe.com/products/acrobat/readermain.html> ).

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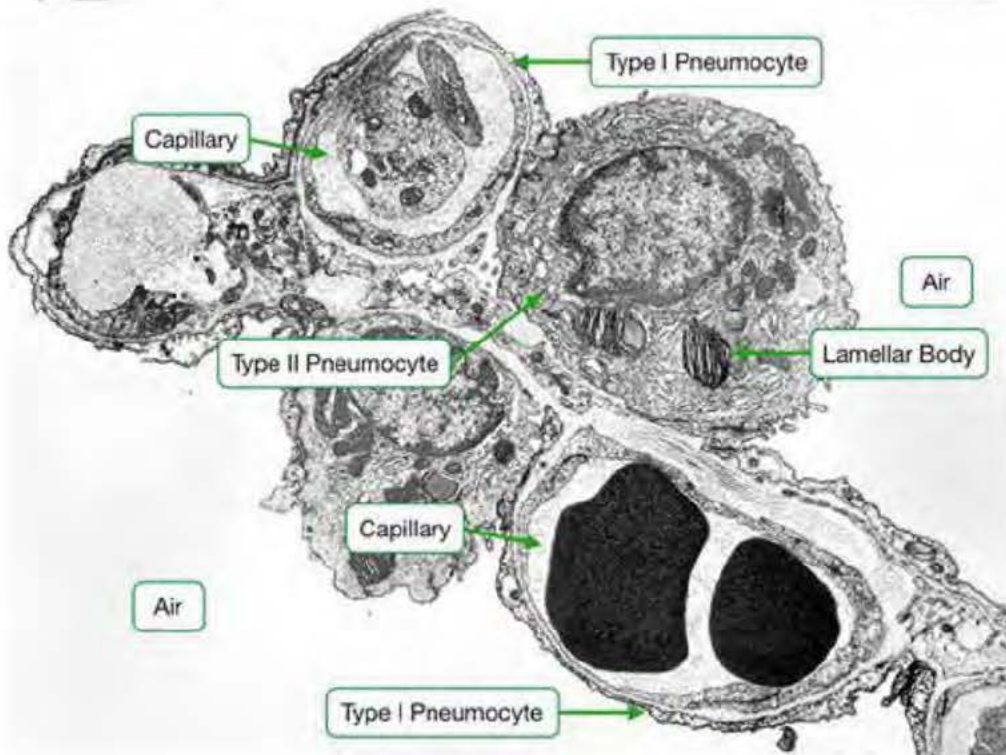
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<NEJMoa2002032\_Guan\_Content2\_Author.pdf>



**Sent:** Fri, 6 Mar 2020 04:07:10 +0000  
**Subject:** FW: SARS CoV entry inhibition for the masses  
**Attachments:** image002.jpg, Novel Inhibitors of SARS CoV Entry.pdf

---



**From:** RYAN, Michael J.  
**Sent:** Mon, 9 Mar 2020 16:25:46 +0000  
**To:** SHOC;Office of the Director-General;Redfield, Robert R.  
(CDC/OD) (b) (6);  
(b) (6);  
David Heymann;Felicity Harvey  
(b) (6);Chris.Elias (b) (6);Jeremy  
Farrar; (b) (6);Fauci, Anthony (NIH/NIAID)  
[E]; (b) (6);GREIN, Thomas;COX,  
Paul Michael;SCHWARTLANDER, Bernhard F.;MINHAS, Raman; (b) (6);Conrad, Patricia  
(NIH/NIAID) [E];MAHJOUR, Jaouad;FALL, Ibrahima Soce;Thomas R. Frieden;elhadj.sy;Lynn  
Banks;President | Resolve to Save Lives (b) (6);AL-  
SHORBAJI, Farah; (b) (6);Robynn Leidig;DRURY, Patrick Anthony;Dr VAN  
KERKHOVE,  
Maria; (b) (6);cherylc;G  
RAAFF, Peter Jan;POOLE, Marcia;Tarik Mohammed; (b) (6);(SPmig) Carlos Navarro  
Colorado; (b) (6);Ryan Morhard;BRIAND, Sylvie;MORGAN, Oliver;Harries,  
Jenny;Awwad, David (NIH/NIAID) [C];SIMONSON, Stewart;SINGER, Peter Alexander;Jayatunga,  
Wikum; (b) (6);Julie.HALL;Amelie RIOUX  
**Subject:** Informal coronavirus teleconference  
**Attachments:** (b) (4), (b) (6) Swisscom Call code.pdf

Dear colleagues,

Dr Tedros would like to invite you to the next informal discussion about the ongoing 2019 novel coronavirus.

The teleconference will be hosted on Wednesday, 11 March at 13:00 CET and the dial-in number with a passcode is attached.

If you experience any technical difficulties joining this conference call, please contact the WHO HQ EOC operator at: +41227912490

It would be appreciated if you could kindly confirm your participation to Ms Sophia Kabir, email:

(b) (6) ; mobile no. (b) (6)

Best,

Mike

**From:** Robert Levitt  
**Sent:** Fri, 14 Feb 2020 20:48:17 +0000  
**To:** Robert Levitt;d d  
**Subject:** Re: Dr. Levitt's Update on CT in Covid-19/ CT Findings Are Consistent but Not Diagnostic of Covid-19  
**Attachments:** CT Findings Time Course.pdf, CT in Covid-19.pdf

Dear All, Please remember that opinions expressed below are my personal opinions. I should have added my Disclaimer below:

If you wish to unsubscribe to this email service, please contact Dr. Robert Levitt at (b) (6) and include in the subject line: Unsubscribe.

*Disclaimer: This email expresses the views, thoughts, and opinions of the author and no other organization, group or individual. The information in this email is intended solely for personal non-commercial use. The author may have made unintentional errors. This email may contain copyrighted material; its inclusion in this email constitutes a "fair use" of copyrighted material as provided in Section 107 of the US Copyright Law. If you wish to use the copyrighted material beyond "fair use", you must obtain permission from the copyright owner.*

While you work on solving this outbreak by containment and research, don't forget it's Valentine's Day in the U.S. for those of you stateside.

RGL, M.D.

Sent from [Outlook](#)

**From:** Robert Levitt

**Sent:** Friday, February 14, 2020 2:31 PM

**Subject:** Dr. Levitt's Update on CT in Covid-19/ CT Findings Are Consistent but Not Diagnostic of Covid-19

Dear Federal Officials and Friends and Colleagues,

Today online Radiology published an article in press demonstrating the time course changes of Covid-19 on CT scans of the chest (see CT Findings ... pdf above). This article by Pan, et. al. adds to the CT findings first described by Xie, et. al. (see CT in Covid... pdf above). The characteristic finding is ground glass opacities (GGO) on CT scans. Pan, et. al. shows the 'blooming' of these GGO into round opacities with subsequent clearing over time.

Note that GGO are filling of the pulmonary alveoli (air spaces at the ends of bronchial branches (air tubes which get smaller as they branch into the lungs). The filling may be due to lung water, pus, or hemorrhage. GGO themselves are not specific or diagnostic of Covid-19 pneumonia, but they are consistent with Covid-19 pneumonia. So it is strategic to use the CT findings of GGO in any of its stages as a 'clue' to Covid-19 pneumonia, particularly if diagnostic lab testing takes a long time.

This is the reason that we suddenly see a dramatic rise in the number of Covid-19 cases reported from Wuhan in the PRC. Clinicians are using the CT findings to make a diagnosis rather than waiting for laboratory testing to be performed. See:

<https://www.auntminnie.com/index.aspx?sec=sup&sub=cto&pag=dis&ItemID=128145>



As I look at the CT scans published or in press for Covid-19, I am impressed by the peripheral or 'reverse bat wing' distribution of the GGO or consolidation (equivalent of GGO on chest radiographs). This is a known presentation of viral pneumonias.

RGL, M.D.

Sent from [Outlook](#)

**From:** Rock, Daniel L  
**Sent:** Wed, 1 Apr 2020 19:37:04 +0000  
**To:** Fauci, Anthony (NIH/NIAID) [E]  
**Subject:** SARS2 and cats  
**Attachments:** SARS2 on domestic animals 2020.03.30.015347v1.full.pdf

Perhaps you have seen this. Note, there is a cat in every other US household.

Daniel L. Rock, PhD  
Professor  
Department of Pathobiology  
College of Veterinary Medicine  
University of Illinois at Urbana-Champaign  
2830 Vet. Med. Basic Sciences Building, MC-002  
2001 S. Lincoln Avenue  
Urbana, IL 61802  
Office: (217) 244-0533  
Fax: (217) 244-7421  
Email: dlrock@illinois.edu

**From:** Paul Elias Alexander  
**Sent:** Wed, 1 Apr 2020 19:30:10 +0000 (UTC)  
**To:** Beigel, John (NIH) [E]; Fauci, Anthony (NIH/NIAID) [E]  
**Cc:** Kim, Sonnie (NIH/NIAID) [E]  
**Subject:** Re: A sharing on COVID ARDS research  
**Attachments:** hydroxychloroquine 2.pdf, Hydroxychloroquine 1 .pdf, Hydroxychloroquine 1.pdf, Hydroxychloroquine 2.pdf, Hydroxychloroquine 3.pdf, Tocilizumab 1.pdf, Hydroxychloroquine dosing in vitro.pdf, COVID vaccine .pdf

Hi Dr. Fauci and crew, I am trying to help. I function as a scientist in evidence based med etc. Anyway, some relevant studies especially the one out today contradicting the French evidence as to HCQ. All the studies are garbage to me methodologically. Very weak and its a concern as seems lots of time waster waiting on these researchers. Better if they took time to design the trials correctly etc.

A good dosing study also came out, again poor, but may help in your design of trials in HCQ.

Tocilizumab, the results seem too good and the stud is very poor methdologically. But just published....

anyway, keep up the good work..and keep working with the president, we have a battle ahead.

Best,

Paul E. Alexander, PhD  
Health Research Methodologist, Department of Health Research  
Methods, Evidence and Impact,  
McMaster University  
Assistant Professor  
<http://hei.mcmaster.ca/>  
GUIDE Research Methods Group  
<http://guidecanada.org/>

On Tuesday, March 3, 2020, 07:57:06 p.m. EST, Beigel, John (NIH) [E] (b) (6) wrote:

Dr Alexander

Our division at NIAID is conducting the COVID-19 treatment study, and we are considering what other therapeutics should be part of that study. Since your email to Dr Fauci was aligning with our activities,



Dr Fauci asked that we circle back to you. I apologize in the delay in getting back to you. This last week has been very busy getting the study started.

Your email and summary highlight some of the challenges with the data on corticosteroids. There are multiple studies with conflicting information and generally difficult to interpret. There is a lot of discussion in the last 2 weeks about the immune activation in COVID-19, and steroids are again being considered. There are several groups in China that were testing corticosteroids in RCT in COVID-19. Hopefully soon see some of their data and can determine if there is added value in adding it to our treatment study here.

We appreciated your input in trying to help us address this public health need.

John

--

**John Beigel, M.D.**

Associate Director for Clinical Research

Division of Microbiology and Infectious Diseases

National Institute of Allergy and Infectious Diseases (NIAID)

Phone: (b) (6)

email: (b) (6)

---

**From:** Paul Elias Alexander (b) (6)  
**Sent:** Saturday, February 29, 2020 2:34 PM  
**To:** Fauci, Anthony (NIH/NIAID) [E] (b) (6)  
**Subject:** A sharing on COVID ARDS research

Hi Dr. Fauci, I am a trained epidemiologist and expert in evidence based medicine. Particularly in developing clinical practice guidelines and I teach EBM and GRADE methods.

You have no idea how much I have admired you across the years, your intelligence and poise.

May I ask how I may help you in this matter, this response, I am not talking about money, I wish to help, volunteer.

I draw your attention to 2 attachments...

1) one is a one page I wrote to summarize a meta analysis my team just completed and seeking to publish. It pertains to corticosteroids and ARDS. We are raising that this suggests indirect evidence that we may be able to extrapolate to the COVID patient with severe illness. This within the life threatening issue and emergency and no effective treatment. I share if this can help you as I know you are leading this and listened to you today with the president. I support this president fully.

2) I share a paper published today, it on the other hand raises serious questions on the use of corticosteroids in influenza associated ARDS, and one may argue this patient set, is the closest to the COVID 19 patient.

My sense is that the accumulated evidence thus far is weak and argues against corticosteroids. For example, this recently published multicenter retrospective cohort study in medical center ICUs across Taiwan sought to assess the effectiveness of corticosteroids in patients presenting with influenza-associated ARDS (virology-proven ARDS and are on mechanical ventilation). Researchers examined the impact of early corticosteroid treatment ( $\geq 200$  mg hydrocortisone equivalent dose within 3 days after ICU admission, determined by a sensitivity analysis) on subsequent hospital mortality. The study revealed that of the 241 patients with influenza-associated ARDS, those receiving early corticosteroid had a significantly higher hospital mortality rate than those who did not get early corticosteroid [43.5% (37/85) vs. 19.2% (30/156),  $p < 0.001$ ]. Early corticosteroid treatment was independently associated with increased hospital mortality in overall patients [an adjusted OR of 5.02 (95% CI 2.39-10.54),  $p < 0.001$ ] and in all examined subgroups. Researchers found that a higher dose and earlier treatment was linked to higher hospital mortality. Moreover, they found that earlier treatment was related to a significantly increased odds of subsequent bacteremia [an adjusted OR of 2.37 (95% CI 1.01-5.56)]. These results underscore the urgency for robust comparative randomized research given this study is based on weaker observational evidence that is confounded by selection bias and confounded. However this was a stronger study that used statistical adjustment and propensity score matching. Thus this study suggests caution with corticosteroid and thus the importance for caution by clinicians as to the potential harms of corticosteroids in this population. These results, while based on weaker methodology, have revealed large estimates of effect, is the strongest evidence to date on treatment for ARDS, and brings us closest to the COVID-19 ARDS patient.

Best,

Paul E. Alexander, MSc, MHSc, PhD

Assistant Professor

<http://hei.mcmaster.ca/>

McMaster University, 1280 Main Street W,

Hamilton, ON L8S 4K1

GUIDE Research Methods Group

<http://guidecanada.org/>



**From:** Cavazzoni, Patrizia  
**Sent:** Wed, 18 Mar 2020 17:15:56 +0000  
**To:** Higgs, Elizabeth (NIH/NIAID) [E]; Shah, Anand (FDA/OC); Higgs, Elizabeth (NIH/NIAID) [E]; Bright, Rick (OS/ASPR/BARDA); Fauci, Anthony (NIH/NIAID) [E]; Woodcock, Janet (FDA/CDER); Guram, Jeet; Farley, John (FDA/CDER); Roberts, Rosemary (FDA/CDER); Amin, Stacy (FDA/OC); Davis, May M. EOP/WHO; Raza, Mark (FDA/OC); Edmonds, Amanda (FDA/OC); Beers, Donald (FDA/OC); Zembower, Jenna (FDA/OC); Uyeki, Timothy M. (CDC/DDID/NCIRD/ID); Lenihan, Keagan (FDA/OC); Wolinetz, Carrie (NIH/OD) [E]; Shuy, Bryan (OS/ASPR/IO); Disbrow, Gary (OS/ASPR/BARDA); Auchincloss, Hugh (NIH/NIAID) [E]; Marston, Hilary (NIH/NIAID) [E]  
**Subject:** RE: Int Call - FDA / ASPR / BARDA / NIH / CDC (chloroquine / COVID-19)  
**Attachments:** Cortegniani et al\_Review of Chloroquine in COVID-19\_JCritCare\_Mar132020.pdf

Review paper from Italy  
Parizia

---

**From:** Higgs, Elizabeth (NIH/NIAID) [E] (b) (6)  
**Sent:** Wednesday, March 18, 2020 12:26 PM  
**To:** Shah, Anand (b) (6); Higgs, Elizabeth S (NIH) (b) (6); Bright, Rick (OS) (b) (6); Fauci, Anthony S (NIH) (b) (6); Woodcock, Janet (b) (6); Cavazzoni, Patrizia (b) (6); Guram, Jeet (b) (6); Farley, John (b) (6); Roberts, Rosemary (b) (6); Amin, Stacy (b) (6); Davis, May M. EOP/WHO (b) (6); Raza, Mark (b) (6); Edmonds, Amanda (b) (6); Beers, Donald (b) (6); Zembower, Jenna (b) (6); Uyeki, Timothy M (CDC) (b) (6); Lenihan, Keagan (b) (6); Wolinetz, Carrie D (NIH) (b) (6); Shuy, Bryan (OS) (b) (6); Disbrow, Gary (OS) (b) (6); Auchincloss, Hugh (NIH) (b) (6); Marston, Hilary D (NIH) (b) (6)  
**Subject:** Re: Int Call - FDA / ASPR / BARDA / NIH / CDC (chloroquine / COVID-19)

Colleagues,  
WHO held a call this morning focusing on planned PEP and PREP studies and design considerations. Wellcome and GATES have taken the lead in terms of funding. The various endpoints and approaches are summarized in the attached.  
Kind regards,  
Libby

Elizabeth S. Higgs, MD, DTMH, MIA  
Global Health Science Advisor  
Division of Clinical Research  
National Institute of Allergy and Infectious Diseases  
NIH, HHS, USG  
(b) (6)  
Skype: libbyhiggs2

Cell: (b) (6)

---

**From:** (b) (6)

**When:** 12:00 PM - 12:45 PM March 18, 2020

**Subject:** Int Call - FDA / ASPR / BARDA / NIH / CDC (chloroquine / COVID-19)

**Location:** (b) (4), (b) (5), (b) (6)

-----Original Appointment-----

**From:** Shah, Anand (b) (6)

**Sent:** Wednesday, March 18, 2020 10:55 AM

**To:** Shah, Anand; Bright, Rick (OS/ASPR/BARDA); Fauci, Anthony (NIH/NIAID) [E]; Woodcock, Janet (FDA/CDER); Cavazzoni, Patrizia (FDA/CDER); Guram, Jeet; Farley, John (FDA/CDER); Roberts, Rosemary (FDA/CDER); Amin, Stacy (FDA/OC); Davis, May M. EOP/WHO; Raza, Mark (FDA/OC); Edmonds, Amanda (FDA/OC); Beers, Donald (FDA/OC); Zembower, Jenna (FDA/OC); Uyeki, Timothy M. (CDC/DDID/NCIRD/ID); Lenihan, Keagan (FDA/OC); Wolinetz, Carrie (NIH/OD) [E]; Shuy, Bryan (OS/ASPR/IO); Disbrow, Gary (OS/ASPR/BARDA); Auchincloss, Hugh (NIH/NIAID) [E]; Marston, Hilary (NIH/NIAID) [E]

**Subject:** Int Call - FDA / ASPR / BARDA / NIH / CDC (chloroquine / COVID-19)

**When:** Wednesday, March 18, 2020 12:00 PM-12:45 PM (UTC-05:00) Eastern Time (US & Canada).

**Where:** (b) (4), (b) (5), (b) (6)

Participants on this call:

FDA

Anand Shah, Office of the Commissioner, Deputy Commissioner for Medical & Scientific Affairs

Keagan Lenihan, Office of the Commissioner, Chief of Staff

Jeet Guram, Office of the Commissioner, Senior Advisor

Janet Woodcock, CDER, Director

Patrizia Cavazzoni, CDER, Deputy Director for Operations

John Farley, CDER Office of Infectious Diseases, Director

Rosemary Roberts, CDER Counter-Terrorism and Emergency Coordination Staff, Director

Stacy Amin, Office of the Chief Counsel, Chief Counsel

Mark Raza, Office of the Chief Counsel, Deputy Chief Counsel

Amanda Edmonds, Office of the Chief Counsel, Deputy Chief Counsel for Program Review for Biologics and Drugs

ASPR/BARDA

Rick Bright, Deputy Assistant Secretary for Preparedness and Response (ASPR) & Director of the Biomedical Advances Research and Development Authority (BARDA)

Brian Shuy, ASPR Deputy Assistant Secretary and Chief of Staff

Gary Disbrow, Acting Deputy Director of BARDA

NIH

Anthony Fauci, NIAID, Director  
Hugh Auchincloss, NIAID, Principal Deputy Director  
Carrie Wolinetz, Acting Chief of Staff  
Hilary Marston, Office of the Chief of Staff, Medical Officer/Policy Advisor

CDC  
Timothy Uyeki, National Center for Immunization and Respiratory Diseases

White House  
May Davis, Associate White House Counsel

---

(b) (5)

Would you both, or a designee, be available for a call at 12:00pm today (Wednesday, March 18<sup>th</sup>) to discuss this offer and the potential to establish an academic consortium for a clinical trial of this drug for COVID-19? An invitation will be forthcoming, please let me know if you have any questions.

Thank you

Best,  
Anand

---

— Do not delete or change any of the following text. —

**When it's time, join your Webex meeting here.**

Meeting number (access code): (b) (4), (b) (5), (b) (6)

Meeting password: (b) (4), (b) (5), (b) (6)

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Need help? Go to <http://help.webex.com>

**From:** George Webb  
**Sent:** Wed, 1 Apr 2020 11:56:32 -0400  
**To:** Fauci, Anthony (NIH/NIAID) [E]  
**Subject:** Virus treatment  
**Attachments:** Potential interventions for novel coronavirus in China\_ A systematic review - Zhang - 2020 - Journal of Medical Virology - Wiley Online Library.html, received\_2612032422452685.mp4

I saw where the virus in China started leveling the end of February. On March 13 I received this podcast from a doctor in China talking about how they were using vitamin C to combat the virus. I did some research and saw that the University of Iowa has been studying it for cancer, are they studying it for the virus? Also found the attached article about it from Journal of Medical Virology. Has anyone brought this to your attention? If hydrogen peroxide kills on surfaces, why would it not work in our bodies since vitamin C makes hydrogen peroxide.

Thought I would share.

Linda Webb

**From:** Clark Tibbs PhageVax-VHO  
**Sent:** Fri, 20 Mar 2020 15:31:46 -0400  
**To:** Collins, Francis (NIH/OD) [E]; Collins, Francis (NIH/OD) [E]; Tabak, Lawrence (NIH/OD) [E]; Allen-Gifford, Patrice (NIH/OD) [E]; Fauci, Anthony (NIH/NIAID) [E]; Conrad, Patricia (NIH/NIAID) [E]; Grants Policy (NIH/OD); CSR Division of Receipt and Referral  
**Cc:** Charrow, Robert (HHS/OGC); Bird, Catherine (OS/OGC); Stimson, Brian (HHS/OGC); Kadlec, Robert (OS/ASPR/IO); Bright, Rick (OS/ASPR/BARDA); Balsamo, Ralph (OS/ASPR/BARDA); Tegeris, John (OS/ASPR/BARDA) (CTR); Johnson, Anthony (OS/ASPR/BARDA); Patrick, Vanessa (OS/ASPR/BARDA) (CTR); (b) (6)  
**Subject:** TO NIH :: (Model Vaccine vs. COVID-19) (See Pg 8) FULL T-4 PHAGE Based Dual Vaccine vs Anthrax and Plague ... Courtesy from PhageVax  
**Attachments:** To BCM (Model vs COVID-19) (See Pg 8) FULL T-4 PHAGE Based Dual Vaccine vs Anthrax and Plague via PhageVax 740-502-9010.pdf



Assume the virus is everywhere, because it is ...

Today is: Friday, March 20, 2020

>>> How many Doses can **CEPI Sponsored Companies** claim over what period of time? <<<

For the USA, alone, we will need **700 Million Vaccine Doses** of the **Tunable T-4 Lambda Bacteriophage-Head Vaccine** vs. COVID-19:

Please see the Quality (from this Attachment), Speed and Volume claims below

To:  
Francis S. Collins, PhD (b) (6) ; (b) (6)  
**Director NIH** ... DHHS/NIH/OD/IMOD ... Building 1, Room 126 ... MS 0122, Bethesda MD 20892-0122 USA ... Phone: (b) (6)

-and-

Dr. Lawrence Tabak (b) (6) ... **NIH Principal Deputy Director** ... Phone: (b) (6)

-and

Patrice L. Allen-Gifford (b) (6) ... DHHS/NIH/OD/IMOD/ES ... **Director Executive Secretariat** ... Phone: (b) (6)

Email list: (b) (6); (b) (6); (b) (6); (b) (6)

Division of Grants Policy [GrantsPolicy@nih.gov](mailto:GrantsPolicy@nih.gov)

Office of Policy for Extramural Research Administration ... Office of Extramural Research ... Telephone: 301-435-0949

Ref: [https://grants.nih.gov/grants/natural\\_disasters.htm](https://grants.nih.gov/grants/natural_disasters.htm)  
and



Division of Receipt and Referral [csrdrr@mail.nih.gov](mailto:csrdrr@mail.nih.gov)  
Center for Scientific Review ... Telephone: 301-435-0715  
Ref: <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-20-082.html>

Please review then forward to the NIH DECISION-MAKERS for **immediate funding consideration** ... *before it is too late?*

**BY THE WAY**, NIH FUNDED THE EXCELLENT WORK IN THIS WORLD-CLASS Anthrax and Plague VACCINE.

QUESTION:

What is the Government's follow through ... to use this model for a COVID-19 Vaccine?

The PhD lab workers are getting sick! The ER MDs and Nurses are getting sick!

Please call Clark Tibbs today and/or this weekend at 1-740-366-9013 ... Thank you!

Please consider. Since we are at the beginning of a global COVID-19 pandemic, your investment may save your own life and may reduce mortality in those **humans 60+** Quality, Volume and Speed. See this attachment which serves as the model.

PhageVax has selected three (3) teams of Bacteriophage (Phage) Experts for Redundancy and Con-Ops (Continuity of Operations).

We have comparison information showing superiority over other vaccine-types.

Clark Tibbs 1-740-502-9010 Let's talk this weekend?

PhageVax™ and its science-base of experts may need to enhance the epitopes whilst using **Codon Harmonization**.

Please consider this Novel "Tunable Lambda Phage-Head" Vaccine Platform vs. the new Coronavirus **COVID-19** ...

PhageVax™, hereby, offers to plan & organize diverse teams of well-established scientists to defeat/prevent various global Viral & Bacterial & Fungal & Parasite Diseases ... after funding from any responsible global organization. **Gated communities will not stop disease.**

**'One Health'** is observed and the primary paradigm at PhageVax™. Typical international travel from 1<sup>st</sup> world nations *has become hazardous to your health.*

Nation-states and other Terrorist-organizations are contemplating the low financial cost and high kill-rate of easy to genetically-modify and rapidly distributed Viral Diseases. **The USA is not**

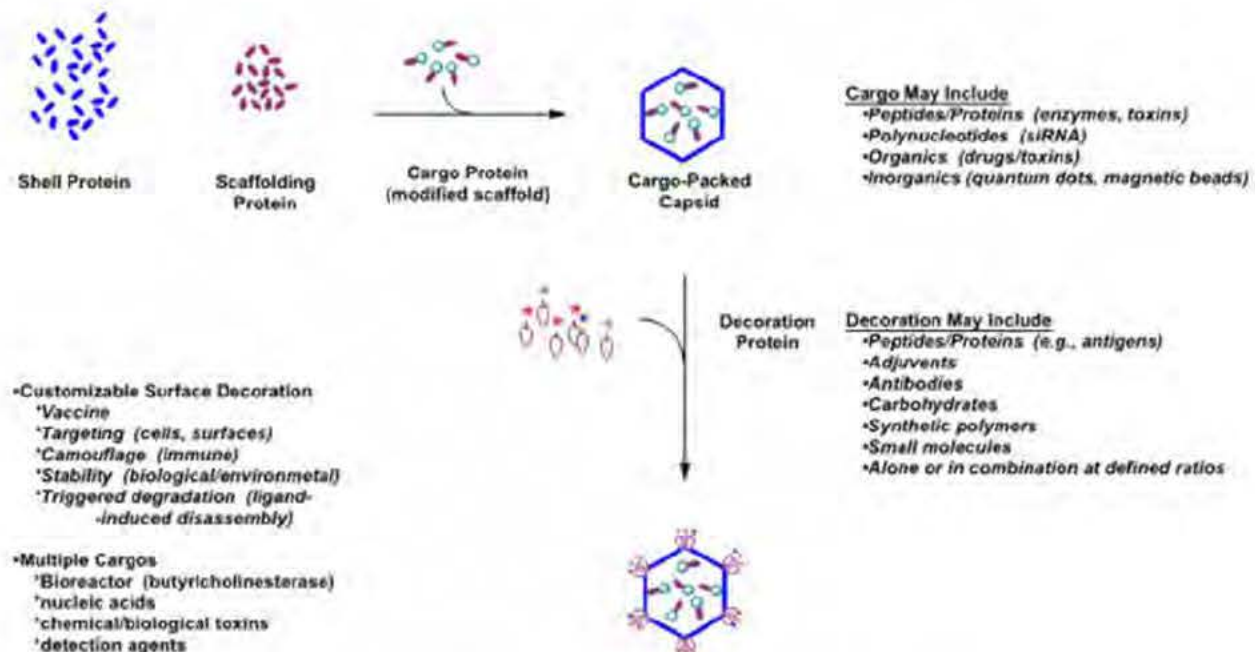
ready. The World is not ready. This vaccine-platform documented below makes steps toward desired ‘readiness’.

## Tunable Designer Nanoparticles™ for Theragnostic™, Vaccine and Bioreactor Applications

**Overview:** Historically, nanoparticles fall into two broad classes, viral and synthetic; each has advantages and disadvantages. To address these issues, we have developed a system that marries viral and synthetic design principles to afford “designer” nanoparticles for use in therapeutic, diagnostic and vaccine applications. Specifically, we have adapted the *phage lambda system* to afford nanoparticles whose surface can be *selectively* decorated with a variety of protein, carbohydrate and synthetic polymer-based macromolecules.

These can be displayed alone or in combination in *rigorously defined ratios* that are *precisely displayed* on the **shell (capsid) surface**. This feature is unprecedented in nanoparticle design. In addition, the particle can be *simultaneously loaded* with a variety of **cargo (phage-head packaging)**, again tailored to specific end-user requirements. Potential cargos include peptide, nucleic acid, organic and inorganic molecules, including drugs, toxins, quantum dots and metallic beads.

The system is *modular, tunable and adaptable*, which allows the design and construction of semi-synthetic nanoparticles for rapid deployment of particles tailored to specific “theragnostic™”, bioreactor, and vaccine applications.



Designer Nanoparticle™ Construction and Applications



Our partners have shown that (i) small molecules, antibodies, glycoproteins and synthetic polymers can be used to decorate the shell surface in defined ratios, and that (ii) DNA and enzymes can simultaneously be “packaged into” each of the particles as cargo.

Here we propose to develop the system as a defined and tuned antigen particle for vaccine applications vs. Parasites, Viruses, Bacteria

Modular paradigm affords **plug-n-play** as universal platform.

Briefly, the decoration protein will be modified to display peptides derived from the target glycoprotein(s).

The nanoparticle shell can be decorated with a single sequence, or with a single and/or variety of different peptide sequences, glycosylated and non-glycosylated.

The epitopes will be displayed in defined ratios to optimize the antibody response. Importantly, the modified decoration proteins assemble as trimers at 140 sites that are symmetrically displayed on the shell (capsid) surface. This feature affords a particle that presents antigens in high concentration and that are displayed in a predictable manner. In addition, the particle can be designed to simultaneously display antigens and many permutations of various types of adjuvants to engender a *highly antigenic* particle.

The platform can be **rapidly and specifically adapted** to generate a highly antigenic particle for vaccine development vs. any pathogen. Fewer steps to completion.

Thus, the modular system is ideally suited to rapid development and deployment of viable vaccines for emerging viral and bacterial threats, both natural and those developed as bioterror agents.

As an example: At least Three (3) to Four (4) individual vaccines (vs. the target pathogen) ... can be add-mixed to: **inform** the T-cells; **inform** the B-Cells; **inform** the Dendritic Cells (DCs); **inform** the Hematopoietic Stem Cells (HSC) (if needed) ? ... please see *recent discovery* below.

**Note:** When/if ... **cytokine storms** are observed in non-human primates and/or other Test Animals, then the PhageVax™ Teams will simply dial-back the tune-ability mechanisms that are built into these superior vaccine tools:

Please see: <https://www.ncbi.nlm.nih.gov/pubmed/?term=cytokine+storm+review>

The Phage-heads may be more heat-stable than current preparations for **less dependence on the cold-chain**.

The Lambda Phage Heads have distinct advantages over **Ad5** or **MVA** or **Lentivirus** or **Cell Culture** or **VLPs** or **Baculovirus**



---

Recent discovery (Sept. 2018):

Eva Kaufmann receives the prize for describing a new mechanism for protection against tuberculosis with the vaccine Mycobacterium bovis Bacillus Calmette-Guérin (BCG). Tuberculosis is an infectious disease caused by mycobacteria. With approximately 1.7 million deaths per year, the disease is one of the ten most frequent causes of death worldwide. BCG is so far the only tuberculosis vaccine approved worldwide. The vaccine consists of attenuated, non-infectious bovine tuberculosis bacteria that are used as live vaccines. It is known that macrophages play a decisive role in the defence against tuberculosis infections. Unfortunately, macrophages are only very short-lived. Therefore, vaccine strategies directly targeting macrophages would have only a limited effect on the generation of longterm immunological memory. In contrast to macrophages, their precursor cells, the Hematopoietic Stem Cells (HSC) in the bone marrow, are very long-lived. HSC generate all cells of the blood system. Eva Kaufmann's work in the mouse model shows that the access of BCG to the bone marrow leads to a reprogramming of HSCs.

---

#### COVID-19 SEQUENCES AS OF MID-FEB 2020

<http://virological.org/c/novel-2019-coronavirus/ncov-2019-evolutionary-history/35>

<http://virological.org/c/novel-2019-coronavirus/ncov-2019-genomic-epidemiology/36>

<http://virological.org/c/novel-2019-coronavirus/ncov-2019-diagnostics-and-vaccines/37>

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<https://www.ncbi.nlm.nih.gov/genbank/2019-ncov-seqs/>

2019-nCoV Sequences (Wuhan coronavirus) ..... The tables below list the 2019-nCoV (Wuhan coronavirus) sequences currently available in GenBank and the Sequence Read Archive (SRA). .... The sequence lists were last updated Friday Feb 07 10:45 2020 EST, and are updated as additional sequences are released. The table content is available for [download](#).

---

>>> How many Doses can **CEPI Sponsored Companies** claim over what period of time? <<<

For the USA, alone, we will need 700 Million Vaccine Doses of the Tunable T-4 Lambda Bacteriophage-Head Vaccine vs. COVID-19:

-  
See these Timeline & Volume Estimates: +/- 10%

-  
The Tunable T-4 Lambda Phage Head Vaccine Platform vs. the 2019-nCoV Coronavirus

-  
COVID-19 VACCINE ... STEPS ... TIME ... VOLUME [ Manufactured to FDA cGMP and cGLP Standards ]

Start: When funded:

2 WEEKS ... to find the optimal epitopes to **decorate** the T-4 Lambda Bacteriophage (Phage) Heads .....  
..... via 50+ Candidates tested in mouse model .....

-  
1 WEEK ... to verify the optimal epitopes did raise optimal antibodies in mouse model. Begin challenge-testing in **rabbit model**.

-  
2 WEEKS ... 10+ Vaccine Candidates are grown in 1 liter flasks for viability and other proprietary standards.

-  
2 WEEKS ... 2+ Vaccine Candidates are transferred to (2 Qty) **GE Wave Bioreactors** and grown overnight to  $10^{13}$  Phage Heads Titer.

[ Note: **25 LITERS** disposable plastic bags ]

-  
1 WEEK ...  $10^{13}$  Phage Heads Titer ... are **diluted** in proper medium to  $10^7$  Phage Heads Titer = **10 Million Doses** for typical human.

-  
1 WEEK ... Challenge-testing in **rabbit model** ... must prove **90% effective**, otherwise must re-construct the Phage Heads

-  
4 WEEKS ... After all testing is completed: (35 to 40 Qty) GE Wave Bioreactors = **25 LITERS/each** = **700 Million Doses** for typical human.

-----  
**diluted** to  $10^7$  Phage Heads Titer

-  
**13 WEEKS**

NOTE:

Various administration routes will be tested in **Human Clinical Trials**, however the typical **Intramuscular (IM)** route is preferred.

=====

**CC: TO:**

Robert Charrow, JD (b) (6)

General Counsel (GC) HHS - USA

DIRECT: (b) (6)

Ref: <https://directory.psc.gov/hhsdir/eeKey.asp?Key=38749>

-and-

Catherine Bird (b) (6)

Principal Deputy Assistant Secretary for Administration (PDASA)

Room FL7- 707F, Wash., DC, 200 Independence Ave SW

DIRECT: (b) (6)

Ref: <https://directory.psc.gov/hhsdir/eeKey.asp?Key=54655&Format=Table>

-and-

Brian Stimson, JD (b) (6)

Principal Deputy General Counsel (PDGC)

U.S. Department of Health and Human Services (HHS) USA

DIRECT: (b) (6)

Ref: <https://www.hhs.gov/about/agencies/ogc/index.html>

-  
Email list: (b) (6) ; (b) (6) ; (b) (6)

=====

Clark Tibbs, CEO

PhageVax, Inc.

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CAGE CODE: 4M4V6 [www.sam.gov](http://www.sam.gov)

Phone: [740.366.9013](tel:740.366.9013) Fax: [740.366.5230](tel:740.366.5230) Cell: (b) (6)

E-mail: [Clark@PhageVax.com](mailto:Clark@PhageVax.com) -or- [CTA@ee.net](mailto:CTA@ee.net)

General Offices & HQ: 855 Sharon Valley Road, Suite 101 Newark, Ohio 43055-2860 USA

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-



**From:** Peter Raven  
**Sent:** Wed, 18 Mar 2020 16:23:22 +0000  
**To:** Fauci, Anthony (NIH/NIAID) [E]  
**Subject:** Essential reading on duration of pandemic  
**Attachments:** Imperial-College-COVID19-NPI-modelling-16-03-2020.pdf

Dear Tony,

I suppose you've considered this paper, but it's so important I wanted to call it especially to your attention. It's from the Imperial College unit that has long been the leader in studying epidemics (Roy Anderson, Bob May).

Presumably we don't want to start talking about it yet but it's looking as if this will likely last until late next year.

You are doing a superb job on behalf of reason!

Peter

Peter H. Raven, President Emeritus

**From:** S Sarkar  
**Sent:** Fri, 13 Mar 2020 12:44:01 -0400  
**To:** Fauci, Anthony (NIH/NIAID) [E]  
**Subject:** A Possibility for Cororna Virus  
**Attachments:** J. Biol. Chem.-2003-Huang-15532-40.pdf, Journal of Virology-2013-Adedeji-8017.full.pdf

Dear Dr. Fauci,

This is Sibaji Sarkar from Boston. I work on Epigenetics and Cancer but previously used to work on cell membranes and platelets long time ago.

One thing came to my attention is that COVID19 attaches through ACE2 and then enter by endocytosis. ACE inhibitors are regularly used for high blood pressure but they don't have much affinity for ACE2. However, I found a paper (attached JBC); where they developed inhibitors of ACE2.

If COVID19 attachment/binding overlaps even partially with these inhibitors, it may prevent completely or partially viral entry to stop or delay more/further infection. It may or may not work but worth testing now, when nothing is available. There are also some info on using other anti-viral meds. But this one could be specific and not very expensive.

I wrote to several people since last week and thought of writing to you as well. I don't work on virus though.

I know your time precious and thank you for your time.

Best Regards,  
Sibaji Sarkar, Ph.D.  
Boston

**From:** Clark Tibbs PhageVax-VHO  
**Sent:** Sun, 8 Mar 2020 17:45:30 -0400  
**To:** Brenton.Temple@governor.ohio.gov;ORBIT@ODH.OHIO.GOV  
**Cc:** john.barnard@nationwidechildrens.org;Bruce.Vanderhoff@OhioHealth.com;Joseph.Gastaldo@OhioHealth.com;Conrad, Patricia (NIH/NIAID) [E]; (b) (6);'Hampsten, Emily (Durbin)'; (b) (6)  
**Subject:** To Ohio Governor via Brenton Temple :: COVID-19 Update 3-8-20 QUESTION: Any Companies based in Ohio that make PPE (Personal Protective Equipment) ??? rrbl

Hi Brenton, Please make sure **Mike** knows about this information?

Also, I am wondering if there are any companies based in Ohio that make **PPE (Personal Protective Equipment) ???**

If not, can Mike provide **Financial Assistance** for some start-ups ?

And/or to help **existing** companies **to expand into** making PPE (**Personal Protective Equipment**) ???

Also, Please sign up for this important Newsletter? Thx, Clark cell 740-502-9010

---

The World Health Organization is sounding the alarm about a **growing shortage of personal protective equipment (PPE)**, and the issue extends well beyond the much-publicized medical mask shortage.

This week the organization's director-general, Tedros Adhanom Ghebreyesus, MSc, PhD, said the lack of supplies undermines the entire global effort to stop the spread of COVID-19.

"We can't stop COVID-19 without protecting health workers first," Ghebreyesus said.

From the earliest days of the current coronavirus threat, news organizations featured videos of Chinese residents wearing facial masks on the street **in hopes of protecting themselves from transmission of the virus**. As the virus has spread, so too has **demand for masks**.

However, epidemiologists and other public health officials in the United States and elsewhere have repeatedly urged the public to avoid purchasing masks, noting that the masks don't offer the general public meaningful protection from the virus. In a series of tweets and public appearances, United States Surgeon General Jerome Adams, MD, MPH, has repeatedly asked the public to stop buying masks.

"They are NOT effective in preventing general public from catching #Coronavirus, but if healthcare providers can't get them to care for sick patients, it puts them and our communities at risk!" he wrote, [in a February 29<sup>th</sup> tweet](#).



However, the WHO's update this week **makes clear** that the dangerous lack of medical supplies is **not limited to masks**.

Global supplies of **gloves, respirators, goggles, face shields, medical gowns, and aprons** are also increasingly under stress.

The WHO late last month put out guidelines for what it says are "rational and appropriate" use of PPE in health care organizations. They include eliminating the need for PPE in some instances by **using telemedicine** and restricting the number of workers **who enter the rooms** of patients with COVID-19.

The organization said its models suggest some **89 million medical masks** will be needed each month to deal with the spread of COVID-19, along with **76 million examination gloves**, and **1.6 million sets of goggles**.

Ghebreyesus said meeting that demand will not only take restraint on the part of the general public, but also [action on the part of governments and the medical supply industry](#).

"Without secure supply chains, the risk to healthcare workers around the world is real," Ghebreyesus said. "**Industry and governments** must act quickly to **boost supply**, ease export restrictions and put measures in place to stop speculation and hoarding."

With the shortages have come spikes in prices, the WHO said. Mask prices have **grown six-fold**, N95 respirators have **tripled in costs**, and the cost of gowns has doubled.

Ghebreyesus said **medical supply companies** will need to **ramp up production by about 40%** in order to meet demand. Governments could aid in this effort by creating incentives for companies to manufacture the equipment, he said.

For its part, US Department of Health and Human Services this week announced it will purchase **500 million N95 respirators** over the coming 18 months to add to the nation's Strategic National Stockpile.

Meanwhile, the WHO said it has sent PPE supplies to 47 countries so far, mostly to smaller countries in [Africa](#) and Asia.

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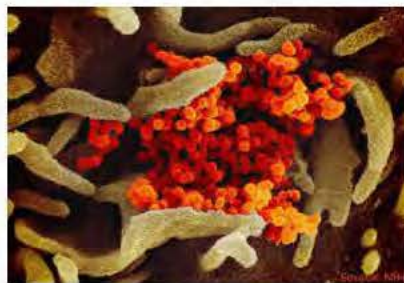
**From:** Contagion Live [mailto:edigest@contagionlive.com]  
**Sent:** Sunday, March 8, 2020 5:00 PM  
**To:** director@ee.net  
**Subject:** COVID-19 Update – March 8, 2020

COVID-19 Updates from Contagion®

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#### [Washington Orders Insurers to Cover COVID-19 Testing](#)

All health carriers regulated by the Washington Insurance Commissioner must waive copays and deductibles for consumers requiring COVID-19 testing through May 4, according to an order issued Wednesday.

#### [Identification, Diagnosis and Management of First US Coronavirus Case](#)

#### [Not Just Masks: WHO Warns of Looming Shortages of PPE](#)

#### [Christina Tan, MD, MPH, On What Clinicians Should Know About COVID-19](#)

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**From:** Anasse Bari  
**Sent:** Mon, 9 Mar 2020 13:36:05 -0400  
**To:** Fauci, Anthony (NIH/NIAID) [E]; Auchincloss, Hugh (NIH/NIAID) [E]; McGowan, John J. (NIH/NIAID) [E]; Lane, Cliff (NIH/NIAID) [E]; Barasch, Kimberly (NIH/NIAID) [C]; Conrad, Patricia (NIH/NIAID) [E]; Doepel, Laurie (NIH/NIAID) [E]; Eisinger, Robert (NIH/NIAID) [E]; Gilles, Sharon (NIH/NIAID) [E]; Lerner, Andrea (NIH/NIAID) [E]; Marston, Hilary (NIH/NIAID) [E]; Robinson, Whitney (NIH/NIAID) [C]  
**Cc:** Anasse Bari; Megan.Coffee@nyulangone.org; Coffee, Megan P.  
**Subject:** [Time Sensitive] CoronaVirus Research, NYU: China, Prof. Megan Coffee and NYU Courant  
**Attachments:** Lancet ID - Towards an Artificial Intelligence Framework for Data-driven Prediction of Coronavirus Clinical Severity.pdf

Dear Dr. Fauci and team,

I hope you are doing well. My name is Professor Anasse Bari of computer science at the Courant Institute of Mathematical Sciences of New York University.

Together with my analytics team, [Prof. Megan Coffee, MD, Ph.D.](#) of Infectious Diseases and several Chinese doctors have been working on real data of Chinese patients.

We would like to share with you our preliminary results with your team. Please find attached the paper for your review.

This initial work is the product of a unique collaboration of two teams - a team in Wenzhou, Zhejiang which has cared for and collected data on all of the patients presenting with COVID-19 in two hospitals and NYU Courant (Prof. Megan Coffee (NYU Langone) & NYU Courant's computer science.

We started this project back in January. Fortunately since then, although Zhejiang was one of the provinces most affected outside of Hubei, there were no deaths in this cohort (and only one death overall in the province, in a 3rd hospital which began seeing patients after this study started).

Clinical data from a line listing was used to predict risk of ARDS. Although there were only 53 patients (all of whom have now been discharged and so final outcomes known), we were able to create models that are predictive. AI often identifies features a doctor would not; ALT, myalgias, and hemoglobin all stood out as the most predictive.

The paper attached was sent this morning to Lancet ID and we hope to send it to another journal so it is accessible to the community working on this. We are also open to have under NIH repository.

We would like to request if possible clinical data of US cases that your team has worked on or if you can guide us to where we can get that data, the goal is to build a **data lake** with real patients data from all over the world that we could append to what we have (similar to the one we designed with the Chinese hospital) so we can apply the same predictive analytics algorithms and extend the predictive algorithms' learning phase.

We believe that this will allow us to build a set of AI tools as an extension to the decision support tools to doctors for this outbreak and current one. There is potential to further data sharing with our colleagues of the Chinese hospitals and our teams here in the US under your guidance.

Our teams are ready to volunteer and collaborate under your teams' guidance on the data analytics side.

Thank you and we are looking forward to hearing from you,

Anasse Bari, Ph.D.

Full-time Faculty Member of Computer Science, New York University

Courant Institute of Mathematical Sciences

Fulbright Scholar, and [co-author of the book Predictive Analytics for Dummies.](#)

--

[Recent Interview with MarketWatch](#)

[Interview with Forbes, on Predictive Analytics](#)

**Sent:** Tue, 10 Mar 2020 10:16:11 +0000  
**Subject:** FW: Predict the potential outbreak of COVID-2019 in the region based on the age information of reported COVID-2019 infected people  
**Attachments:** COVID2019Prediction20200310.pdf, S1.xlsx



**From:** RYAN, Michael J.  
**Sent:** Mon, 30 Mar 2020 08:58:09 +0000  
**To:** SHOC;Office of the Director-General;Redfield, Robert R.  
(CDC/OD); (b) (6)  
(b) (6)  
David Heymann;Felicity Harvey  
(b) (6);Chris.Elias;(b) (6);J.Farrar;(b) (6);  
(b) (6);Fauci, Anthony (NIH/NIAID) [E];(b) (6)  
(b) (6);GREIN, Thomas;COX, Paul Michael;SCHWARTLANDER,  
Bernhard F.;MINHAS, Raman;(b) (6);Conrad, Patricia (NIH/NIAID) [E];MAHJOUR,  
Jaouad;FALL, Ibrahima Soce;Thomas R. Frieden;elhadj.sy;Lynn Banks;President | Resolve to Save  
Lives;(b) (6);AL-SHORBAJI,  
Farah;(b) (6);Robynn Leidig;DRURY, Patrick Anthony;Dr VAN KERKHOVE,  
Maria;(b) (6);cheryl;c;G  
RAAFF, Peter Jan;POOLE, Marcia;Tarik Mohammed (b) (6);Carlos Navarro  
Colorado;(b) (6);Ryan Morhard;BRIAND, Sylvie;MORGAN, Oliver;Harries,  
Jenny;Awwad, David (NIH/NIAID) [C];SIMONSON, Stewart;SINGER, Peter Alexander;Jayatunga,  
Wikum;(b) (6);Julie.HALL;Amelie  
RIOUX;(b) (6)  
(b) (6);SHIN, Young-  
Soo;(b) (6);AYLWARD, Raymond Bruce J.;SMITH, Ian  
Michael;(b) (6)  
**Cc:** STERN, Gabriella;Katherine DeLand  
**Subject:** Informal coronavirus teleconference  
**Attachments:** (b) (4), (b) (6) Swisscom Call code.pdf

Dear colleagues,

Dr Tedros would like to invite you to the next informal discussion about the ongoing 2019 novel coronavirus.

The teleconference will be hosted on Wednesday, 1<sup>st</sup> April at 13:00 CET and the dial-in number with a passcode is attached.

If you experience any technical difficulties joining this conference call, please contact the WHO HQ EOC operator at: +41227912490

It would be appreciated if you could kindly confirm your participation to Ms Sophia Kabir, email: (b) (6) ; mobile no. (b) (6)

Best,

Mike

**From:** Robert Levitt  
**Sent:** Sat, 29 Feb 2020 22:09:41 +0000  
**To:** Undisclosed recipients:  
**Subject:** Revised Afternoon Edition of Dr. Levitt's COVID-19 Update on 29 February 2020  
**Attachments:** Bogoch, et. al. Est of Iranian COVID-19.pdf, Coronavirus in comparison to MERS and SARS.pdf

All: All attachments now attached as well as my Disclaimer. RGL, M.D.

Sent from [Outlook](#)

**From:** Robert Levitt

**Sent:** Saturday, February 29, 2020 3:07 PM

**Subject:** Afternoon Edition of Dr. Levitt's COVID-19 Update on 29 February 2020

Dear All,

Thank you for meeting with President Trump and VP Pence in the Situation Room this morning. Here are brief summaries of the articles I have read online or in journals today re: COVID-19/SARS-CoV-2:

**WH Press Briefing** this afternoon raised the level of risk for travel to Italy and South Korea and restricted travel from Iran to U.S. No airlights from China are allowed to land in U.S., as I understand the rules. See: <https://www.washingtonpost.com/world/2020/02/29/coronavirus-live-updates/>

**I would ask the CDC to issue the official rulebook for travel to and from China, South Korea, Iran, and Italy ASAP.** The rules got lost in the Press Briefing as the reporters were more interested in blaming President Trump for everything. Even when the President gets it right, the press sees only: 'if it bleeds, it leads'. I was proud of President Trump at the Press Briefing. My afternoon update yesterday questioned the number of COVID-19 cases in Iran based on a **BBC** report. Today another report in the **WSJ** also questioned the Iranian government's reported numbers. See: <https://www.wsj.com/articles/as-irans-leaders-contract-coronavirus-doubts-emerge-over-national-tally-11582903223>

This **WSJ** article is based on a Bogoch, et. al. article *not peer reviewed on medRxiv*. See pdf above. This article bases its results on 3 exported cases of COVID-19 to Canada, Lebanon, and UAE. The WSJ statement that there are really 23,000 COVID-19 cases in Iran has a statistical range of 3770-53,470 in the Bogoch, et. al. paper. **The WSJ statement is incorrect.** The Bogoch, et. al. article may also be incorrect; I am not a statistician, but the Bogoch, et. al. article is a statistical exercise. **In my opinion, the CDC needs to determine the correct number of cases of COVID-19 in Iran. If there is a statistically significant number of COVID-19 cases, all countries should not allow Iranian aircraft to land at their airports.**

**American Journal of Roentgenology** has a recent article on the CXR and CT finding of COVID-19 c/w MERS and SARS findings. See pdf above. The **findings of these related coronaviruses are similar on CXR and CT**, but the authors found more bilaterality of opacities on CXR and CT with COVID-19. My thanks to Dr. Joseph Mansour for bringing this article to my attention.

Regarding the community acquired COVID-19 cases in California, Oregon, and Washington State, these states all have ports receiving shipments from Asia via freighters. **My opinion is that crews/officers of any freighter with a stop in Asia and docking in California, Oregon, or**

**Washington State should remain on board their ship while in port.**

RGL, M.D.

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**From:** Miller, Katie R. EOP/OVP  
**Sent:** Sat, 14 Mar 2020 00:48:49 +0000  
**To:** Fauci, Anthony (NIH/NIAID) [E]  
**Subject:** Fwd: Remarks by President Trump, Vice President Pence, and Members of the Coronavirus Task Force in Press Conference

Sent from my iPhone

Begin forwarded message:

**From:** White House Press Office (b) (6)  
**Date:** March 13, 2020 at 7:40:01 PM EDT  
**To:** "Miller, Katie R. EOP/OVP" (b) (6)  
**Subject:** Remarks by President Trump, Vice President Pence, and Members of the Coronavirus Task Force in Press Conference  
**Reply-To:** White House Press Office (b) (6)



Office of the Press Secretary

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FOR IMMEDIATE RELEASE

March 13, 2020

REMARKS BY PRESIDENT TRUMP,  
VICE PRESIDENT PENCE,  
AND MEMBERS OF THE CORONAVIRUS TASK FORCE  
IN PRESS CONFERENCE

Rose Garden

3:30 P.M. EDT

THE PRESIDENT: Thank you very much, everyone. Thank you.  
Thank you.

A beautiful day in the Rose Garden. Appreciate everybody being here. Today, I'd like to provide an update to the American people on several decisive new actions we're taking in our very vigilant effort to combat and ultimately defeat the coronavirus.

We've been working very hard on this. We've made tremendous progress. When you compare what we've done to other areas of the world, it's pretty incredible. A lot of that had to do with the early designation and the closing of the borders.

And, as you know, Europe was just designated as the hotspot right now, and we closed that border a while ago. So that was lucky or through talent or through luck. Call it whatever you want. But through a very collective action and shared sacrifice and national determination, we will overcome the threat of the virus.

I also announced Wednesday night, following the advice of our medical professionals who are doing a tremendous job -- and we appreciate it very much -- that we're suspending the entry of foreign nationals who have been to Europe in the last 14 days from entering the United States. Citizens, permanent residents, and our families -- and even the families returning from Europe, will be subject to extra screening as well self-isolation for a period of 14 days.

As the World Health Organization confirmed today, many of the things that -- what we said were 100 percent correct, including our designation, before them, of Europe. Like our earlier, very

aggressive actions with China, this measure will save countless lives. I appreciate a number of the folks behind me. A number of the people behind me said that that saved a lot of lives, that early designation.

But it is only the beginning of what we're really doing, and now we're in a different phase. We had some very old and obsolete rules that we had to live with. It worked under certain circumstances but not under mass circumstances. They were there for a long time; they were in place for a long time. And we're breaking them down now. And they're very usable for certain instances, but not for this.

To unleash the full power of the federal government in this effort, today I am officially declaring a national emergency. Two very big words. The action I am taking will open up access to up to \$50 billion of very importantly -- very important and a large amount of money for states and territories and localities in our shared fight against this disease.

In furtherance of the order, I'm urging every state to set up emergency operation centers effective immediately. You're going to be hearing from some of the largest companies and greatest retailers and medical companies in the world. They're standing right behind me and to the side of me.

I'm also asking every hospital in this country to activate its emergency preparedness plan so that they can meet the needs of Americans everywhere. The hospitals are very engaged. New York and various other places are also various engaged. I just spoke with Governor Cuomo; we had a very good conversation. And we're working very strongly with many states, including New York.



The emergency orders I am issuing today will also confer broad new authority to the Secretary of Health and Human Services. The Secretary of HHS will be able to immediately waive provisions of applicable laws and regulations to give doctors, hospital -- all hospitals -- and healthcare providers maximum flexibility to respond to the virus and care for patients.

This includes the following critical authorities:

- The ability to waive laws to enable telehealth, a fairly new

and incredible thing that's happened in the -- in the not-so-distant past. I tell you, what they've done with telehealth is incredible. It gives remote doctors' visits and hospital check-ins.

- The power to waive certain federal license requirements so that doctors from other states can provide services and states with the greatest need. Number two.

- The ability to waive requirements that critical-access hospitals limit the number of beds to 25 and the length of stay to 96 hours.

- The ability to waive the requirements of a three-day hospital stay prior to admission to a nursing home. Big thing.

- The authority to waive rules that hinder hospitals' ability to bring additional physicians on board or obtain needed office space. They can do as they want. They can do what they have to do. They know what they have to do. Now they don't have any problem getting it done.

- The authority to waive rules that severely restrict where hospitals can care for patients within the hospital itself, ensuring that the emergency capacity can be quickly established.

We'll remove or eliminate every obstacle necessary to deliver our people the care that they need and that they're entitled to. No resource will be spared. Nothing whatsoever.

Ten days ago, I brought together the CEOs of commercial labs at the White House and directed them to immediately begin working on a solution to dramatically increase the availability of tests. Other countries have called us and worked with us, and they're doing similar things or will be doing similar things.

As a result of that action, today we're announcing a new partnership with private sector to vastly increase and accelerate our capacity to test for the coronavirus. We want to make sure that those who need a test can get a test very safely, quickly, and conveniently. But we don't want people to take a test if -- if we feel that they shouldn't be doing it. And we don't want everyone running out and taking. Only if you have certain symptoms.

Using federal emergency authorities, the FDA approved a new test for the virus. We did this within hours after receiving the application from Roche -- a process that would normally take weeks. We therefore expect up to a half a million additional tests will be available early next week. We'll be announcing locations probably on Sunday night.

I want to thank Roche, a great company, for their incredible work. I'd also like to thank Thermo Fisher. The FDA's goal is to hopefully authorize their application within 24 hours -- it'll go very quickly; it's going very quickly -- which will bring, additionally, 1.4 million tests on board next week and 5 million within a month. I doubt we'll need anywhere near that.

At the same time, we've been in discussions with pharmacies and retailers to make drive-thru tests available in the critical locations identified by public health professionals. The goal is for individuals to be able to drive up and be swabbed without having to leave your car.

I want to thank Google. Google is helping to develop a website. It's going to be very quickly done, unlike websites of the past, to determine whether a test is warranted and to facilitate testing at a nearby convenient location.

We have many, many locations behind us, by the way. We cover the -- this country in large part. So the world, by the way -- we're not going to be talking about the world right now. But we cover very, very strongly our country. Stores in virtually every location.



Google has 1,700 engineers working on this right now. They've made tremendous progress. Our overriding goal is to stop the spread of the virus and to help all Americans who have been impacted by this.

Again, we don't want everybody taking this test; it's totally unnecessary. And this will pass. This will pass through, and we're going to be even stronger for it. We've learned a lot. A tremendous amount has been learned.

I want to thank Deborah Birx, and I want to ask her maybe to come up and say a few words as to what's happening. Dr. Birx is a highly respected person. I've gotten to know her very well over the last six days. And what we've done is rebuild something that was very old, very old-fashioned, somewhat obsolete. Certainly obsolete when it comes to the kind of numbers that we're talking about.

Dr. Birx, please. Thank you, Deborah.

DR. BIRX: Thank you, Mr. President. It's a pleasure to be here with all of you.

I think you know -- at the beginning of this epidemic, HHS, through CDC, proactively developed an assay built on the existing flu surveillance system. That surveillance system was then converted to diagnostic system.

But last Tuesday, seeing the spread of the virus around the globe, the President realized that our current approach to testing was inadequate to need -- to meet the needs of the American public. He asked for an entire overhaul of the testing

approach. He immediately called the private sector laboratories to the White House, as noted, and charged them with developing a high-throughput quality platform that can meet the needs of the American public.

We are grateful to LabCorp and Quest for taking up the charge immediately after the meeting and within 72 hours bringing additional testing access, particularly to the outbreak areas of Washington State and California, and now across the country.

We are also very grateful to the universities and large hospital systems that took up the charge to develop their own quality tests made available by new FDA guidance. This has resulted in expanded testing across New York, California, Washington, Colorado, and you see sometimes those drive-thru options that have been made available through these high-throughput options.

Following the meeting last week, major commercial laboratory equipment and diagnostic companies took immediate action to adopt and develop new testing systems. Last night, the initial company, Roche, received FDA approval, moving from request to development to approval in record time.

This innovative approach centered fully on unleashing the power of the private sector, focusing on providing convenient testing to hundreds of thousands of Americans within short turnaround times. In less than two weeks together, we have developed a solution that we believe will meet the future needs -- testing needs of Americans.

I understand how difficult this has been. I was part of the HIV/AIDS response in the '80s. We knew, from diag- -- from

first finding cases in 1981, it took us to almost 1985 to have a test. It took us another 11 years to have effective therapy. It is because of the lessons learned from that that we were able to mobilize and bring those individuals that were key to the HIV response to this response.

I understand that a lot of this behind-the-scenes action over the last couple of weeks was invisible to the press and the American people. But this intense effort has not only resulted in innovative solutions, but an automated high-throughput system, bringing the availability of these quality coronaviral testing to the American people at unprecedented speed.

Finally, I want you to know: In South Korea, they did have large number of tests available over the last several weeks. Their positivity rate is between 3 and 4 percent. With LabCorp and Quest expanded testing, their positivity rate is between 1 and 2 percent.

So we want to also announce this new approach to testing, which will start in the screening website up here, facilitated by Google, where clients and patients and people that have interest can go, fill out a screening questionnaire -- move down for symptoms or risk factors, yes. They would move down this and be told where the drive-thru options would be for them to receive this test. The labs will then move to the high-throughput automated machines to be able to provide results in 24 to 36 hours.

That is the intent of this approach. We have seen it work just in our own United States, and we want to bring this across the continent.



Thank you very much.

THE PRESIDENT: Thank you very much, Deborah. Great.

I'd like to maybe have Tony -- do you want to come up? You've become a -- I think everybody out here knows you pretty well. But Tony has been doing a tremendous job working long, long hours. And you've seen a lot happen, but this has been -- it's been a great experience, and working with you has been terrific.

Tony, please.

DR. FAUCI: Thank you very much, Mr. President. This is an example of -- another example of what I've been referring to in my discussions with many of you in the audience as a proactive, leaning-forward, aggressive, trying to stay ahead of the curve.

And what you're seeing now with this order is that we're going to be able to remove the constraints so that people at the state and the local level -- the individual physician all the way up through the federal government -- will have as many constraints as possible removed for them to do everything they possibly can so that we can implement the things that we've been talking about -- the containment, the mitigation -- so that, as I've said many times, that curve that I referred to that goes up, we don't want to have that curve. We want to suppress it down to that small mound.

And I think what we've done today is something that is going to be a very important element in having us be successful in doing that.

We still have a long way to go. There will be many more cases, but we'll take care of that. And ultimately, as the President said, this will end. But what's going on here today is going to help it to end sooner than it would have.

Thank you.

THE PRESIDENT: Thank you very much, Tony.

If I could, some of these folks we know; they're celebrities in their own right. They're the biggest business people, the greatest retailers anywhere in the world. And one of them is Doug McMillon from Walmart. And I'd like to have Doug, if you would, say a few words, wherever you may be.

Doug, please.

MR. MCMILLON: When we got the call yesterday from the White House, we were eager to do our part to help serve the country. And given what we're facing, that's certainly important to do. We should all be doing that.

So we've been asked to make portions of our parking lot available in select locations in the beginning, and scaling over time as supply increases, so that people can experience the drive-thru experience that the President described.

We'll stay involved and do everything we can from a supply-chain point of view to be of assistance.

Thank you, sir.

THE PRESIDENT: Thank you very much, Doug. Appreciate it very much.

I'll just stay right over here. And, Richard, if you could come up, please. Richard, please. Walgreens. Thank you.

MR. ASHWORTH: Thank you, Mr. President. And similar to Doug and Walmart, we're happy to stand in here and help in communities all across America. Because a lot of times, when we have natural disasters, our stores are a beacon in the community, and this situation is no different.

So we look forward to partnering with the CDC, the administration, HHS, and the task force, and specifically to the Vice President, who's doing such a fantastic job. We're ready to engage and help.

Thank you.

THE PRESIDENT: Thank you very much. Great job. Thank you very much.

Brian Cornell, Target. Thank you, Brian. Thank you. Please.

MR. CORNELL: Well, Mr. President, thank you for inviting us here today, along with our colleagues from Walmart and Walgreens and our partners at CVS. Normally, you'd view us as competitors, but today we're focused on a common competitor, and that's defeating the spread of the coronavirus. And we look forward to working with the administration to do our fair share to alleviate this growing threat.



So, thank you for including us today. In the near term, we're all committed to making sure we're keeping our stores open to serve the American consumer who is rapidly stocking up on household essentials, key food and beverage items that they need during this time; making sure we run safe stores; and creating an environment that's safe for our team members, making sure that they feel supported during this very critical time.

So thank you for including us.

THE PRESIDENT: Thank you very much. Great job.

Is Tom here? Tom Polen. Tom? Tom Polen. Please.

MR. POLEN: Thank you, Mr. President. As CEO of Becton Dickinson, we're one of the leading providers of medical devices as well as collection products for testing of coronavirus. We're ramping up our manufacturing capacity to ensure that the right collection devices and testing equipment are ready to address this issue. Thank you, Mr. President.

THE PRESIDENT: Thank you very much, Tom. Great job you've done.

Stephen Rusckowski, Quest Diagnostics. Please. Great job. Thank you very much.

MR. RUSCKOWKI: Thank you very much. Thank you, Mr. President.

So, as mentioned, we were called, with the leadership of the Vice President, last week to come together as an industry. And

we took advantage of that opportunity to work with the FDA, to work with the Center for Disease Control. And we are up and running with tests in a number of our facilities.

As the President mentioned, we now have capabilities from Roche diagnostics that we will bring into our facilities this weekend. And I know myself and also my colleague at LabCorp will be doing the same, so the capacity available to the American public to support this action with consumers will be considerably increased in the next few weeks.

Thank you, Mr. President.

THE PRESIDENT: Thank you very much. I appreciate it.

And Matt Sause, please, of Roche. Matt? Thank you, Matt.

MR. SAUSE: Thank you, Mr. President. So, from Roche, we want to thank the FDA for their rapid approval of our coronavirus test. We really appreciate the partnership with the CDC and the FDA to get that to market as fast as possible because it's critical for us to make that available to help patients in need, and working with laboratories to get it up and going in the near future, which will bring hundreds of thousands of tests available to patients in need in the United States. So, thank you.

THE PRESIDENT: And you can do it. You can do it. A great company.

David Pierre of Signify -- Signify Health. Please. Thanks, David.

MR. PIERRE: Thank you, Mr. President. We are the largest housecall provider in the U.S., and we go to the homes of the most vulnerable elderly. And through our network and our logistics engine, we stand ready to help and provide our clinicians to be where they're needed, whether they're in retail clinics or in the home. And we're here to assist.

Thank you very much.

THE PRESIDENT: Thank you very much. And we'll be changing a lot of the rules, regulations for future, should this happen in the future, which we hope it never does. But it will, I guess - - somewhere out there. There are some bad ones over the years, and I guess that'll continue to an extent, but we hope it never happens. But we're going to be changing a lot of the old rules and specifications and regulations.

Adam Schechter, who has really been of tremendous help. LabCorp. Please. Adam?

MR. SCHECHTER: Thank you, Mr. President. At LabCorp, we're working every second of every day to increase the number of tests that we can run. We're working with academic medical centers, with our colleagues at Quest, with other hospital and other laboratories to ensure that we do everything we can to increase the testing as we move forward.

And I can tell you we understand how important the testing is, and we are committed to doing everything possible.

THE PRESIDENT: Thank you very much. Great job. Thank you.



Thomas Moriarty, CVS. We all know CVS. Thank you.

MR. MORIARTY: Thank you, sir.

THE PRESIDENT: Thank you, Thomas.

MR. MORIARTY: Thank you, Mr. President. We have been focused, since the start, of making sure our patients and the customers we serve have the information they need and the safety they need as well. We are committed to working with the administration and local public health officials to make this work as well. And thank you, sir, for the honor.

THE PRESIDENT: Thank you very much. Thank you, Thomas. Thanks. Great job.

And Bruce Greenstein, LHC Group. Tremendously talented people. Thank you very much.

MR. GREENSTEIN: Mr. President, thank you for the honor of being here. And the home health industry has been treating patients and seniors in the safety and comfort of their own home for decades. We're very proud to be part of the equation for testing in their own home. For Americans that can't get to a test site or live in rural areas far away from a retail establishment, we're here to help and to partner with our hospitals and physicians, as well as the people we have here today that will be doing testing around the country. Thank you.

THE PRESIDENT: Thank you very much. Fantastic.

(Mr. Greenstein gives the President an elbow bump.)

MR. GREENSTEIN: Oh, we'll practice that.

THE PRESIDENT: Okay, I like that. That's good.

We're also announcing the following emergency executive actions today:

To help our students and their families, I've waived interest on all student loans held by federal government agencies, and that will be until further notice. That's a big thing for a lot of students that are left in the middle right now. Many of those schools have been closed.

Based on the price of oil, I've also instructed the Secretary of Energy to purchase, at a very good price, large quantities of crude oil for storage in the U.S. Strategic Reserve. We're going to fill it right up to the top, saving the American taxpayer billions and billions of dollars, helping our oil industry and making us even further toward that wonderful goal -- which we've achieved, which nobody thought was possible -- of energy independence. It puts us in a position that's very strong, and we're buying it at the right price. And that's something that would have not even been possible a week ago. The price of oil went down quite a bit, so we're going to fill it up. This is a good time to fill it up.

I'd like to ask Mike Pence to say a few words, please. VP.

THE VICE PRESIDENT: Thank you, Mr. President. It is -- this day should be an inspiration to every American, because thanks

to your leadership from early on, not only are we bringing a whole-of-government approach to confronting the coronavirus, we're bringing an all-of-America approach.

Mr. President, from early on, you took decisive action. You suspended all travel from China. You created travel advisories -- South Korea and Italy. We screened all travelers from all airports in both of those countries. And on the unanimous recommendation of your health experts, you, at midnight tonight, will effectively suspend all travel from Europe. And Americans that are returning will be screened and asked to voluntarily participate in a 14-day quarantine.

Throughout this process, Mr. President, you've put the health of America first, but you brought the best of America to address it. And it's not just at the federal level. As you said, Mr. President, we've been working with states across the country. We issued broad guidelines from CDC for every American. But this week, at your direction, we tailored specific recommendations from CDC for New York, Washington State, California, Massachusetts, and Florida.

And we've been in continuous contact, as you said, with governors around the country. And, Mr. President, you have forged a seamless partnership with every state and every territory in this country to put the health of our nation first.

But today, I trust that people around the country that are looking on at this extraordinary public and private partnership to address the issue of testing with particular inspiration. After you tapped me to lead the White House Corona Task Force, Mr. President, you said this is all hands on deck, and you



directed us to immediately reach out to the American business sector commercial labs to meet what we knew then would be the need for testing across the spectrum. And today, with this historic public-private partnership, we have laid the foundation to meet that need.

And for Americans looking on, by this Sunday evening, we'll be able to give specific guidance on a -- on when the website will be available. You can go to the website, as the President said. You'll type in your symptoms and be given direction whether or not a test is indicated.

And then, at the same website, you'll be directed to one of these incredible companies that are going to give a little bit of their parking lot so that people can come by and do a drive-by test.

Mr. President, I want to join you in thanking Walmart and CVS and Target and Walgreen. These are companies that are synonymous with communities large and small, where people come together. And now they're going to come together to meet the needs of the American public.

These commercial laboratories -- LabCorp and Quest and Roche -- have just done an incredible job stepping forward and are going to literally make -- literally make hundreds and thousands of tests available and being processed with results to patients in the very near future. But it's all a result of you tasking us with bringing together not just government resources -- which all state labs can now test across the country; CDC is testing -- but you said, Mr. President, that we wanted to bring all the resources of the country together, and that's what this

partnership really means.

You know, the truth is that we have coronavirus cases now in 46 American states. And while the risk of serious illness of the coronavirus remains low, we want to encourage every American to practice common sense, practice good hygiene, go to the CDC's website to see what the guidance is for your community or for the American people broadly.

And as the President has said, it's especially important now that we look at senior citizens with chronic underlying health conditions. Last week, the President directed the Center for Medicaid and Medicare Services to raise the standards at our nursing homes, increase inspections at our nursing homes. And today, we're offering very specific guidance, which Seema Verma will articulate, about visitations at nursing homes.

It's important to remember that they were there for us when we were growing up, Mr. President. They helped us with our homework. They tucked us in at night. They cheered us on as we pursued educations, cheered us on in our careers. And now it's time for us to be there with them and to recognize that seniors with chronic health conditions are the most vulnerable, and Americans can make a difference. So wash your hands, use common sense, look after the most vulnerable.

And, Mr. President, I know I join you in saying that every American should be proud of this incredible public-private partnership that's going to speeding access of testing to millions of Americans in the weeks ahead.

And together, as you've said many times, together we'll get

through this. Together, we'll put the health of America first.

THE PRESIDENT: Thank you, Mike. Thank you very much.

Seema. Where is Seema? I'd like you to maybe take that a step further, please, on nursing homes. Thanks.

ADMINISTRATOR VERMA: Thank you. Well, thank you to the President for the declaration. It allows my agency, CMS -- that runs Medicare and Medicaid and has oversight of all of the nation's healthcare facilities -- to suspend regulations that can get in the way of treating patients during this time.

These temporary national blanket waivers are reserved for the rarest of circumstances, and they represent a massive mobilization of our country's resources to combat this terrible virus. And the flexibilities we are offering will be a God-send to the providers, clinicians, and facilities on the frontlines of this fight.

And later, CMS is going to be issuing guidance directing nursing homes to temporarily restrict all visitors and non-essential personnel, with a few exceptions such as end-of-life situations.

We fully appreciate that this measure represents a severe trial for residents of nursing homes and those who love them. But we are doing what we must to protect our vulnerable elderly. Thank you.

THE PRESIDENT: Thank you very much, Seema.



As I said in my address to the nation the other night, all Americans have a role to play in defeating this virus. Our most effective weapon right now is to limit the damage to our people and our country, and slow the spread of the virus itself.

The choice we make, the precautions we put into place are critical to overcoming the virus, reducing its spread and shortening the duration of the pandemic -- which is what it is.

The CDC has published guidelines on the Coronavirus.gov to enable -- it's Coronavirus.gov, and it's very -- very heavily used right now, I will say -- to enable every American to respond to this epidemic and to protect themselves, their families, and their communities, while the risks to young and healthy Americans remains very low. We've learned a lot about this over the last two weeks. Anyone can be a carrier for the virus and risk transmission to older Americans and those with underlying health conditions and those who are most at risk. They have not done very well. Older Americans who are -- especially, if they have a health problem, they have not done well.

We must take all precautions and be responsible for the actions that we take and that we see other people take. We want to prevent the spread and transmission of the disease.

It's incredible what's -- sports -- what's happening with the sporting world, where so many of the great sports that we've gotten so used to at this time of the year, they're not going to be meeting. And they've done a great service actually. But that -- would be another way that it could be -- problems could be caused.

But this is why I outlined on Wednesday night my administration's -- the fact that we've issued a requirement suspending all medically unnecessary visits to various places, but in particular, nursing homes. We should all be working off the same playbook when it comes to protecting Americans. We have to.

We need to be consistent in adopting measures to limit the spread of the virus. The virus is the same, whether it's spreading in cities, towns, or rural communities. The tools and tactics for attacking it are similar no matter where you go. No matter where you go. You have some hotspots throughout the world right now that people would have never thought possible, and they're being very seriously affected.

Key among these efforts are breaking chains of transmission between people. These measures have been adopted by many companies, universities, and schools. And we want to protect the safety and the health of their employees and their students. I encourage everyone to follow the guidelines we've issued by CDC and these commonsense measures. A lot of it is common sense.

For the areas where the virus is spreading, the CDC is advising communities to postpone large gatherings, postpone assemblies, social functions, and sporting events; stagger recess and lunch for schools that aren't canceled; limit in-person meetings; increase scheduled cleanings; and cancel work-sponsored travel - among numerous other steps that can be taken.

Americans are the strongest and most resilient people on Earth,

and in the coming weeks, we will all have to make changes and sacrifices, but these short-term sacrifices will produce long-term gain.

And again, I've said we're learning a lot for the future and future problems like this, or worse. Or worse. It could get worse. The next eight weeks are critical. We can learn -- and we will turn a corner on this virus.

Some of the doctors say it will wash through, it will flow through. Interesting terms and very accurate. I think you're going to find in a number of weeks it's going to be a very accurate term.

In times of hardship, the true character of America always shines through. We live in the company of the greatest heroes and the most inspiring citizens anywhere in the world. We want to take care of our people. We want to draw on the strength of our history, draw on the strength of our people, and we will get through this all together. We will just get through it. So much progress has already been made.

And, frankly, the numbers -- because of steps that have been taken -- are at a level that a lot of people are surprised, especially when you compare them with other places with far smaller populations.

The spirit and the will of our nation is unbreakable. We will defeat this threat. When America is tested, America rises to the occasion.

And to those families and citizens who are worried and concerned

for themselves and their loved ones, I want you to know that your federal government will unleash every authority, resource, and tool at its disposal to safeguard the lives and health of our people.

So we're with you every step of the way. No nation is more prepared or more equipped to face down this crisis. As you know, we are rated number one in the world.

We're also helping other nations -- many other nations; we're helping them a lot. And they're doing okay, in some cases. In some cases, they're not doing well at all. But we're working with a lot of groups of people and a lot of other nations.

With faith and heart and hope and love and determination, we will succeed. We will prevail. We will be very, very successful. And we'll learn for the future.

Thank you all very much. If you have any questions, we can take some.

Go ahead, John. Please. And if you'd like to ask some of the folks up here, it would be fine. Please.

Q Sure. Mr. President, where are you with the House bill? Yesterday, we talked to you in the Oval Office; you were opposed to it. What has happened since then? And what's the holdup on that?

THE PRESIDENT: Well, we just don't think they're giving enough. We don't think the Democrats are giving enough. We're negotiating. We thought we had something, but all of a sudden



they didn't agree to certain things that they agreed to. So we could have something, but we don't think they're giving enough. They're not -- they're not doing what's right for the country.

Q And if I could ask Dr. Fauci --

Q (Inaudible.)

THE PRESIDENT: Go ahead, please.

Q Thank you, Mr. President. You just mentioned waiving interest for student loans.

THE PRESIDENT: Yeah.

Q You talked about buying oil from the -- from the SPR, or adding to the SPR. What other specific targeted measures is your administration thinking about taking? The Treasury Secretary, Steve Mnuchin, said today that you're just in the "second inning" of things that you might be undergoing.

THE PRESIDENT: Yeah, well, that's true. And we are looking at many different things, as you know. You know some of them -- they've been written about very widely. But we're going to be releasing a paper in about two hours stating quite a few other steps. Very important ones.

Q Mr. President --

Please, go ahead.

Q Like what, sir, if you wouldn't mind?

THE PRESIDENT: Please, go ahead.

Q Thank you so much, Mr. President. I want to -- I want to know if you are in contact with the Brazilian President, Bolsonaro, after a member of his delegation who was with you Saturday was tested positive.

And also Senat- -- I want to ask another question, if you'll let me. Senator Lindsey Graham and also Senator Scott -- Rick Scott -- are self-isolating. Are you planning to take any kind of precautionary measure to protect you and also your staff who was there with him?

THE PRESIDENT: No, we have no symptoms whatsoever. And we have -- we had a great meeting with the President of Brazil, Bolsonaro. Great guy. Very -- a very tremendous -- he's done -- he's doing a fantastic job for Brazil.

And, as you know, he tested negative -- meaning, nothing wrong -- this morning. And we got that word, too. Because we did have dinner with him; we were sitting next to each other for a long period of time.

Q But are you in contact with him over the coronavirus crisis?

THE PRESIDENT: No, we -- we have. We're talking about it, country to country, but we did discuss if he had a problem. It was reported that he may have it, and he doesn't, fortunately.

Q Thank you so much, Mr. President. Dr. Fauci said earlier

this week that the lag in testing was, in fact, "a failing." Do you take responsibility for that?

And when can you guarantee that every single American who needs a test will be able to have a test? What's the date of that?

THE PRESIDENT: Yeah, no, I don't take responsibility at all, because we were given a -- a set of circumstances and we were given rules, regulations, and specifications from a different time. It wasn't meant for this kind of an event with the kind of numbers that we're talking about. And what we've done is redesigned it very quickly with the help of the people behind me. And we're now in very, very strong shape.

I think we'll be announcing, as I said, Sunday night, and this will start very quickly. And we -- we'll have -- we'll have the ability to do in the millions over a very, very quick period of time. So, no.

And what we have done -- and we are going to be leaving a very indelible print for the future, in case something like this happens again. But it was a -- and that's not the fault of anybody. And, frankly, the old system worked very well for smaller numbers -- much smaller numbers -- but not for these kind of numbers.

Tony, maybe you'd like to say something?

Q By Sunday night, will you have --

THE PRESIDENT: Tony, please.

Q Yes, please. By Sunday night, will every American be able to get a test?

DR. FAUCI: So, just to reiterate what I said to many of you multiple times: It's (inaudible) of a system. This system was not designed -- for what it was designed for, it worked very well. The CDC designed a good system.

If you want to get the kind of blanket testing and availability that anybody can get it or you could even do surveillance to find out what the penetrance is, you have to embrace the private sector. And this is exactly what you're seeing, because you can't do it without it.

So when I said that, I meant the system was not designed for what we need. Now, looking forward, the system will take care of it.

Q And, Mr. President, with respect, you've been --

THE PRESIDENT: And, interestingly, if you go back -- please -- if you go back to the swine flu, it was nothing like this. They didn't do testing like this. And actually, they lost approximately 14,000 people. And they didn't do the testing. They started thinking about testing when it was far too late.

What we've done -- and one of the reasons I think people are respecting what we've done: We've done it very early. We've gotten it very early. And we've also kept a lot of people out.

Q Mr. President --



THE PRESIDENT: Yes, please. Go ahead. Please.

Q Mr. President, the last administration said that they had tested a million people at this point. You've been --

THE PRESIDENT: Well, ask them how they --

Q -- President for three years.

THE PRESIDENT: -- did with the swine flu. It was a disaster.

Q But with respect, you've been President for three years --

THE PRESIDENT: Next, please. Next, please.

Q -- and Wuhan was suffering --

THE PRESIDENT: They had a very big failure with swine flu. A very big failure.

Q Thank you, Mr. President. I want to ask you about the European travel ban that goes into effect at --

THE PRESIDENT: Yeah.

Q -- midnight tonight and the exemption that you've offered to the UK. There are 17 countries that are in the so-called "Schengen zone" that have fewer coronavirus cases than the UK. And just in the past 24 hours, the UK has added 208 coronavirus cases to their total. Why do they, Mr. President, deserve an exemption? And would you consider adding them to this travel ban list?

THE PRESIDENT: Well, that was recommended to me by a group of professionals, and we are looking at it based on the new numbers that are coming out. And we may have to include them in the list of countries that we will, you could say, ban -- or whatever -- it is during this period of time.

But, yeah, their numbers have gone up fairly precipitously over the last 24 hours, so we may be adding that, and we may be adding a couple of others. And we may, frankly, start thinking about taking some off.

Go ahead.

Q Thank you, Mr. President. I'm a correspondent with Hong Kong Phoenix TV. You have been mentioned -- you have mentioned that the number in China has been decreasing and China has made tremendous progress in the past two weeks.

THE PRESIDENT: It's true.

Q I'm wondering how much confidence does this give you to control the virus in the United States. And do you see the data China has been sharing with the United States has been helpful?

THE PRESIDENT: I think it has been helpful. We've been working very much with China. I've spoken, as you know, with President Xi. They went through hell, and their numbers are starting to look very good. They're really -- they're really looking very good. We're very happy about that. We are sharing data, yes. In fact, we're sharing quite a bit of data, including the fact that some of our pharmaceutical companies are working over there

right now with large groups of people.

Yeah, go ahead. Please.

Q Thank you, Mr. President. You spoke with Canadian Prime Minister Trudeau yesterday.

THE PRESIDENT: Yes, I did.

Q Did you discuss the potential closing of the border between Canada and the U.S.? And, by extension, are you considering ways to salvage the \$2 billion daily trade between the two countries?

THE PRESIDENT: So we didn't discuss the border. We've had a very good relationship. Just about finished with the USMCA, as you know. He called -- actually, he called me to tell me that. I think that was the primary reason for the call.

At the time, his wife had not been diagnosed. And she's a lovely lady -- wonderful lady, great lady. And since then, I've heard -- read that the result was that she has it. And I was a little surprised. I think he was surprised also. We did discuss it prior to. She's going to be fine, but he thought that she would not, most likely, have the virus. Unfortunately, she does.

But we didn't discuss the border yesterday, no.

Go ahead, please.

If you have any questions for these great geniuses up here, you

should -- even a business question related to what we're talking about.

Q Mr. President, Ross Palombo from ABC News Miami. As a relatively new Floridian, what is your message today to the cruise line industry and the travel industry that Florida depends upon? And since Senator Rick Scott and Miami-Dade Mayor Carlos Giménez have the same exposure as you and they are self-isolating, what's your message to them? That they shouldn't be?

THE PRESIDENT: Well, I don't know that I had exposure, but I don't have any of the symptoms. And we do have a White House doctor and, I should say, many White House doctors, frankly. And I asked them that same question, and they said, "You don't have any symptoms whatsoever." And we don't want people without symptoms to go and do the test. The test is not insignificant.

As far as the cruise line business, we're with them all the way. It's a great business. It's a great U.S. business, frankly. And I know how important they are to the country. That includes airlines. But the cruise line business, obviously, was hit very hard.

We had a tremendous success out in Oakland where we moved it. Vice President Pence did a fantastic job with that. We worked with UK. We worked with Canada. They took their people back. And Canada has approximately 600 people; UK, likewise, took a large number of people back to the United Kingdom.

And we have people quarantined. It was a big operation, and it worked out really -- you don't hear about it anymore. It worked out really well.



Mike, you may even want to say something about that because that was really done properly.

THE VICE PRESIDENT: Well, thank you, Mr. President. And that program with the Grand Princess, the ship, is continuing to be administered in the highest standards, orderly way, as the President directed. And Americans that needed treatment have received them.

I spoke to the governor of Iowa today, and some of those who now have been cleared are able, in proper supervision, to be returning to Iowa, where they're making arrangements for them to do that. Others in Texas, others in Georgia. Again, it's another example of the extraordinary cooperation of Governor Abbott, Governor Gavin Newsom, Governor Brian Kemp of Georgia.

But to add to that, the President directed me last Saturday to travel down to Miami. We met with all the leaders of the cruise line industry. Several cruise lines have announced a 60-day pause in operations. Our Department of Homeland Security has praised them for doing that because of the unique health challenges particularly presented to seniors with underlying conditions.

We have a proposal from the cruise line industry, but they're currently considering what other steps that they might take, perhaps even similar to what those other lines have taken. We're anticipating some response on that in the next 24 hours.

But as the President said, the American people cherish our cruise line industry, the men and women who work on the ships,

the men and women who work on the shore, all the economies that are so benefitted by a vibrant cruise line industry.

And what the President has directed us to do is, whether there -  
- whether there is a pause in the moment, as some cruise lines are doing, and as we all continue to discuss, we want to work with the cruise line industry to ensure that when we come through this, that cruise lines and the medical services that are available, and for the passengers and all of the crew, that cruise lines are safer than ever before and can prosper for many years to come.

THE PRESIDENT: Go ahead, please.

Q This question is for Drs. Fauci and Birk [sic] -- Birx. Dr. Fauci, based on what you currently know, what is the trajectory for when this outbreak will peak? How long will the American people have to remain on this emergency footing?

And for Dr. Birx, as the administration tries to get its arms around this test kit shortage issue, the next glaring need could be respirators and related hospital equipment. So what is the administration doing right now to ramp up production of respirators and that kind of equipment should this outbreak persist?

DR. FAUCI: So, when you have an outbreak like this, particularly if you're trying to interfere with it, it's really impossible to predict the time element of when it's going to peak and when it's naturally going to go down.

So if you look at the situation where countries really did not

get to the point of trying to contain and mitigate very well, you see a peak over several weeks and then down again over other several weeks. What we're trying to do with the efforts that we're doing is to blunt that peak.

And I mentioned it many times, and I think it's important and appropriate for me to mention it again because it answers your question: When you talk about preventing infections from without in -- which is the kind of travel restrictions we're talking about -- then how do you handle what you already have in your country? You continue some sort of containment, but you also do mitigation and you try to proportion it to the areas where there are the most infections.

The success of that and how much you make this turn into this is going to give you the amount of time. If we're successful, it'll be less. If we're not successful, it's going to be more. But these kind of things generally run out in a few months. Hopefully, we'll make it several weeks -- eight, nine, whatever weeks. But I can't give you a number because it depends on how successful we are.

DR. BIRX: Great, thank you. It's a great question, and Dr. Fauci and I have worked together a very long time and continue. It's a privilege to work with him every day.

So I think you can learn very -- and I appreciate there were some graphics done by some of the reporting over the last several days. If you align the data from China with the data with South Korea, you can start to see almost a complete overlay of that data. And so that's what we're tracking very closely, as well as Italy. But you have an excellent question.

I just want to make one note: In South Korea, I want to repeat, only 4 percent of the tests were positive. That means 96 percent of the people had a different respiratory disease because we're in the middle of flu season, cold season, and all of the other respiratory diseases that we get every day.

In LabCorp and Quest's early data, they're running about 1 to 2 percent positive. That means that we have a lot more other respiratory disease out there besides the coronavirus. And that's why the screening is critical. But even with the screening, we're going to low -- run what we think are very low rates.

Needless to say, though, we're taking it extraordinarily seriously to plan for what could come. Not what Dr. Fauci talked about -- blunting the curve -- that makes it much less high need at that peak of the curve that we're all planning for.

So we're in full inventory of all of our assets by the President unlocking and this emergency order, and the Secretary of HHS's ability -- it unlocks all of those stockpiles, those needs: what the VA has, what the DOD has, what the National Guard has, and what every hospital has.

And the hospital emergency preparedness plan allows them to defer elective issues to keep those hospital beds open for those who might need it. So we're in full planning mode for each of those things.

THE PRESIDENT: And I might add that we're in the process --



and, in some cases, have already done it -- ordered a large number of respirators, just in case. We hope we don't need them, but we've ordered a large number.

Yeah. Go ahead, please.

Q Thank you very much, Mr. President. In your speech to the nation, you mentioned the situation in China and South Korea have improved, and you're thinking about remove the restrictions, also the warning --

THE PRESIDENT: Right.

Q -- in place right now. When can we expect that announcement? And how do you see the overall progress that Asian countries made?

THE PRESIDENT: Well, some are making progress; some are not, as you know. But some are making progress. And as they make progress, as they get down to the number that we all think is right -- that they know is right, we know is right -- we'll be opening it up. And some are really moving along rapidly. We hope to be able to open things up as quickly as possible.

Go ahead, please. Go ahead.

Q Thank you, Mr. President. I'd like to ask Secretary Azar and Dr. Fauzi [sic] just how --

THE PRESIDENT: That was (inaudible). (Laughs.)

Q Dr. Fauci. Okay?

THE PRESIDENT: Right. Better.

Q All right.

THE PRESIDENT: Better. Not 100 percent, but 90 percent.

Q Right.

THE PRESIDENT: Go ahead.

Q This affects the elderly, primarily. And in that sense, it's an unusual disease. Is any specific research being done as to why it affects our senior citizens more than others?

DR. FAUCI: So, I don't mean to diminish your question, but we already know why it would affect senior citizens more, because when you talk about anything that requires a robust immune system -- as you get older, your immune system is not as potent as it is when you were young. And that's the reason why, when you talk about even influenza, which we have extraordinary experience with over decades and decades, the people who are very vulnerable are the elderly and those with underlying conditions.

The same thing holds true for a variety of other disease. Why cancer is more prevalent in some -- in mostly in older individuals -- because the immune system that screens for it is less robust. So it really is something that is kind of well-known over a lot of studies.

THE PRESIDENT: Okay. OAN, please. OAN.

Q Mr. President, the Chinese officials are expressing some tones of discontent with how -- where the source of this virus has come from, and they're spinning some odd narratives. What are your response to the Chinese officials who are doing that? And have they signaled any kind of resistance to upcoming trade talks in response to how we're handling this virus?

THE PRESIDENT: No, we have our deal with China. They're going to be buying \$250 billion worth of goods and \$50 billion from our farmers. And that's a great deal for our country; it's about time somebody did that. And, frankly, phase two, we'll start negotiating.

I did read one article, but I don't think that article was representative -- certainly not of my conversations with President Xi -- and they know where it came from. We all know where it came from.

Q Thank you, Mr. President. Yamiche Alcindor from PBS NewsHour.

THE PRESIDENT: Yes.

Q My first question is: You said that you don't take responsibility, but you did disband the White House pandemic office, and the officials that were working in that office left this administration abruptly. So what responsibility do you take to that? And the officials that worked in that office said that you -- that the White House lost valuable time because that office was disbanded. What do you make of that?

THE PRESIDENT: Well, I just think it's a nasty question because what we've done is -- and Tony has said numerous times that we've saved thousands of lives because of the quick closing. And when you say "me," I didn't do it. We have a group of people I could --

Q It's your administration.

THE PRESIDENT: I could ask perhaps -- my administration -- but I could perhaps ask Tony about that because I don't know anything about it. I mean, you say -- you say we did that. I don't know anything about it.

Q You don't know about the --

THE PRESIDENT: We're spending -- I don't know. It's the --

Q -- about the reorganization that happened at the National Security Council?

THE PRESIDENT: It's the -- it's the administration. Perhaps they do that. You know, people let people go. You used to be with a different newspaper than you are now. You know, things like that happen.

Q But this was a -- this was an org- --

THE PRESIDENT: Okay. Please go ahead.

Q This was an organization at the National Security Council.

THE PRESIDENT: We're doing a great job. Let me tell you, these



professionals behind me and the -- these great, incredible doctors and business people -- the best in the world. And I can say that. Whether it's retailers or labs, or anything you want to say, these are the best of the world. We're doing a great job.

We have 40 people right now. Forty. Compare that with other countries that have many, many times that amount. And one of the reasons we have 40 and others have -- and, again, that number is going up, just so you understand. And a number of cases, which are very small, relatively speaking -- it's going up. But we've done a great job because we acted quickly. We acted early. And there's nothing we could have done that was better than closing our borders to highly infected areas.

Please, go ahead.

Q Thank you, Mr. President. Vanessa Jaklitsch for NTN24 for Latin America countries --

THE PRESIDENT: Yes, sure.

Q -- and also for Spain, La Razón and Antena 3. I would like to ask you two very brief questions. One: For how long we're going to have the emergency -- I mean, the national emergency? And --

THE PRESIDENT: I hope not long, but it's there now and it gives tremendous powers for things that we need. Tremendous power, actually. And the Stafford Act and various other things that we're involved with and have studied and memorized in so many different ways and forms, it gives the kind of power that we

need to get rid of this virus.

And we're going to do it very quickly. And I hope we won't need it very long, but whatever it takes.

Q So, for now, we still don't know for how long? And I -- something very important I wanted to ask you is like, how do you think -- do you really think it's essential coordinating with other countries, and learning from the lessons that -- they already suffer the same situation -- countries --

THE PRESIDENT: Yeah.

Q -- of course, like China and South Korea, but now recently --

THE PRESIDENT: Sure.

Q -- Italy and Spain. And how --

THE PRESIDENT: Well, Italy is having a --

Q -- is that coordination done? Thank you so much, Mr. President.

THE PRESIDENT: Italy is having a very -- yeah -- we're in touch with Italy and, you know, it's a -- it's a country that we love. We have tremendous -- millions and millions of people, originally -- origins from Italy. And we're working with them. They're in a very -- they're in, probably, relatively speaking, the toughest position of all.

We're in touch with everybody. We're in touch with -- when I say "everybody," we're in touch with many of the countries that you know about, that you're writing about. And they're calling us asking for advice. They're asking for the advice of the people behind me.

Italy has got a tough situation, but they're -- they're really -- they have really clamped down and I think they're going to see some very good results. It's tough. What they did -- they really took their medicine, but they're going to see some much better results.

Yeah, Jeff.

Q Thank you, sir. With regard to domestic travel: Should Americans feel safe or should Americans at all be traveling to states such as Washington State, New York, and other hotspots within this country?

And a follow-up on Brazil: You're asking people who come back from America -- from Europe -- Americans who are coming back from Europe to self-quarantine for a couple weeks. You were in a picture with somebody who now has coronavirus from Brazil, at Mar-a-Lago. How is that different?

THE PRESIDENT: Well, I'll tell you, first of all, I'm not coming back from someplace.

Q But you were exposed.

THE PRESIDENT: We -- and there was somebody that they say has it. I have no idea who he is, but I take pictures and it lasts

for, literally, seconds. I don't know the gentleman that we're talking about. I have no idea who he is. I haven't seen the picture. I said, "There's a picture of somebody," but I take sometimes hundreds of pictures a day. And that night I was taking hundreds of pictures. So I just don't know.

Now I did sit with the President for probably two hours, but he has tested negative. So that's good.

Q It's just a matter of --

THE PRESIDENT: Please, go ahead.

Q And the domestic travel, sir?

THE PRESIDENT: Go ahead, please.

Q The travel? The first part of the question was domestic travel.

THE PRESIDENT: I would say, if you stay home, it's not bad. It's not bad. Now, there are certain parts of the country that are -- essentially, have no -- have zero problem. Washington has been very tough -- in particular, a nursing home. And, but Washington -- the State of Washington has been very tough. It's been a big percentage of -- when you talk about the 40 deaths, that's been has been a big percentage of the deaths, as you know very well. And they all came from a very certain area, unfortunately.

Please, go ahead.



Q Mr. President --

THE PRESIDENT: Go ahead. Okay.

Q Thank you very much, Mr. President.

THE PRESIDENT: Yes.

Q Cordelia Lynch, Sky News. You talked this week about the UK doing a good job in tackling coronavirus. In light of the rising cases, are you changing your mind about that? You also just spoke about possible travel restrictions. Have you discussed when they might be put in place?

THE PRESIDENT: Well, in light of the results, as we discussed before -- in light of the results, we're going to be looking at it. And I know the task force is looking at it very strongly -- the Vice President, everybody. It was looking good, but they've -- the results have been building up pretty rapidly. So we'll -- we'll be taking another look at that. Yes, absolutely.

Go ahead, please.

Q Mr. President, thank you. I want to first follow up on Jeff's question, because the person you were standing next to, whether you know who he is or not, tested positive for coronavirus. Dr. Fauci said this morning, "If you stand next to somebody who tested positive, you should self-isolate and get a test." You say your White House doctor is telling you something different. Who should Americans listen to?

And my second question is --

THE PRESIDENT: I think they have to listen to their doctors, and I think they shouldn't be jumping to get the test unless it's necessary. But I think they have to listen to their doctors. And I mean, I don't know the -- I haven't seen the picture. Somebody said there's a picture with somebody taking a picture with me, but I haven't seen it. But I can tell you --

Q Well, doctors have said you might have it even if you don't have symptoms.

THE PRESIDENT: Well --

Q Are you being selfish by not getting tested and potentially exposing --

THE PRESIDENT: Well, I didn't say I wasn't going to be tested.

Q Are you going to be?

THE PRESIDENT: Most likely, yeah. Most likely.

Q When do you think that will happen?

THE PRESIDENT: Not for that reason, but because I think I will do it any way. Fairly soon.

Q Will you let us know the results?

THE PRESIDENT: We're working on that. We're working out a schedule.

Q My second question, Mr. President --

THE PRESIDENT: You go ahead, please.

Q That was a follow-up.

THE PRESIDENT: Go ahead.

Q (Inaudible.) (Off-mic.)

THE PRESIDENT: Yeah.

Q I know there's been a lot of talk about testing. I just want to make sure we're clear though, because we've been hearing from doctors who say, as of today, they still can't get patients tested who need a test. So, as of today, can everyone who a doctor wants to have tested get tested? And if not, when? When will doctors --

THE PRESIDENT: Well, that's been true for a while. But I'll let Mike -- why don't you answer that, Mike, please?

THE VICE PRESIDENT: Well, as the President said and Dr. Fauci has articulated, the nature of our current system -- where the CDC has sample sent and tests are performed or state labs perform tests or, in some cases, university and hospital labs perform tests -- is generally adequate for an infectious disease or for people getting diagnostic work done. But given the sheer scale of this, the President tasked us with bringing together this extraordinary public and private partnership.

Today, by some estimates, when you add all the labs together --

and, today, the President made it possible for every state in the country and their state labs to authorize labs across their state to do coronavirus testing.

We -- we're estimating somewhere between 15- and 20,000 tests a day are able to be performed. But very soon, with the program that was announced today, Americans will be able to visit one of the sites closest to them, as described on the website, if they're symptomatic -- if the questionnaire indicates it -- to be able to have a test there. And these incredible companies will process the test and they'll receive that information.

But, for now, the best advice that we can give for people is to speak to their doctor, as the President just said. And if the doctor indicates, that physician -- if it's not a university hospital or otherwise authorized lab -- can contact the state lab. And, again, every state lab in the country can perform tests today.

But what the President charged us with, when I was tasked to take over the White House Coronavirus Task Force, was: Open up tests all across the country. And the President said, a few days ago, that we made it clear that any American that wanted to get a test would be able, clinically, to get a test. Because I literally heard from the Governor of Washington State, who said the doctors in Washington State were saying that if you were only mildly symptomatic, they would not order a test. And fortunately, the President directed CDC to clarify that.

Now anyone in consultation with their physician, regardless of their symptoms can request a test and their doctors will contact those agencies, those labs in their state. But very soon,



Americans will be able to go to these -- these drive-in sites and be able to obtain and participate in a test.

Dr. Birx, is there more to amplify that?

DR. BIRX: No, I think -- I think that's perfectly said. I think, just to review one more time about the testing: With LabCorp and Quest -- I think many of you have been to a doctor's office and seen the little boxes outside -- what they do is they deliver both the specimen collection piece -- because, remember, it's a nasal swab; it's not a tube of blood. So they've delivered that to doctors' offices and hospitals, and then they will arrange to pick that up.

The important piece in this all is they've gone from a machine that may have a lower throughput, to the potential to have automated extraction. I know you don't want all of these details, but it's really key for the laboratory people. It's an automated extraction of the RNA that then runs in an automated way on the machine, with no one touching it, and the result comes out at the other end.

So, sample to machine to results. That cuts out a lot of the manual pieces that were happening that were delaying the test results.

Q And so, with that, what's the timeline -- like from when you're tested to when you get results? Like, next week, what should people expect?

DR. BIRX: Well, with the prior testing, it was taking several days because the test is slower. We believe with this test,

because of its throughput, that the testing can be from start -- remember, it has to transport -- to the laboratory that will run it. And then we're hoping that all can be finished within 24 hours, which is very similar to other tests that you receive today.

These are not point-of-care tests. We are working on point-of-care tests, but we have to realize point-of-care tests take six months or more to develop. So we're not waiting for those. We're still diagnosing this on nucleic acid, so as an antibody. This is actually the antigen -- the actual virus in your nose that we're amplifying.

THE PRESIDENT: I think you have to remember, though: We're working very closely with states, and you have a smaller form and more targeted form of government going in and doing it -- like, in New York, where the relationship is very good; like Gavin Newsom, where he made some very complimentary -- because that's California -- he made some really complimentary comments the other day about how we're working together. We worked on the ship together, but we worked on a lot of other things together, having to do with this.

And we're -- well, really, the relationship that we have -- I can't think of a bad relationship. We're helping them. We're funding them, in some cases, depending on what it is you're talking about. And we're all working together very closely. So we've done, really, I think a tremendous job of teamwork with the different states.

All right. One or two more. And if you have -- if you have questions for these folks -- does anybody have a question for

the folks up here? Who has a question up here? You have?  
Okay, go ahead. If you have a question, go ahead.

Q Thank you. I have one for you as well.

THE PRESIDENT: Okay. I thought -- I knew you would.

Q (Laughs.) No, but I do have one for them, because I haven't heard this yet.

THE PRESIDENT: I was waiting for that. Go ahead.

Q Because I haven't heard this yet.

THE PRESIDENT: Ask them first, please.

Q Yes, I will. Okay. With regards to the CEOs, can you please tell us when you expect to see items like hand sanitizer that have been going out of stock very quickly back on the shelves? There have been a lot of reports about that.

And, for you, Mr. President, could you talk about a potential bailout for the cruise industry? You had suggested that could happen. Is that something you're still looking at? And how much would that be?

THE PRESIDENT: Well, I didn't suggest that it could happen, but I can tell you it's an industry that was very badly impacted by what's going on with the virus. And it's a great industry. It's a very important industry and we will be helping them. And we will be helping the airline industry, if we have to -- assuming we have to.

So far, people haven't been asking. But if they should be asking, we'll -- we want to make sure our airlines are very strong. And then, one day -- and one day, all of a sudden, it wasn't looking so good.

Interestingly, we were just talking -- I was talking to Doug, and the numbers they're doing from the retailing standpoint -- I guess, because of this, your business is like the opposite. All of you have done -- you've been selling a lot of -- a lot of stuff. Do you want to answer the question, as to the hand sanitizers?

MR. MCMILLON: Sure. Yeah, specifically the areas where we're seeing pressure in the supply chain are surface cleaners, cleaning supplies, paper goods, in particular. Hand sanitizer is going to be very difficult to have 100 percent in stock on for some time. We're still replenishing it and shipping it, but as soon as it hits the stores, it's going. The same thing is true for the categories I just mentioned. So all of the retailers will be working hand-in-hand with the suppliers to bring that to the market as fast as we can.

Q What is your advice though for Americans who are seeking those items? What is your advice? They're selling out online. They're selling out in the stores. What --

MR. MCMILLON: I think -- I think this team has given you other examples of what people can do to fight back against this virus, and you should look at the entire list.

THE PRESIDENT: Please.



DR. FAUCI: Please. I mean, obviously, it sounds very simplistic, but wash your hands as often as you possibly can. And I know you're not always in a position to be able to wash your hands, but wash them as much as you can. If you don't have the alcohol wipes, try and get them. If you can't get them, just try as best as possible to do it. I mean you got to do the best you can.

THE PRESIDENT: Alex, please.

SECRETARY AZAR: Well, just general preparedness. You know, you want to wash your hands. You want to keep distance from people. And if you're around someone sick, keep away from them. Just basic, basic public health.

No, these guys are selling a lot of toilet paper. I don't know, there seems -- Tony, do you need to give some guidance that toilet paper is not an effective protection against getting the coronavirus? (Laughs.) They're selling out. But the -- soap and water. Hot water, soap, 20 seconds. That's how you do it.

THE PRESIDENT: Okay. One more. Go ahead. Go ahead. No. Over here. Behind you. Behind you.

Q Thank you very much, Mr. President. You have a great team, of course.

THE PRESIDENT: That's true. Thank you.

Q My question is to Mr. President: Are you happy from the Chinese response? What correctly really told you -- what really

happened those days?

And second, Prime Minister Modi, or India, have closed borders until April 15th. If you have spoken with the Prime Minister of India, and if they have needed any help?

And finally, sir, any message for the small businesses? Because they are losing some businesses because of this. Thank you, sir.

THE PRESIDENT: Well, on small businesses, the Small Business Administration is now stacked with money to help them, and we're going to make the money readily available if they need it -- small businesses.

We had a great time in India. It was an incredible two days, and he's a great friend of mine. And he's a friend of his people, because he was greeted incredibly warmly, as was I. And that stadium -- that was an incredible event. And I loved being with him, so just say hello to him. But we -- we talked about everything. We talked about far more than just borders.

And as far as President Xi -- likewise, he's a friend of mine. I believe that we are dealing in good faith. And we just worked to, as you know, and as I just said -- we just worked an incredible deal. A big deal. One of the biggest deals ever made of any kind. Big even by the standards of some of the people here -- the deal with China. But I think that they want to get to the bottom of things also.

We're working -- our drug companies, our pharmaceutical companies are working very closely with China and with India, as

you know, and with -- all over the world. And they're all over the world. These are magnificent companies that are very, very knowledgeable.

And it's -- we're very lucky to have them, because I think you're going to come up with -- whether it's therapeutic or whether it's just help -- helping getting better. And then ultimately, a vaccine, which takes a little bit longer because of the test periods and a couple of other reasons. You're going to have it very quickly because of the great knowledge. And they'll have it very quickly. They've made a tremendous amount of progress.

Thank you all very much. We appreciate it. Thank you. Thank you very much.

END

4:42 P.M. EDT

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**From:** Robert Levitt  
**Sent:** Wed, 4 Mar 2020 03:32:11 +0000  
**To:** Robert Levitt  
**Subject:** Dr. Levitt's COVID-19 Update for Evening 3 March 2020/ Explanation of Wuhan virus genome/anti-virals/vaccines for non-medical officials  
**Attachments:** SARS-CoV-2 Genome from Wuhan.pdf

Dear All:

I have read a few more articles this afternoon/evening to try to understand the genome of SARS-CoV-2. It has been 50 years since I learned genetics in medical school which classifies me as a non-medical person. Using Wikipedia for definitions and the **Cell Host and Microbe** article by Wu, et. al. (see pdf attached above), I pass on to the non-medical persons on the WH Task Force for COVID-19, what I learned today.

**Brief summary of genome of SARS-CoV-2 for non-medical persons:**

SARS-CoV, SARS-like-bat-CoV, and **SARS-CoV-2 (a.k.a. Wuhan coronavirus)** have very, very, similar genetic material (called nucleotides or bases).

SARS-CoV-2 is most similar to SARS-like-bat-CoV but has some genetic material that is quite like SARS-CoV. So it is a new strain of the coronavirus.

This new coronavirus SARS-CoV-2 uses its genetic material to make 16 non-structural proteins (shorthand is nsps), 8 accessory proteins (3a, 3b, p6, 7a, 7b, 8b, 9b, orf14), and 4 structural proteins (S = spike, E = envelope, M = membrane, N = nucleocapsid or shell protecting RNA of virus).

The structural proteins are the most important to the virus: they protect the viral RNA and allow the virus to attach to the host receptor site and get into the host cell. Once inside the host cell, the viral RNA takes over the host cell and replicates, replicates, and replicates. Then it explodes out of the host cell and into the bloodstream or lungs.

It is the difference in the nsps and difference in accessory proteins of SARS-CoV-2 compared to SARS-CoV and SARS-like-bat-CoV that make this Wuhan virus so easily transmitted to people. SARS-CoV killed people fast so they couldn't transmit it to other people; SARS-like-bat-CoV needs an intermediate host before humans get the virus, like strange Asian birds.

See image of coronavirus proteins at:

<https://www.sciencedirect.com/topics/neuroscience/coronavirus>

So that is my non-medical person explanation of SARS-CoV-2. Now if you wish to put it all together, read **The Scientist** short article written by a science writer: [https://www.the-scientist.com/news-opinion/scientists-compare-novel-coronavirus-to-sars-and-mers-viruses-67088?utm\\_campaign=TS\\_OTC\\_2020&utm\\_source=hs\\_email&utm\\_medium=email&utm\\_content=84126234&hsenc=p2ANqtz-](https://www.the-scientist.com/news-opinion/scientists-compare-novel-coronavirus-to-sars-and-mers-viruses-67088?utm_campaign=TS_OTC_2020&utm_source=hs_email&utm_medium=email&utm_content=84126234&hsenc=p2ANqtz-8lUIHn73GpCxo9gHxnDMrepCqbW7XUoD0ts38Ko3GpA9PuhnqdicFrA1E2Vhni5CJQ7JEU9FUewX8zdxvu0UcstSHX-g&hsmi=84126234)

[8lUIHn73GpCxo9gHxnDMrepCqbW7XUoD0ts38Ko3GpA9PuhnqdicFrA1E2Vhni5CJQ7JEU9FUewX8zdxvu0UcstSHX-g&hsmi=84126234](https://www.the-scientist.com/news-opinion/scientists-compare-novel-coronavirus-to-sars-and-mers-viruses-67088?utm_campaign=TS_OTC_2020&utm_source=hs_email&utm_medium=email&utm_content=84126234&hsenc=p2ANqtz-8lUIHn73GpCxo9gHxnDMrepCqbW7XUoD0ts38Ko3GpA9PuhnqdicFrA1E2Vhni5CJQ7JEU9FUewX8zdxvu0UcstSHX-g&hsmi=84126234)

Anti-viral medications act by disabling a structural, accessory, or non-structural protein in a virus so the virus cannot bind to a receptor site on a human cell (sometimes the anti-virals mess up the receptor site also so no binding occurs). Vaccines act by binding to one of these virus



proteins or to the receptor site on the host human cell so the virus cannot enter the human cell.

**Becker's...** says the following companies are all involved in developing vaccines or anti-viral drugs against the Wuhan virus: [https://www.beckershospitalreview.com/pharmacy/how-10-drugmakers-have-responded-to-the-coronavirus-outbreak.html?origin=PharmacyE&utm\\_source=PharmacyE&utm\\_medium=email&oly\\_enc\\_id=0573J6191345F30](https://www.beckershospitalreview.com/pharmacy/how-10-drugmakers-have-responded-to-the-coronavirus-outbreak.html?origin=PharmacyE&utm_source=PharmacyE&utm_medium=email&oly_enc_id=0573J6191345F30)

**The \$7.5 Billion bill** to stop SARS-CoV-2 which Congress is fussing about should fund vaccine development, anti-viral development, and state health agencies, which will be out of money by end of Spring Break. **But the funds should also cover coronavirus testing, quarantine of contacts (loss of paycheck), and hospitalization beyond what insurance pays including those with no insurance.** See: [https://www.beckershospitalreview.com/finance/patients-kept-in-hospital-over-coronavirus-fears-face-surprise-medical-bills.html?origin=CFOE&utm\\_source=CFOE&utm\\_medium=email&oly\\_enc\\_id=5023J8656290B7](https://www.beckershospitalreview.com/finance/patients-kept-in-hospital-over-coronavirus-fears-face-surprise-medical-bills.html?origin=CFOE&utm_source=CFOE&utm_medium=email&oly_enc_id=5023J8656290B7)

J

RGL, M.D.

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Sent from [Outlook](#)

**From:** Robert Levitt  
**Sent:** Thu, 5 Mar 2020 02:52:15 +0000  
**To:** Robert Levitt  
**Subject:** Dr. Levitt's COVID-19 Evening Update for 4 March 2020  
**Attachments:** First U.S. Coronavirus Case Report.pdf

Dear All,

Below are the COVID-19/SARS-CoV-2 articles online and in journals I have read today:

**SHEA** has published a complete list of important articles, social media messages, federal actions, CDC messages, etc. for the past week. See:

[https://contentsharing.net/actions/email\\_web\\_version.cfm?ep=N8\\_79D-p--sUGwsLnJINQYJ2WCRJVBc5Ov0edxZzIYuLkMZPQAYCcwRAbrHNc50zJZuyrdFIj5OYxsd0DaFh8R4BbKtVuO8-xRkO\\_wQLkba7JWQk3yma\\_T7P0ioDpHcN](https://contentsharing.net/actions/email_web_version.cfm?ep=N8_79D-p--sUGwsLnJINQYJ2WCRJVBc5Ov0edxZzIYuLkMZPQAYCcwRAbrHNc50zJZuyrdFIj5OYxsd0DaFh8R4BbKtVuO8-xRkO_wQLkba7JWQk3yma_T7P0ioDpHcN)

**This SHEA publication is the place to go each week for updated information.** SHEA has a special place in each publication for CDC news and updates. I think my work reporting the novel coronavirus may be nearing completion because SHEA and CDC are doing such an excellent job for doctors and the public.

**Nature Biotechnology** lists the anti-viral drugs which are being 'repurposed' to determine whether these drugs can stop SARS-CoV-2 replication. See:

[https://www.nature.com/articles/d41587-020-00003-1?utm\\_source=Nature+Briefing&utm\\_campaign=0ebb957e06-briefing-dy-20200304&utm\\_medium=email&utm\\_term=0\\_c9dfd39373-0ebb957e06-42078415](https://www.nature.com/articles/d41587-020-00003-1?utm_source=Nature+Briefing&utm_campaign=0ebb957e06-briefing-dy-20200304&utm_medium=email&utm_term=0_c9dfd39373-0ebb957e06-42078415). You will see that different anti-virals strike different npsp, accessory proteins, and structural proteins of the Wuhan virus. The drug **Remdesivir** which inhibits the Ebola RNA polymerase protein is being tested against the SARS-CoV-2 **RNA polymerase**, which is the first protein made when the virus invades the host cell. **Kill RNA polymerase and you stop viral replication in the host cell.**

**BBC News** reports that Iran has released 54,000 prisoners with < 5 year sentences to prevent the spread of the Wuhan virus in prisons. The Iran government now reports **2,336 infected Iranians and 77 deaths. The infection number has doubled in 2 days.**

See: [https://www.bbc.com/news/world-middle-east-51723398?utm\\_source=Nature+Briefing&utm\\_campaign=0ebb957e06-briefing-dy-20200304&utm\\_medium=email&utm\\_term=0\\_c9dfd39373-0ebb957e06-42078415](https://www.bbc.com/news/world-middle-east-51723398?utm_source=Nature+Briefing&utm_campaign=0ebb957e06-briefing-dy-20200304&utm_medium=email&utm_term=0_c9dfd39373-0ebb957e06-42078415)

All these numbers are suspect.

**Becker's...** reports that the HHS and the Presidents are arranging for **hospitals to be reimbursed for care to COVID-19 patients with no insurance.** See:

[https://www.beckershospitalreview.com/finance/trump-administration-may-pay-hospitals-for-coronavirus-care-provided-to-uninsured.html?origin=CFOE&utm\\_source=CFOE&utm\\_medium=email&oly\\_enc\\_id=5023J8656290B7J](https://www.beckershospitalreview.com/finance/trump-administration-may-pay-hospitals-for-coronavirus-care-provided-to-uninsured.html?origin=CFOE&utm_source=CFOE&utm_medium=email&oly_enc_id=5023J8656290B7J)

**What about the quarantined or hospitalized PUI or COVID-19 patients with insurance?** These folks lose paychecks and are billed for their hospital care, yet they are stopping the rest of us



from getting COVID-19. Dr. Kadlec should push for full federal reimbursement of hospital costs, and pay checks lost.

This is a national emergency-whether or not President Trump makes the announcement today or a week from now. To stop COVID-19 epidemic in the U.S., **we need to consider this situation a war. The WH and Pentagon need to have contingency plans similar to Dr. Starkloff's for 1918 Influenza, as previously emailed to all of you.**

**NEJM** online tonight has a case report of the first U.S. case of SARS-CoV-2 to be hospitalized. See pdf attached above. **American Journal of Roentgenology** has two original articles on CT appearances of COVID-19 online tonight. These articles have convinced me that **thin section non-contrast CT of lungs should be the imaging procedure of choice when COVID-19 is high in your differential diagnosis.** The CT findings are better seen when the disease is mild as well as severe, and the findings are more specific: **peripheral and posterior GGO (reverse bat wing pattern).** All you see on the CXR is non-specific 'bibasilar atelectasis or infiltrates' getting better or worse.

Most of all we need more testing kits for the Wuhan virus. **If each kit can test 500 persons, then 2500 kits can test 1,250,000 persons (the number of guests visiting Disneyworld during a Spring Break week). Buy all the kits we can now from Norway, Germany, even China.** This is a war against Disease X. Research labs and product makers must work 24/7, just like in WWII. **President Trump should issue an Executive Order for a War Production Board now.**

RGL, M.D.

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Sent from [Outlook](#)

**From:** Robert Levitt  
**Sent:** Sat, 7 Mar 2020 02:25:03 +0000  
**To:** Robert Levitt  
**Subject:** Dr. Levitt's COVID-19 Update Evening 6 March 2020\Confusing NBC Evening News re: testing kits vs. tests  
**Attachments:** Kids Get Coronarvirus.pdf

Dear All,

Some important articles/news appeared in journals and online this afternoon and evening:

**CNN** listed the disinfecting products that work for the novel coronavirus:

<https://www.cnn.com/2020/03/05/health/epa-disinfectants-coronavirus-trnd/index.html>

**The EPA listed Chlorox and Lysol products.** Other manufacturers need to catch up so the store shelves are restocked.

**The Scientist** has a very well written article stating that evidence shows the **SARS-CoV-2 did not escape and/or was not purposefully created by Chinese labs:** [https://www.the-scientist.com/news-opinion/theory-that-coronavirus-escaped-from-a-lab-lacks-evidence-67229?utm\\_campaign=TS\\_DAILY%20NEWSLETTER\\_2020&utm\\_source=hs\\_email&utm\\_medium=email&utm\\_content=84379868&hsenc=p2ANqtz-F3lc8B79apEyFTf-bTYsB9XLbJogqgnoAOV7liFc\\_X6ZjELVhMUmXpWrq5LJUX57B2H70CCf-ApHsDgqR1TTDXAquTA&hsmi=84379868](https://www.the-scientist.com/news-opinion/theory-that-coronavirus-escaped-from-a-lab-lacks-evidence-67229?utm_campaign=TS_DAILY%20NEWSLETTER_2020&utm_source=hs_email&utm_medium=email&utm_content=84379868&hsenc=p2ANqtz-F3lc8B79apEyFTf-bTYsB9XLbJogqgnoAOV7liFc_X6ZjELVhMUmXpWrq5LJUX57B2H70CCf-ApHsDgqR1TTDXAquTA&hsmi=84379868)

The author acknowledges that the Chinese were very sloppy with the SARS virus and several 'escapes from the lab' were documented. The author cites the much closer relationship of MERS virus to camels than SARS-CoV-2 to bats genetically. This is the reason to believe that bats transmitted the novel coronavirus to an intermediate host not yet identified which then transmitted the virus to humans.

**SHEA with CDC agreement cancelled their every ten year conference today:**

[https://contentsharing.net/actions/email\\_web\\_version.cfm?ep=N8\\_79D-p--sUGwsLnJINQYJ2WCRJVBc5Ov0edxZzIYtMfde-yIK1I8Tlx8Mh-FkoDfkljrb08gyJLs7UGZiKMZFw9EoqlV9F0\\_gAAEpZ\\_ytIFHSGWd7J\\_u8dXX2qRdG](https://contentsharing.net/actions/email_web_version.cfm?ep=N8_79D-p--sUGwsLnJINQYJ2WCRJVBc5Ov0edxZzIYtMfde-yIK1I8Tlx8Mh-FkoDfkljrb08gyJLs7UGZiKMZFw9EoqlV9F0_gAAEpZ_ytIFHSGWd7J_u8dXX2qRdG)

The risk of spreading the novel coronavirus from international sources is just too great to risk a conference this year.

**ASPR Public Health Emergency Newsletter** today says there is money available now for vaccine research through expedited review and expedited release of the monies. See:

<https://view.connect.hhs.gov/?qs=322f1797e00636de588aefd6122f3ef6dcf7e000b589704f6e757608e18d6bf725653f52c95cadba4b4a22b026ac881c88a88eb8d582b778de1d009b20cce62426a97a42494f86ef>

**medRxiv** has an article not peer reviewed from China that shows that **contact tracing and isolation reduces R0**. The authors had 391 patients in their sample population of whom **3% were < 10 y.o. and 1.5% were 10-19 y.o. Only 9% of the 391 patients had severe disease. All patients in the sample were infected by contacts, not by visiting the Wuhan wet fish market.** See pdf attached above.



**NBC Evening News had confusing statistics this evening on how many SARS-CoV-2 testing KITS are available to certified labs today.** The News showed VP Pence and post a caption that said 900,000 tests have been distributed (with 1,895 PUI tested). **I believe the caption should have said 1800 KITS capable of doing 900,000 tests have been distributed.** Secretary Azar said that 4,000,000 tests would be distributed next week. I believe he meant to say 8,000 KITS capable of 4,000,000 TESTS would be distributed next week. Most KITS can perform 500 TESTS/kit. **If I am incorrect in my understanding of the statistics, please notify me.**

**NYT has Letters today asking for government payment of coronavirus testing, reimbursement of lost pay if quarantined, and cancellation of large public events:**

[https://www.nytimes.com/2020/03/05/opinion/letters/us-coronavirus.html?te=1&nl=david-leonhardt&emc=edit\\_ty\\_20200306&campaign\\_id=39&instance\\_id=16538&segment\\_id=21941&user\\_id=e37b7ca2e8bae8d104574a7b4a01f953&regi\\_id=6869412220200306](https://www.nytimes.com/2020/03/05/opinion/letters/us-coronavirus.html?te=1&nl=david-leonhardt&emc=edit_ty_20200306&campaign_id=39&instance_id=16538&segment_id=21941&user_id=e37b7ca2e8bae8d104574a7b4a01f953&regi_id=6869412220200306)

**Thank you President Trump for visiting the CDC today. Thank you researchers for working around the clock all 7 days of the week on vaccines, contact tracing, COVID-19 treatment, and travel warnings.**

RGL, M.D.

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Sent from [Outlook](#)

**From:** Roderic Olsen  
**Sent:** Thu, 19 Mar 2020 09:23:49 -0400  
**To:** Fauci, Anthony (NIH/NIAID)  
[E]; [REDACTED] (b) (6)  
**Cc:** Jack Olsen; David Olsen; Jon Olsen; Gina Olsen; Sally Olsen; Terje Tjelta; Marilyn Kuhn; Fred Cappuccino  
**Subject:** Fwd: How to Protect Yourself from COVID-19: Supporting Your Immune System When You May Need it Most

See preceding covering email from Roderic L. Olsen.

Begin forwarded message:

**From:** Dr. Mark Hyman <[drhyman@drhyman.com](mailto:drhyman@drhyman.com)>  
**Subject:** How to Protect Yourself from COVID-19: Supporting Your Immune System When You May Need it Most  
**Date:** March 17, 2020 at 6:32:06 PM EDT  
**To:** [REDACTED] (b) (6)  
**Reply-To:** Dr. Mark Hyman <[drhyman@drhyman.com](mailto:drhyman@drhyman.com)>

**From:** Rw Lovell  
**Sent:** Fri, 13 Mar 2020 16:50:19 -0700  
**To:** Fauci, Anthony (NIH/NIAID) [E]  
**Subject:** protective uses of surgical masks on patients during Covid-19 outbreak

Dear Dr. Fauci,

The shortage of n-95 particulate respirator face masks in WA state has made it so vascular ultrasound technicians and many others who are critical links in our healthcare system are examining patients and likely exposing themselves to asymptomatic infected individuals. The N-95 respirator masks are only allowed distribution to persons who are performing procedures likely to cause aerosol exposure. As you know there are many healthcare workers who as part of their work have to ask the patient to take a deep breath and exhale in close proximity to their face. Oftentimes these exams provoke a cough as well. Would there be a benefit in changing the protocol to having all patients wear a simple surgical mask during this type of exam?

Current protocol in hospitals is to limit masking patients who are actively symptomatic and coughing or sneezing. I don't think even this protocol is being enforced in office settings. OSHA guidelines will need clarification if you agree with changing the protocol.

Below, I have copy and pasted what appears to be a well reasoned and researched letter to the BMJ from Dr. Hong-tao Tie

Ki, Li

He is a cardiothoracic surgeon at The First Affiliated Hospital of Chongqing Medical University, Chongqing, China.  
Chongqing

Respectfully

Robert Walter Lovell, MD

(b) (6)

*Dear Editor*

*The World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) suggest that masks should be used by people with symptoms of Coronavirus disease 2019 (COVID-19) or healthy people who are taking care of suspected COVID-19 cases. While for healthy people, they both do not recommend this population to wear a mask to protect themselves from COVID-19 [1,2]. Though there is no convincing evidence supporting the use of masks by healthy people to protect from infection [3], many Asian countries advise all people to wear masks in the general public, which could definitely minimize the spread of infection from the wearer. With WHO increasing COVID-19 threat assessment to "very high" and COVID-19 outbreak globally, many Asian people and even some native residents in western countries vigilantly began to wear masks in public areas. However, these people wearing masks sometimes become isolated and are blamed or even attacked because of inherent cognition differences in mask use. Facing this terrible new virus, we should discard our inherent notion and calm down to comprehensively rethink the current issue - whether mask use by healthy people can facilitate the control of the COVID-19 outbreak crisis.*



*The higher transmissibility of SARS-CoV-2 in the incubation period makes it substantially different from SARS-COV and MERS-COV, which are infectious only during the symptomatic period and noninfectious during the incubation period [4-6]. In this situation, unknowingly infected people will be treated as “healthy people” and become a virus spreader in public areas in the incubation period. Additionally, the median incubation period is relatively long as 4 days, and the longest duration could be as long as 24 days [7]. More disastrously, higher viral load detected in the upper respiratory tract makes it more infectious than both MERS-CoV and SARS-CoV owing to virus droplets emitted through the mouth and nose more easily [5,8]. This means that viral transmission cannot be prevented solely by isolating symptomatic cases. While mask use for potentially infected people is an effective and economical way to minimize the spread of virus transmission from a wearer. However, it is difficult and impractical to identify differentiate patients in the incubation period from healthy people. Thus, besides hand hygiene and social distancing, masks for healthy people might be an additional effective control measure, to extensively decrease the spread of SARS-CoV-2 in the incubation period.*

*The common symptom of viral pneumonia is fever and cough, and they are two important symptoms for people and doctors to recognize the viral infection. Both WHO and CDC advise people with symptoms of COVID-19 to wear masks, while only WHO gives a detailed explanation for symptoms as fever, cough, and difficulty breathing. Unlike SARS-CoV (99%) and MERS-CoV infection (98%) with high incidences of fever, it was only 43.8% on admission and 88.7% during hospitalization in COVID-19 patients. The other common symptom of cough was observed in 67.8% of patients, and the incidence of difficulty breathing, the symptom proposed by WHO, was only 18.7% [7]. Therefore, patients without these typical symptoms might think they are healthy and do not wear masks in public areas, becoming a mobile source of infection in public areas. Additionally, some infected people are asymptomatic and even have no significant abnormalities on chest computed tomography [9,10]. But these asymptomatic patients can transmit the coronavirus to others in public areas, and they are not required to wear masks under current suggestions of WHO and CDC and will also become a source of infection. Considering the high absence of typical symptoms and asymptomatic cases, masks should be encouraged for healthy people, to cut off the potential infection source of “false healthy people”.*

*Droplets have been confirmed as one of the main transmission ways of COVID-19. They are large particles with a diameter  $>5\ \mu\text{m}$  [11] and generally produced when people cough or sneeze. In this transmission process, a medical mask theoretically sufficiently prevents droplet infection. Additionally, the physical barrier of the mask could also prevent hand to mouth or nose contact transmission. It is beyond doubt that mask use could protect the healthcare worker against infection, but mask use for community people for protecting themselves from infection is still under debate [12,13]. The inconsistent efficacy of them might be attributed to poor compliance and incorrect use in the community. Therefore, measures to improve compliance and correct use might make masks also an effective way to protect healthy people from infection.*

*After an extraordinary effort of the Chinese people to contain the outbreak of COVID-19, new cases in China have decreased dramatically and the requirement of wearing masks in all public areas might also be an effective contributing measure. Though it will break the inherent notion of people in many western countries and exacerbate the shortage of masks, considering the*



infectivity in the incubation period, higher transmissibility of COVID-19, atypical symptoms, and even asymptomatic cases, healthy people wearing masks in public areas should be encouraged.

#### Reference

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**Competing interests:** No competing interest

**From:** Jason Gale (BLOOMBERG/ NEWSROOM:)  
**Sent:** Sat, 14 Mar 2020 05:32:19 -0000  
**To:** Fauci, Anthony (NIH/NIAID) [E]  
**Subject:** (BBO) A Pandemic in Search of an Establishment: John Micklethwait

Hi Dr Fauci,  
I thought you might appreciate this opinion piece from Bloomberg's editor-in-chief,  
Kindest regards,  
Jason

---

Jason Gale, MHIthSec  
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Level 30, 120 Collins St., Melbourne VIC 3000  
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A Pandemic in Search of an Establishment: John Micklethwait  
2020-03-13 12:55:08.103 GMT

By John Micklethwait  
(Bloomberg Opinion) -- It is a safe bet that Donald Trump would not have liked the fifth Marquess of Salisbury. In the 1950s, “Bobbety” Cecil, a descendant of Elizabeth I’s famous fixer, Robert Cecil, was the ultimate insider — the center of a “magic circle” of “grey men” who arranged Britain’s Conservative Party leadership (and thus usually the prime ministership). Across the Atlantic, the U.S. also had its cohort of WASP-y “wise men,” typified by W. Averell Harriman, the son of a railway tycoon. Whenever a problem emerged, the East Coast establishment called in the best and the brightest from academia and business — whether it was asking John Maynard Keynes to help redesign international finance, bringing in Henry Kissinger on foreign policy, or letting Bob McNamara’s “whiz kids” fix the Vietnam War.

Meanwhile in continental Europe, the organization that would become the EU was being quietly put together by an elite that, still recovering from the onslaught of populism in the 1930s, preferred not to consult voters about the process. As late as the 1990s, Eurocrats like Jacques Delors, the Machiavellian president of the commission in Brussels, were pushing toward a federal Europe. The first meaningful vote in France, one of the founding members in 1957, did not happen until 2005, when the French ungratefully rejected the integrationist Treaty of Nice that had been arranged for them.



In the West, the establishment, however you define it, has been in gradual decline since the mid-20th century — often for good reasons. The fixers' track record was hardly perfect — unless you think the Vietnam War was a success and the European Commission a triumph of efficiency. The magic circle's decision to give the Tory leadership to the 14th Earl of Home in the swinging '60s resulted in a huge Tory defeat. Nowadays, it is not just that the meritocracy mercifully outweighs marquises; the nature of money is different. Silicon Valley barons have fewer ties to government than the railway barons did (and less guilt about how their money was made). And the modern media have made it harder for the Bobbetys, Averells and their cohort to fix things in private: In the age of Twitter, a modern Henry Kissinger could hardly sneak off to China.

However, over the past few years, distrust of the establishment has reached new heights. The American president hates insiders and fixers — whether they sit inside the Beltway, the Federal Reserve or the World Trade Organization. Bernie Sanders is barely less vocal in his fury, especially when it's directed against a Democratic Party establishment that has thwarted his rise. As for the European Union, if the populists who rule many European countries had a battle standard, it would be the famous front page from London's Sun newspaper: "Up Yours, Delors."

For the populists in power, problems are solved by noisy confrontation, not stitch-ups by the elites and supranational bodies. They distrust scientists, with their pesky data about climate change, and economists, who put a price on the cost of Brexit. It is hard to imagine the West forming "a committee to save the world" comprised of unelected officials (and, by tradition, the head of the Federal Reserve and at least one former head of Goldman Sachs), as happened in the financial crises of the late 1990s and 2008.

Which is a problem — whatever you think of Goldman Sachs or Bobbety.

The crisis prompted by the coronavirus calls for a lot of behind-the-scenes collaboration and a willingness to listen to experts. A dozen years ago, as the last financial crisis began, the main finance ministers met in Washington and ushered in a global plan of simultaneous rate cuts, with both the U.S. and China pumping money into the system. This time, the first big response — the Federal Reserve decision's to cut interest rates on March 3 — seemed unilateral. There were few signs of cooperation with either other central banks or the White House: Trump promptly criticized it as yet another mistake by Jay Powell, the Fed chairman whom he publicly regrets appointing.

The market plunge continued.

Or look at the response to the virus itself. Trump has followed the populist playbook. He first ridiculed the technocratic reaction, belittling the World Health Organization's numbers and the advice of his own Centers for Disease Control and Prevention (trusting instead his own "hunches" over the data). He took a few swipes at immigrants and foreign countries, cutting off travel to China. Above all, he did little to gather experts, prepare test kits and so on. Then this week, he changed course, condemning the "foreign virus," banning incoming travel from the EU, and warning Americans against visiting some of their oldest allies — without apparently alerting those allies of his decision. Rather than leading international cooperation, the president's message is "America First."

Not that Europe's response has been especially impressive. To begin with, populists rushed to blame immigration for the virus. Hungary started turning back asylum seekers. In Italy, Matteo Salvini of the League linked the crisis to the docking of the Ocean Viking, a humanitarian ship with a couple hundred African migrants aboard. He demanded an "armor-plated" border and called on Prime Minister Giuseppe Conte to resign "if he isn't able to defend Italy and Italians." More generally, the countries of the European Union have tended to compete rather than collaborate; with Germany grumbling about resources going to the south, there has been little attempt to marshal the power of the union to fight the crisis. At the European Central Bank, Christine Lagarde seems stuck in a game of chicken with her governments, publicly urging them to add fiscal stimulus even as they push her to loosen policy further. So much for collaboration.

As for business, self-interest is ascendant. Back in the days of Bobbety and Averell, the heads of commerce would have been summoned to Downing Street and the White House, and the military-industrial complex would have kicked into gear: Plans would have been laid and staff seconded. The fact that it is counted as triumph that Facebook and Google have taken down some fake-science sites says a lot about the current level of cohesion and awareness of the broader interest. The next challenge is liquidity: Without some kind of coordinated message, a credit crunch would seem inevitable.

Is the situation really that bad? Intelligence chiefs insist that cooperation between the main Western spookeries has never been better, partly because of the sheer childishness of their political bosses. Bankers say that, even while President Trump is attacking Chairman Powell, there is still a sub rosa



dialogue taking place among the Fed, Treasury Secretary Steven Mnuchin and National Economic Council Director Larry Kudlow. Still, it's pretty bad — with some mandarins going so far as to talk about a collapse being not just inevitable but justifiable, if it forces the populists to accept, as one central banker privately puts it, “the basic tenets of economics, science and modern diplomacy.” Nobody would claim that is an optimal solution.

One glimpse of a possible way ahead lies in Bobbety's backyard. As the architect of Brexit, Prime Minister Boris Johnson has seldom been afraid to bang the populist drum. Yet so far Britain's response to the crisis has been relatively measured.

Johnson has taken a two-track approach. On his country's post-Brexit negotiations with Europe, he has been as loudly nationalist and unreasonable as usual. But on the coronavirus crisis and the credit crunch, he has handed over the television screen to experts, notably the government's chief medical officer. Rather than fighting the Bank of England, he has been cooperating with it, even being generous to the outgoing governor (and anti-Brexiteer), Mark Carney; he has also given more room to his technocratic chancellor, Rishi Sunak. And he has reached out to other European leaders, taking their side in opposing Trump's travel ban (even though the American president exempted Britain from his edict) and calling for greater international cooperation.

It is still not clear that Johnson and his scientific experts have got it right: Their strategy is notably different from other countries'. But, in style at least, Johnson is imitating Janus, the two-faced Roman god he studied as a young classicist. One moment he is the populist demagogue of the silent majority; the next, with a swivel of his head, he is an old Etonian establishment fixer. Somewhere Bobbety and Averell are smiling, and maybe even sensing a bit of a comeback.

To contact the author of this story:

John Micklethwait at [micklethwait@bloomberg.net](mailto:micklethwait@bloomberg.net)

To contact the editor responsible for this story:

David Shipley at [djshipley@bloomberg.net](mailto:djshipley@bloomberg.net)

**From:** RYAN, Michael J.  
**Sent:** Tue, 17 Mar 2020 09:09:14 +0000  
**To:** RYAN, Michael J.;SHOC;Office of the Director-General;Redfield, Robert R.  
(CDC/OD); (b) (6)  
(b) (6)  
David Heymann;Felicity Harvey  
(b) (6);Chris.Elias (b) (6);Jeremy  
Farrar; (b) (6);Fauci, Anthony (NIH/NIAID)  
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Paul Michael;SCHWARTLANDER, Bernhard F.;MINHAS, Raman; (b) (6);Conrad, Patricia  
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Maria; (b) (6);cherylc;G  
RAAFF, Peter Jan;POOLE, Marcia;Tarik Mohammed; (b) (6);(SPmig) Carlos Navarro  
Colorado; (b) (6);Ryan Morhard;BRIAND, Sylvie;MORGAN, Oliver;Harries,  
Jenny;Awwad, David (NIH/NIAID) [C];SIMONSON, Stewart;SINGER, Peter Alexander;Jayatunga,  
Wikum; (b) (6);Julie.HALL;Amelie RIOUX  
**Subject:** Informal coronavirus teleconference  
**Attachments:** (b) (4), (b) (6) Swisscom Call code.pdf

Dear colleagues,

Dr Tedros would like to invite you to the next informal discussion about the ongoing 2019 novel coronavirus.

The teleconference will be hosted on Wednesday, 4 March at 13:00 CET and the dial-in number with a passcode is attached.

If you experience any technical difficulties joining this conference call, please contact the WHO HQ EOC operator at: +41227912490

It would be appreciated if you could kindly confirm your participation to Ms Sophia Kabir, email:

(b) (6) ; mobile no. (b) (6)

Best,

Mike

**From:** Robert Levitt  
**Sent:** Thu, 12 Mar 2020 01:53:14 +0000  
**To:** Robert Levitt  
**Subject:** Dr. Levitt's COVID-19 Update Evening 11 March 2020/KEEP CONGRESS IN SESSION DURING THIS CRISIS  
**Attachments:** Use IT to Dx and Tx COVID-19.pdf

Dear All,

Below are short summaries of the journal articles, Internet articles, and interview/speeches about COVID-19 that I have processed today since my Noon Update: **President Trump** addressed the Nation just now and ordered several measures that will protect the U.S. from new COVID-19 cases from abroad. Because over 100 countries are not infected with COVID-19 cases, I **would ask the President to require a 14 day quarantine of all foreign passengers arriving from any foreign country.** Israel has already begun such a defense against COVID-19. See the map below; all darkened countries have COVID-19:



**Ships arriving at U.S. Ports should not be allowed to transfer crew, passengers, or officers to shore without a negative RT-PCR test.**

**CONGRESS SHOULD NOT BE ALLOWED TO RECESS NEXT WEEK AS THE COUNTRY EXPERIENCES A HEALTH EMERGENCY**

**Vox** has a very good summary of **Bruce Aylward's two week trip to PRC in interview form.**

See: <https://www.vox.com/2020/3/2/21161067/coronavirus-covid19-china>

The take home lessons are numerous and proven-the COVID-19 epidemic in the PRC has been stopped. **Below are some of the take-home messages for U.S. health officials and local and State officials as well:**

*So make sure your people know [about the virus]. Make sure you have mechanisms for working with them very quickly through your health system. Then enough public health infrastructure to investigate cases, identify the close contacts, and then make sure they remain under surveillance. That's 90 percent of the Chinese response.*

*But the key is public information and having an informed population, finding those cases, rapidly isolating them. The faster you isolate them is what breaks the chains. Making sure close*



*contacts are quarantined and monitored until you know if they're infected. Somewhere between 5 and 15 percent of those contacts are infected. And again, it's the close contacts, not everyone. The first thing is, they said testing is free, treatment is free. Right now, there are huge barriers [to testing and treatment] in the West. You can get tested, but then you might be negative and have to foot the bill. In China, they realized those were barriers to people seeking care, so, as a state, they took over the payments for people whose insurance plans didn't cover them. They tried to mitigate those barriers.*

*The other thing they did: Normally a prescription in China can't last for more than a month. But they increased it to three months to make sure people didn't run out [when they had to close a lot of their hospitals]. Another thing: Prescriptions could be done online and through WeChat [instead of requiring a doctor appointment]. And they set up a delivery system for medications for affected populations.*

*You have to have enough beds. In China, they closed off whole wings [of hospitals], sealed them to make them a dirty zone [where patients with the disease could be treated safely]. They worked at scale. They bought a heap of ventilators to keep people alive. They made sure they had a lot of high-flow oxygen, CT-scanning capacity, lab capacity. So beds, ventilators, oxygen, CTs, and labs.*

**Aylward emphasizes the need for speed.** The 250 COVID-19 cases in Seattle will expand to 60,000 cases in 7 weeks. Aylward also emphasizes that IT can be used for diagnosis (iPhones or commercial sites), prescriptions, determination of clustering or need for lockdown. **NEJM**

**Perspective tonight online gives the same advice.** See pdf attached above. A

As I look at the maps of COVID-19 in our Nation, **I see the need for lockdown of Seattle/King County and New Rochelle in NY immediately.** As RT-PCR tests become available to all 50 states, other lockdowns will be necessary. But in the U.S. as in PRC a country-wide lockdown is not necessary if we are diligent about contact tracing and quarantine of PUI.

If health officials need to choose between reading Influenza Archive sent this morning to all of you or the Vox interview of Aylward, **read Vox. The answers to our crisis are written there and are evidence-based by their success in PRC.**

More tomorrow,

RGL, M.D.

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Sent from [Outlook](#)



**From:** Robert Levitt  
**Sent:** Sat, 14 Mar 2020 02:23:41 +0000  
**To:** Robert Levitt  
**Subject:** Dr. Levitt's COVID-19 Update for Evening on Friday the 13th March/ ALL GOOD NEWS TODAY

Dear All,

My thanks to **Disney CEO Bob Chapek for having the courage to close WDW theme parks on both coasts today.** Readers may not be aware that Microbiology was Mr. Chapek's major in college. Chapek will pay salaries to theme park employees while the parks are closed. He has saved thousands of grandparents and disabled visitors' lives by his actions.

My thanks to **President Trump for 'putting the pedal to the metal' today as he called a Public Health Emergency.** This allows **FEMA to act according to the Stafford Act**, a 192 page document that essentially frees up hospitals and federal agencies from normal rules and regs to act in the best interests of the Nation in a Major Disaster. **See page 14 of the Stafford Act for a summary of what FEMA and health care agencies and hospitals can now do:**

[https://www.fema.gov/media-library-data/1582133514823-be4368438bd042e3b60f5cec6b377d17/Stafford June 2019 508.pdf](https://www.fema.gov/media-library-data/1582133514823-be4368438bd042e3b60f5cec6b377d17/Stafford%20June%202019%20508.pdf).

In dollar terms, **\$50 Billion is now available for FEMA to distribute locally to whomever comes calling. (We need a minimum of \$200 Billion if we use Italy as a template)**

**NIH has established a LitCovid website where curated journal publications are added daily.**

See: <https://www.ncbi.nlm.nih.gov/research/coronavirus/docsum>

### LitCovid - NCBI - NLM - NIH

LitCovid is a unique web system for tracking the most recent publications and literature about the 2019 Coronavirus (2019-nCoV, SARS-CoV-2, COVID-19) outbreak. LitCovid is the most comprehensive resource on the subject.

[www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov)

You can search COVID-19 by subject matter or country of origin of article.

**The Scientist** has an article on modeling the future numbers of COVID-19 patients in the U.S. and the number of hospital beds, respirators, ventilators, ICU beds needed for the epidemic.

See: [https://www.the-scientist.com/news-opinion/modelers-struggle-to-predict-the-future-of-the-covid-19-pandemic-](https://www.the-scientist.com/news-opinion/modelers-struggle-to-predict-the-future-of-the-covid-19-pandemic-67261?utm_campaign=TS_DAILY%20NEWSLETTER_2020&utm_source=hs_email&utm_medium=email&utm_content=84700679&hsenc=p2ANqtz-9YFBmJvICaybxCGjIt5_6k8fyZoNYjOf--K1LO1BRHvTyY6sEhVdGQZXrL1V4hz0OGTnHsLau9setKqTDlLeIPZ5_-jA&hsmi=84700679)

[67261?utm\\_campaign=TS\\_DAILY%20NEWSLETTER\\_2020&utm\\_source=hs\\_email&utm\\_medium=email&utm\\_content=84700679&hsenc=p2ANqtz-9YFBmJvICaybxCGjIt5\\_6k8fyZoNYjOf--K1LO1BRHvTyY6sEhVdGQZXrL1V4hz0OGTnHsLau9setKqTDlLeIPZ5\\_-jA&hsmi=84700679](https://www.the-scientist.com/news-opinion/modelers-struggle-to-predict-the-future-of-the-covid-19-pandemic-67261?utm_campaign=TS_DAILY%20NEWSLETTER_2020&utm_source=hs_email&utm_medium=email&utm_content=84700679&hsenc=p2ANqtz-9YFBmJvICaybxCGjIt5_6k8fyZoNYjOf--K1LO1BRHvTyY6sEhVdGQZXrL1V4hz0OGTnHsLau9setKqTDlLeIPZ5_-jA&hsmi=84700679)

The Media/Press, which lives by the mantra: 'if it bleeds, it leads', has talked about 150 Million infected persons in U.S. and several million hospitalized. Without knowing the test results of the new RT-PCR tests to be in operation next week, it is impossible to make accurate estimates.

**We have no denominator for the positive and/or negative RT-PCR tests for coronavirus yet.**



If you remember the **Vox** interview with Bruce Aylward after his trip to PRC, he said that **only 0.47% of 340,000 tests in one city were positive**. I do not believe what Dr. Frieden is saying on cable TV. **I trust Drs. Fauci and Redfield and Scientist Fair from Texas A&M.** But we need to start somewhere. **If we use Italy as a precedent, we will need 4X everything: funds, hospital beds, ICU beds, ventilators (which never expire), PPE, than we have now.** And we should never forget that pandemics are self-limited by season, mutations, new vaccines, new drugs, and contact tracing and isolation.

Everything I read today was uplifting: schools closing, public events limited to 500 or 1000 persons, no weekend hours for malls, social distancing, new tests from Roche, vaccines ready for Phase 2 if ethics issues resolved, etc. We can beat this miserable virus by starving the virus of our host human cells. No source of energy for the virus means death to the virus.

The economy has and will take blows. It did in 1918 Influenza Epidemic. But remember the Dow rebounded after the epidemic resolved. See:



Chart by stockcharts.com

As the Fed Chairman has stated, the economy is strong, but reacting to a threat. It has taken a hit and will continue to be hit, but the economy will respond to the end of the coronavirus epidemic. Yet we need to do as PRC, Taiwan, South Korea have done: go IT and Internet for everything; be smart about hygiene; social distance; quarantine; **go to a war-time administration re: economy;** and starve the coronavirus of energy sources (us).

**I hope the President and Congress decide on a War Production Board for our economy within 10 days.** Perhaps a week's recess for the House will let them see how the Nation is depending on them for answers. Then the House will come back into session and begin the War Production Board administration of our economy with the President's approval. That's what is

necessary in a democracy of 300,000,000 people. Much different in PRC or Taiwan or South Korea.

Be well,  
RGL, M.D.

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(b) (6)

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Sent from [Outlook](#)

**From:** Melinda MacGillivray  
**Sent:** Mon, 16 Mar 2020 16:28:06 +0000  
**To:** (b) (6) Dr  
DAVID EISENSTAT (b) (6); Karen Goodman; Rachel Khadaroo; Eytan Wine.; Sander van Zanten; (b) (6); Fauci, Anthony (NIH/NIAD)  
[E] (b) (6)  
**Subject:** U.S. government official: Coronavirus vaccine trial starts Monday | CTV News

<https://www.ctvnews.ca/health/coronavirus/u-s-government-official-coronavirus-vaccine-trial-starts-monday-1.4854275>

*( Same old. Vaxxers never learn!! Even as the world is forced to deal with Covid emerging from flu and other seasonal and travel vaxxing, they are literally seeding the next emerged infections that will emerge down the line. Vaxxers never learn. . They use the very crisis they create, to justify more varying, and having the scared public ♣ them on. It is a great way to perpetually incubate emerged infections and to sell even more vaccines to prevent and "contain". The same public health people working like maniacs to deal with the CONSEQUENCES of vaxxing, now once again promoting a vaccine. So, the vaxxer-public health partnerships remains the biggest threat to modern people's health. )*

WASHINGTON -- The first participant in a clinical trial for a vaccine to protect against the new coronavirus will receive an experimental dose on Monday, according to a U.S. government official.

The National Institutes of Health is funding the trial, which is taking place at the Kaiser Permanente Washington Health Research Institute in **Seattle**. The official who disclosed plans for the first participant spoke on condition of anonymity because the move has not been publicly announced.

**Public health officials (otherwise know as the best vaxxer promoter machine ever..)** say it will take a year to 18 months to fully validate any potential vaccine.

Testing will begin with 45 young, healthy volunteers with different doses of shots co-developed by NIH and Moderna Inc. There's no chance participants could get infected from the shots, because they don't contain the virus itself. *(They are made a danger to OTHERS, as all shedding vaxxed people are. Turned into life long Thyphoid Mary's but the vaxxers try to say all is safe because they are triggering their own body to start pumping out new hybrids codes in their immune system responses..\*\*\* PROBLEM!!! . that WILL emerge harmful down the road as yet another new emerge "virus". But Vaxxers never consider the effects of vaccines given people having effects on the nin vaxxed, or the OFFSPRING of those vaxxed among others in the next generation)* The goal is purely to check that the vaccines show no worrisome side effects, setting the stage for larger tests. *(The goal is to seed another emerged infection down the line, so you can sell the whole world the vaccine.. knowing full well, the real consequences will not be connected to your vaccine you are developing today. That is the pattern. Deliberate blindness combined with short attention spans of the public and public*



*health to connect dots . )*

Coronavirus newsletter sign-up

**Dozens** of research groups around the world are racing to create a vaccine as COVID-19 cases continue to grow. Importantly, they're pursuing different types of vaccines -- shots developed from new technologies that not only are faster to produce than traditional inoculations but might prove more potent. *(so even more "unforeseen consequences that "traditional" vaccines. )*

Some researchers even aim for temporary vaccines, such as shots that might guard people's health a month or two at a time while longer-lasting protection is developed.

Also in the works: **Inovio Pharmaceuticals** aims to begin safety tests of its vaccine candidate next month in a few dozen (vulnerable, exploitable) volunteers at the University of Pennsylvania and a testing centre in **Kansas City**, Missouri, followed by a similar study in **China** and **South Korea**. *(And down the line, where they conduct these studies WILL be where the first outbreaks occur.. rewind to SARS Canada and China Canada immune/vaccine collaborations and trials )*

Even if initial safety tests go well, "you're talking about a year to a year and a half" before any vaccine could be ready for widespread use, according to **Dr. Anthony Fauci**, director of NIH's National Institute of Allergy and Infectious Diseases. *( This man could sell snow to Northerners. . Yep, he is good at what he does.. promoting vaccines, but not very good at protecting today's people's health in ways that don't ALWAYS inject new problems into the immune and stress responses of others who live around these leading edged vaxxed, and future generarions of modern people's. . The new combinations that incubate through these leading edge vaxxed in triwls, ALWAYS emerge as new "wild" infections. Vaxxers never learn, and the biggest Vaxxers promoters in positions of leadership are the worst. A Fauci .. Capain Vaxxer. He went through AIDS Era and still hasn't learned a thing about the WHY'S of modern emerged infections and whacko immune systems in modern people's. Good leadership is able to LEARN. )*

That still would be a record-setting pace. But manufacturers know the wait -- required because it takes additional studies of **thousands** of people to tell if a vaccine truly protects and does no harm -- is hard for a frightened public. *(The vaxxer go ahead and do their trials, which seeds the first leading edge wave of yet another mild infection emerging with "complications".. which then of course alarms the public, and then developing a vaccine just involves drug companies taking public money and not having to do the normal testing or and she ring to regulations. . All the red tape I gone and they can tell their shareholders to buy more stock. This Covid outbreak is a dream come true for that global vaxxer gang, yet they will be portrayed by the press they buy with advertizing.. as heroes once again. The traditional media trying to claim they are worried about the spread of misinformation about health and science - -well, most traditonal radio and tv should see how their budgets look without the vaxxer/ drug company related advertising cash flow)*

President Donald Trump has been pushing for swift action on a vaccine, saying in recent days that the work is "moving along very quickly" and he hopes to see a vaccine "relatively soon." *(Some people habitually don't look before they leap.. and unlike with political leadership, they*

*exist all the time in the vaxxer leadership. Vaxxers would get along just fine with any political leadership that in the end advances their interests)*

Today, there are no proven treatments. In China, scientists have been testing a combination of HIV drugs against the new coronavirus, as well as an experimental drug named remdesivir that was in development to fight Ebola. ( *What a "cooincidence". They are precursor, past generation, vaxxer related emerged infections too..from incubating through the immune systems of "high risk" people's first, before popping out to be a wild virus. Vaxxing people today is the way to incubate the infections that threaten next generations. except now with yearly flu and seasonal Vaxxing. . the incubation period is exponentially speeded up. Way to go vaxxers!! And the public health, clueless, toothless puppets. They are good at doing Covid crisis activation, but not good at seeing rheir role in the crisis emerging in the first place. The more you vaxx, the WORSE you make it.* ) n the U.S., the University of Nebraska Medical Center also began testing remdesivir in some Americans who were found to have COVID-19 after being evacuated from a cruise ship in Japan.

For most people, the new coronavirus causes only mild or moderate symptoms, such as fever and cough. (*But you can start vaxxing and make sure that turns into most people joining those predisposed for the severe version eh.. which will make marketing the vaccine with routine baby shots all the more likely at rhe speed of sound as was done either Hep b for eg.. Problem is for vaxxers.. , this outbreak WILL have scientists globally asking questions and noting patterns. The Vaxxers have not changed their basic marketing strategy .. to get a foot in the door with trials ensures the emergence of the problem on a wider scale.)* . For some, especially older adults and people with existing health problems, it can cause more severe illness, including pneumonia. (*They got their preeisting condition predisposition passed on to them due to extra vaxxing in their lineage, and then them being extra immulogically screwed up and vulnerable, that is used as the reason why they end up targeted with extra vaxxing.. turning THEM into every more into infection incubation factories. On and on it goes.* ) The worldwide outbreak has sickened more than 156,000 people and left more than 5,800 dead. The death toll in the United States is more than 50, while infections neared 3,000 across 49 states and the District of Columbia. (*Vaxxing is 100% behind that, yet the Vaxxers are in charge of public health and science. They have a system create emerged infections and panic, and the use the panic to just do more of the same. And people within, all the same vaxxer mentality. Peep hole, narrow thinking that leads to widespread, mass problems. Insanity.. doing the same things and expecting a different outcome. Public health and their vaxdr darling a are insane.* )

The vast majority of people recover. According to the World Health Organization, people with mild illness recover in about two weeks, while those with more severe illness may take three weeks to six weeks to recover.

*.( It keeps getting said seniors and those with preexisting conditions AR emost at risk.. and they are.. \*\*\*\*\*because they are living in the bodies most likely to be ground zero hot spots pumping out the new virus.. The preexisting conditions.. in the young or old.. are really themselves are really sign of someone being extra vaxxed and from and extra vaxxed lineage! !! AND they should be kept away from others, because they are Renee dangerous Typhoid*

*Mary's that are the ORIGINAL SOURCE of community spread. Basically look for who has had their flu and other yearly and shots yearly for the longest and you have your Covid hot spots. )*

Sent from Samsung tablet

**From:** Folkers, Greg (NIH/NIAID) [E]  
**Sent:** Mon, 16 Mar 2020 02:20:58 +0000  
**To:** Routh, Jennifer (NIH/NIAID) [E]; Billet, Courtney (NIH/NIAID) [E]; Stover, Kathy (NIH/NIAID) [E]; Fauci, Anthony (NIH/NIAID) [E]; Conrad, Patricia (NIH/NIAID) [E]  
**Cc:** Marston, Hilary (NIH/NIAID) [E]; Folkers, Greg (NIH/NIAID) [E]  
**Subject:** ASF ----- please read re TOMORROW A.M. / first person vaccinated in Seattle  
**Attachments:** NIAID press release mRNA Phase 1 FINAL.docx

- I understand that the task force presser is scheduled for 1030 tomorrow a.m.
- As you know we have a press release queued up about the first vaccinee (attached; epi will be updated in a.m.).

(b) (5)

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**From:** Routh, Jennifer (NIH/NIAID) [E] (b) (6)  
**Sent:** Saturday, March 14, 2020 8:25 PM  
**To:** Mascola, John (NIH/VRC) [E] (b) (6); Billet, Courtney (NIH/NIAID) [E] (b) (6); Folkers, Greg (NIH/NIAID) [E] (b) (6); Stover, Kathy (NIH/NIAID) [E] (b) (6); Fauci, Anthony (NIH/NIAID) [E] (b) (6); Conrad, Patricia (NIH/NIAID) [E] (b) (6); Erbelding, Emily (NIH/NIAID) [E] (b) (6)  
**Cc:** Marston, Hilary (NIH/NIAID) [E] (b) (6)  
**Subject:** RE: Jen, Kathy, Courtney -- Monday's press release re: vaccine study

Greg –

The final press release is attached. We will add the latest epi #s on Monday morning before distribution.

Thanks,  
Jen



Jennifer Routh [E]  
News and Science Writing Branch  
Office of Communications and Government Relations  
National Institute of Allergy and Infectious Diseases (NIAID)  
NIH/HHS  
31 Center Drive Room 7A17C  
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**From:** Mascola, John (NIH/VRC) [E] (b) (6)  
**Sent:** Saturday, March 14, 2020 7:57 PM  
**To:** Billet, Courtney (NIH/NIAID) [E] (b) (6); Folkers, Greg (NIH/NIAID) [E]  
<(b) (6)>; Routh, Jennifer (NIH/NIAID) [E] (b) (6); Stover, Kathy  
(NIH/NIAID) [E] (b) (6); Fauci, Anthony (NIH/NIAID) [E] (b) (6);  
Conrad, Patricia (NIH/NIAID) [E] (b) (6); Erbeling, Emily (NIH/NIAID) [E]  
(b) (6)  
**Cc:** Marston, Hilary (NIH/NIAID) [E] (b) (6)  
**Subject:** RE: Jen, Kathy, Courtney -- Monday's press release re: vaccine study

Courtney, Greg,

Adding Emily to email. (b) (5)

Thanks,  
John

---

**From:** Billet, Courtney (NIH/NIAID) [E] (b) (6)  
**Sent:** Saturday, March 14, 2020 7:44 PM  
**To:** Folkers, Greg (NIH/NIAID) [E] (b) (6); Routh, Jennifer (NIH/NIAID) [E]  
(b) (6); Stover, Kathy (NIH/NIAID) [E] (b) (6); Billet, Courtney  
(NIH/NIAID) [E] (b) (6); Fauci, Anthony (NIH/NIAID) [E] (b) (6); Conrad,  
Patricia (NIH/NIAID) [E] (b) (6)  
**Cc:** Marston, Hilary (NIH/NIAID) [E] (b) (6); Mascola, John (NIH/VRC) [E]  
(b) (6)  
**Subject:** Re: Jen, Kathy, Courtney -- Monday's press release re: vaccine study

Jen will send us all the press release and contact the partners. I'll let Bill and John Burklow know.

Did you see Jen's note earlier about Lauren Neergaard? She is onsite at Kaiser at their invitation (a deal they made, we had nothing to do with it). She will be very fast out of the gates with a story. Potentially

ahead of the task force presser. We don't have any control over Lauran's timing. Do we know what time the presser will be on Monday? We heard they might be moving to earlier in the day...?

---

**From:** "Folkers, Greg (NIH/NIAID) [E]" (b) (6)  
**Date:** Saturday, March 14, 2020 at 5:58:22 PM  
**To:** "Routh, Jennifer (NIH/NIAID) [E]" (b) (6), "Stover, Kathy (NIH/NIAID) [E]" (b) (6), "Billet, Courtney (NIH/NIAID) [E]" (b) (6), "Fauci, Anthony (NIH/NIAID) [E]" (b) (6), "Conrad, Patricia (NIH/NIAID) [E]" (b) (6)  
**Cc:** "Marston, Hilary (NIH/NIAID) [E]" (b) (6), "Folkers, Greg (NIH/NIAID) [E]" (b) (6), "Mascola, John (NIH/VRC) [E]" (b) (6)  
**Subject:** Jen, Kathy, Courtney -- Monday's press release re: vaccine study

I spoke with ASF.

(b) (5)

Can you send the penultimate version of press release and alert the impacted folks -- Moderna, Kaiser in Seattle, CEPI, Bill Hall (others?),,,,,

Thank you!

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**From:** Paul Wolfowitz  
**Sent:** Thu, 12 Mar 2020 13:42:45 +0000  
**To:** springer@crystal.harvard.edu  
**Subject:** COVID-19 Daily Monitoring - Research - J.P. Morgan Markets

Dr. Springer,

I hope I'm not annoying you with my musings, but I would be grateful to know whether you think this makes sense?

The big difference in mortality rates between Hubei and ex-Hubei, if the numbers below can be believed, as well as anecdotal accounts from Wuhan and Lombardy, confirms the obvious — overwhelmed health systems have lethal consequences. That would seem to imply that isolating regions of infection is part of a sensible strategy. (It even helps the affected regions since it preserves the possibility of assistance from healthier ones.)

I'm no Trump fan, but this would seem to suggest that it makes sense to impose restrictions on travelers from Schengen countries. It also says that Ireland's failure to restrict travel from Italy could make it the next hot spot. Also, since Ireland may not be covered by the new restrictions (it's unclear, but it's not a Schengen country) that could be a hole in the new travel restrictions.

Paul

The nationwide mortality rate in China continues to be on a rising trend. It reached 3.91% as of 10-Mar (vs 3.88% as of 9-Mar). However, the mortality rate in Hubei remains high and increased further to 4.49% from 4.46% the previous day. For the rest of China (ex-Hubei province), the mortality rate was unchanged from the previous day at 0.86%.

In Italy, the mortality rate trended up to 6.22% on 10-Mar from 5% the previous day, the highest around the world

In Iran, the mortality rate increased to 3.62% on 10-Mar.

<https://markets.jpmorgan.com/research/email/-40frqet/OHQzWvaLjE4UAJUvVzbZDA/GPS-3297294-0>

## **COVID-19 Daily Monitoring**

Tracking the high frequency data, activity and government measures

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## **Highlights**

- *Government measures:* **State Council emphasized targeted RRR cuts to support SME. In addition, it announced measures to support foreign companies/investments.** 1) State Council has flagged the implementation of targeted RRR cuts for inclusive finance and joint-stock banks to support SMEs. 2) NDRC has provided guidance and streamlining processes on facilitating work resumption for foreign companies. In addition, the State Council is considering shortening the negative list for foreign investment to expand domestic access for foreign capital. 3) To boost auto sales, CAAM (China Association of Automobile Manufacturers) suggested to (i) sustain the NEV subsidy policy, (ii) enhance NEV infra construction, (iii) loosen the NEV purchase and car plate quota for restricted cities, and (iv) lower purchase tax for small emission vehicles (<1.6L).
- *Activity tracking:* **Major indicators saw slight moderation on March 11.** 1) MOFCOM reported ~100% resumption rate for important export companies in 19 important provinces/cities (e.g. Zhejiang, Jiangsu and Shanghai). 2) **Real estate activity eased somewhat.** On March 11, housing transaction areas was down 41% d/d, which is 64% below historical averages (Mar 10: 32%). 3) **Coal consumption levels moved down by 3.4% d/d on Mar 12**, with the gap in daily coal consumption of six major power generators at roughly ~24% below historical averages (Mar 11: 22%). 4) Highway congestion and passenger flow of transport hubs climbed on daily basis, while city traffic delay index stabilized. 5) Copper prices fell 0.8% on Mar 11 after the 2.1% increase on the previous



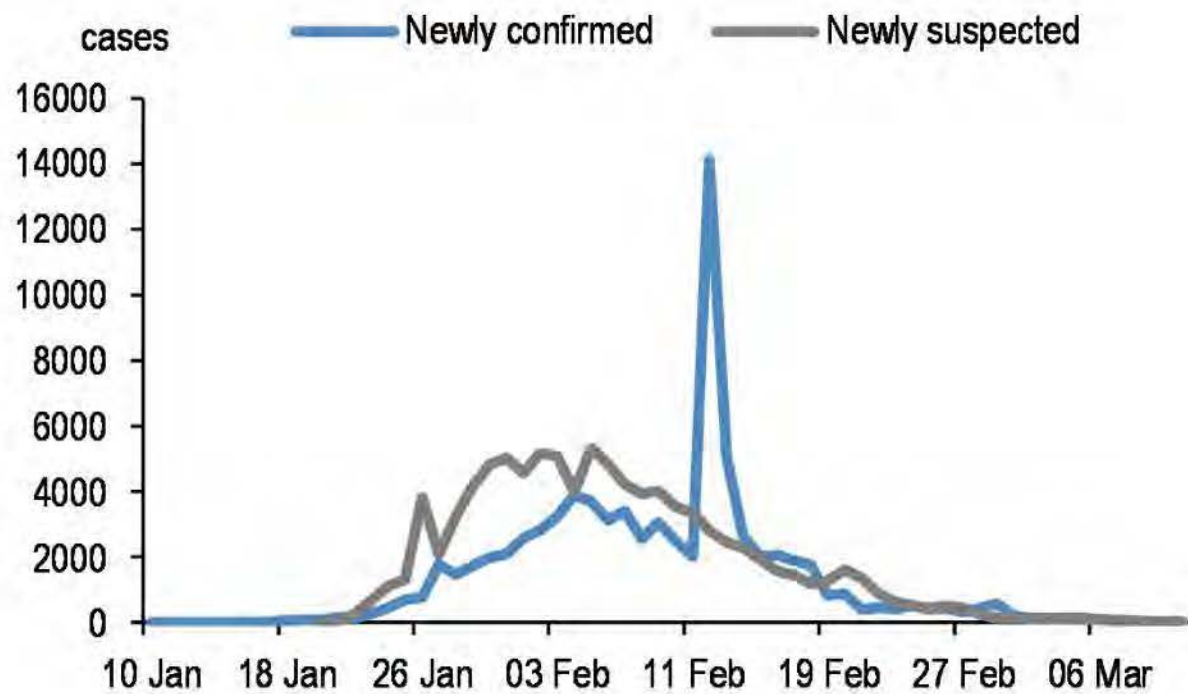
day. As background, for commodity prices, copper, aluminum and zinc have the highest correlation with PMI and business sentiment. 6) The latest data in the J.P. Morgan Big Data Shipping Index (BIDSI) shows a 14.3%/d/d rebound in imports (-13.9% on Mar 10), while exports also picked up by 5.6%/d/d (-2.9%/d/d on Mar 10).

- *Market movement:* The CSI 300 index fell 1.9%/d/d on March 12; telecom (-0.1%) outperformed, whereas healthcare (-3.4%) and consumer staples (-2.6%) lagged. For offshore equities, Hang Seng Index was down 3.7%/d/d. Stock-wise, Yanzhou Coal (+1.7%) and SOHO China (+1.5%) are best-performing MSCI China H share constituents, while COSL (-10.8%) and Genscript Biotech (-9.4%) underperformed the most.

## **COVID-19 update**

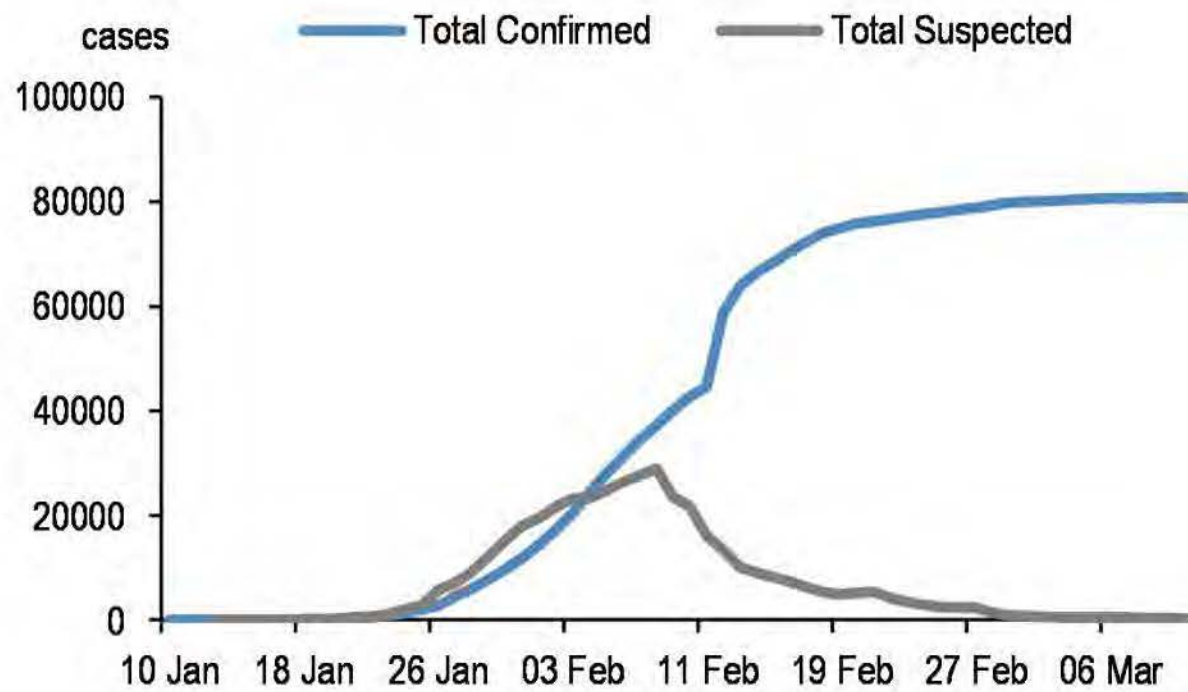
**As of March 11, the total number of COVID-19 confirmed cases in China was 80,793, up 0.02% d/d (Mar 10: +0.03%).** Total new confirmed cases was 15 (including 8 from Hubei and 7 from the rest of China). Of note, active confirmed cases of China continued to trend down, with cases of Mar 10 at 14,920 (-8%/d/d, Figure 5), in contrast to the sharp increase overseas (Figure 6). The total number of suspected cases in China came in at 253, lower than the day before at 285. The number of deaths was 3,169, implying a mortality rate of 3.92% (Mar 10: 3.91%). For comprehensive coverage of the COVID-19 outbreak, please refer to MW Kim: “China coronavirus outbreak: Daily data update” ([link](#)).

**Figure 1: Number of newly confirmed and suspected**



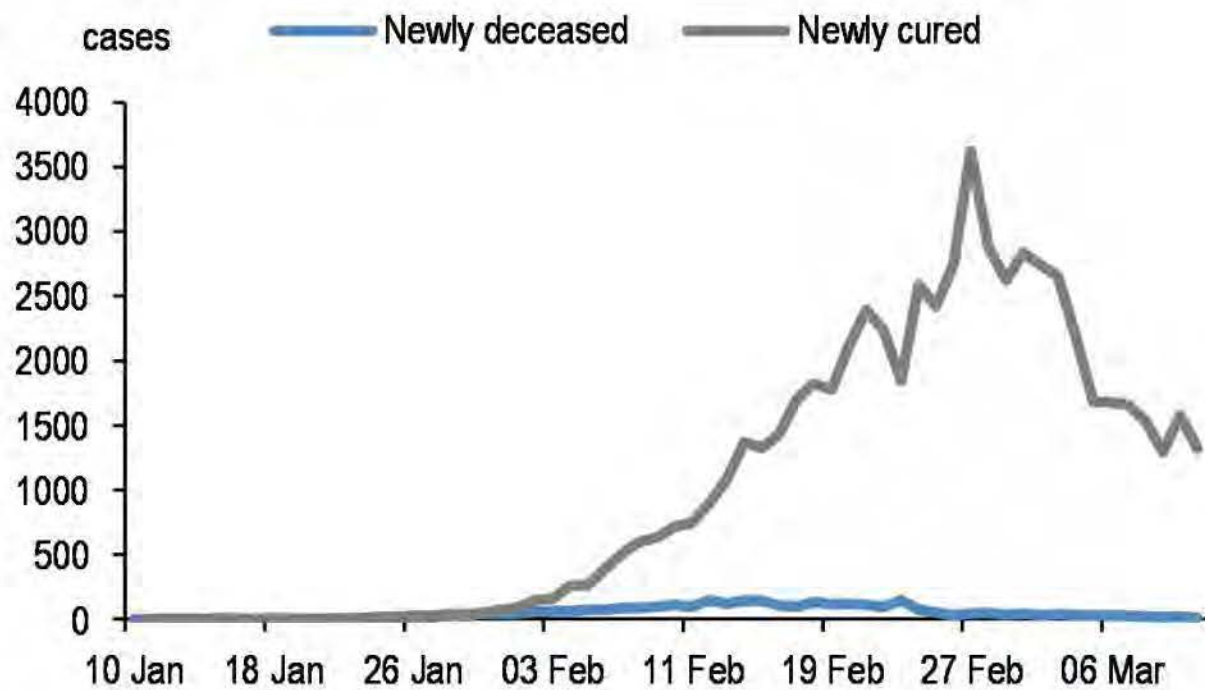
Source: NHC, J.P. Morgan. Note: region refers to mainland China.

**Figure 2: Number of total confirmed and suspected**



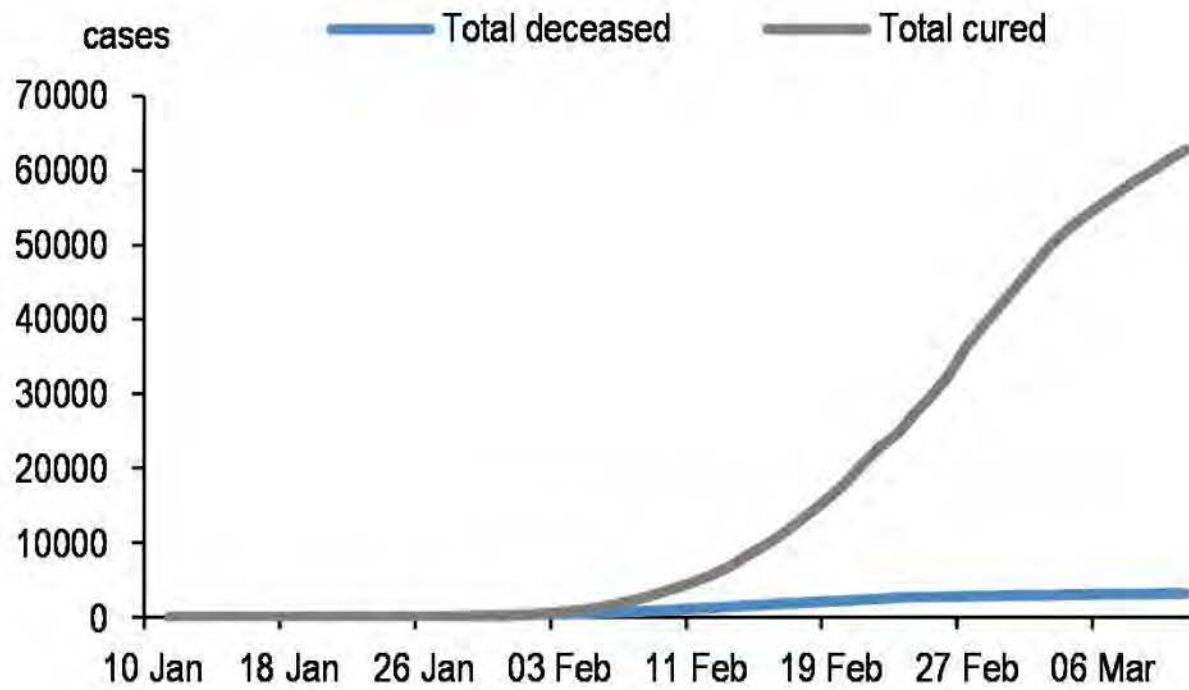
Source: NHC, J.P. Morgan. Note: region refers to mainland China.

**Figure 3: Number of Newly deceased and cured**



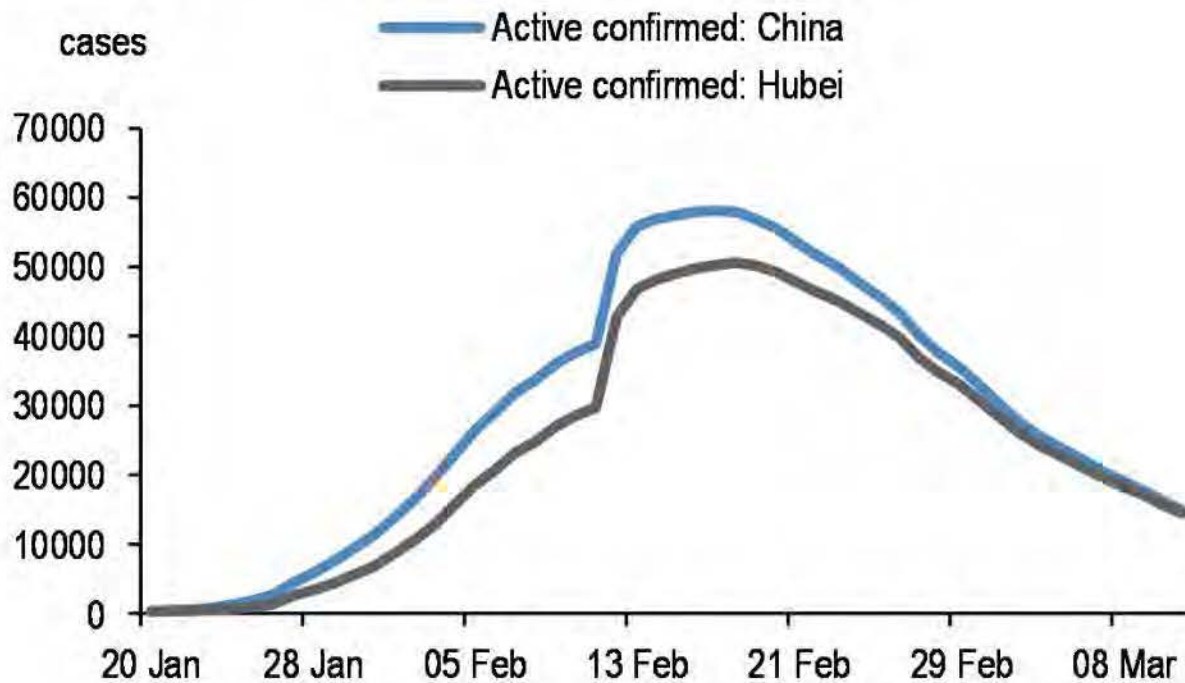
Source: NHC, J.P. Morgan. Note: region refers to mainland China.

**Figure 4: Number of total deceased and cured**



Source: NHC, J.P. Morgan. Note: region refers to mainland China

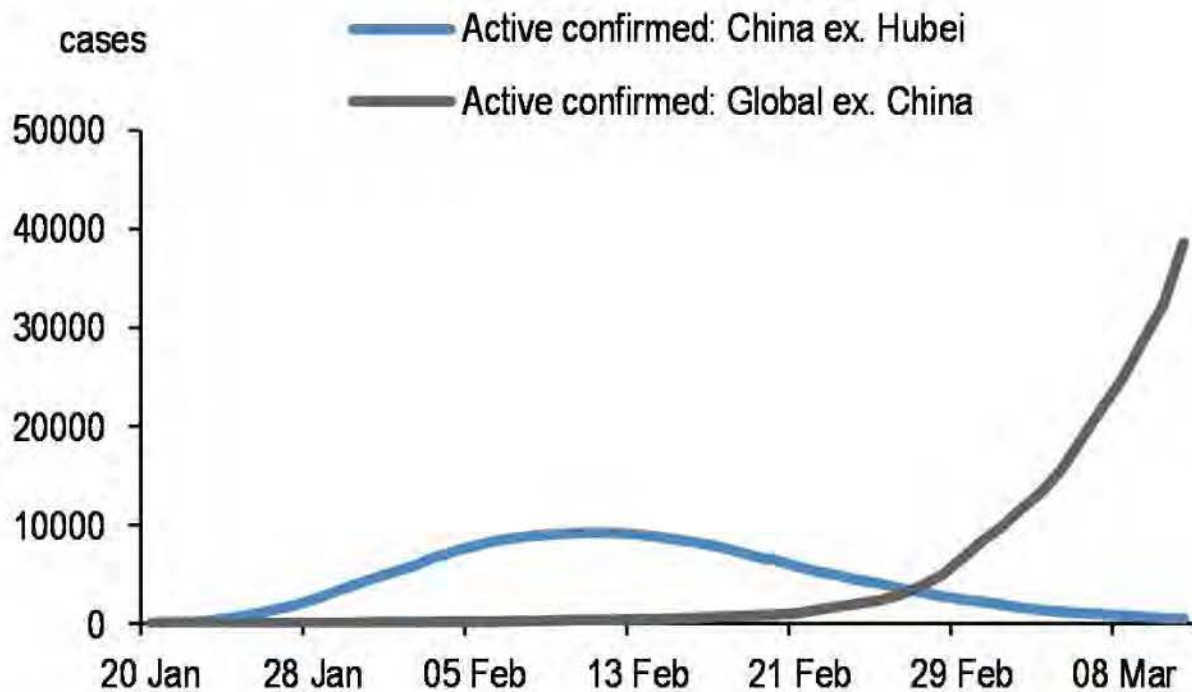
**Figure 5: Active cases in China and Hubei**





Source: NHC, J.P. Morgan. Note: Active confirmed = total confirmed- total deceased – total cured; China refers to Greater China.

Figure 6: Active cases in China ex. Hubei and Global ex. China

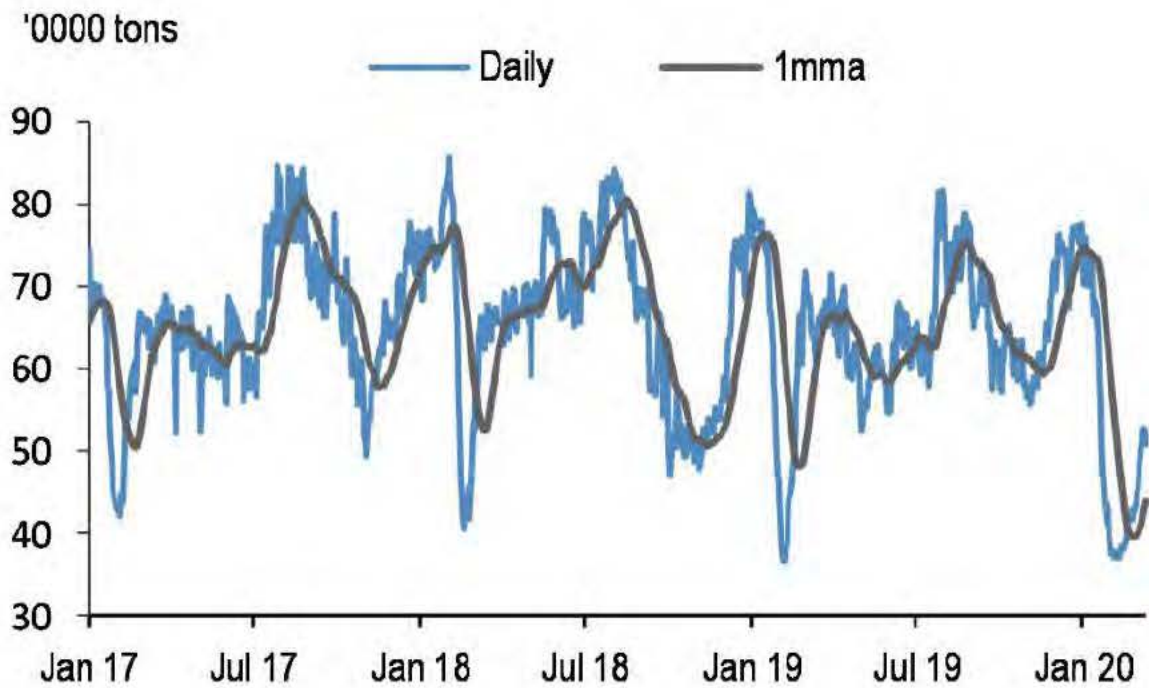


Source: NHC, J.P. Morgan. Note: Active confirmed = total confirmed- total deceased – total cured; China refers to Greater China.

## High frequency data tracking activity

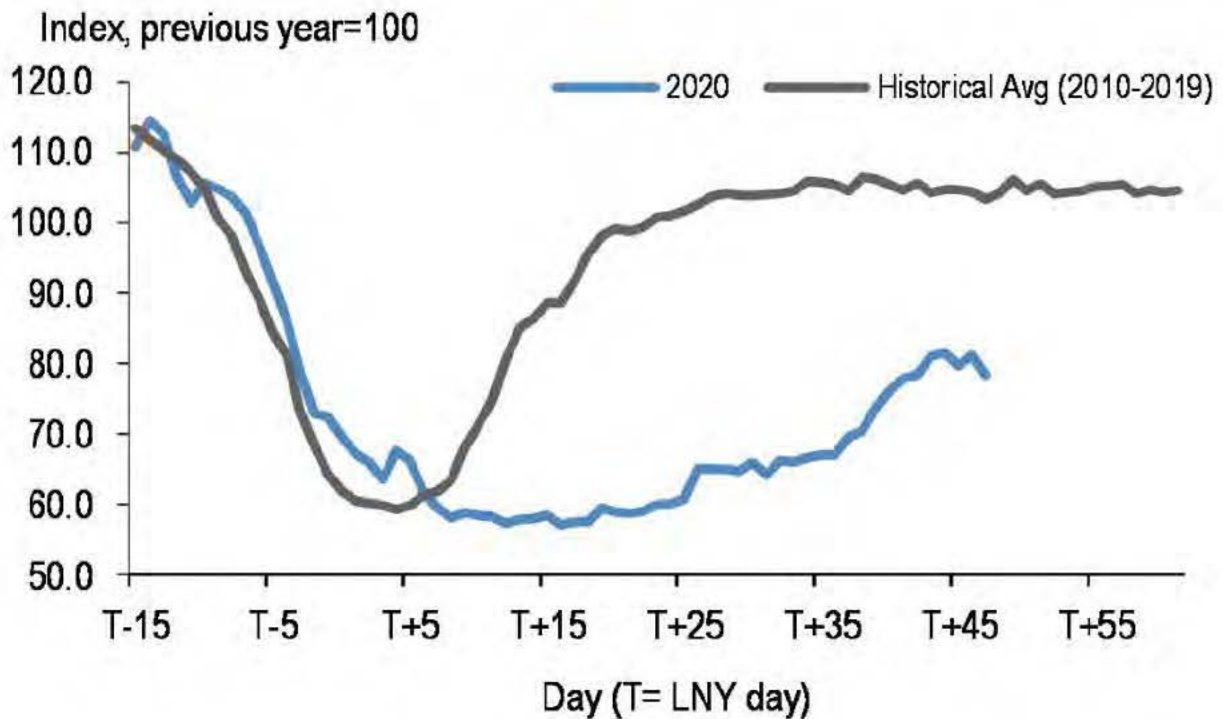
## Daily coal consumption at six major power generators

Figure 7: Daily coal consumption



Source: Wind, J.P. Morgan.

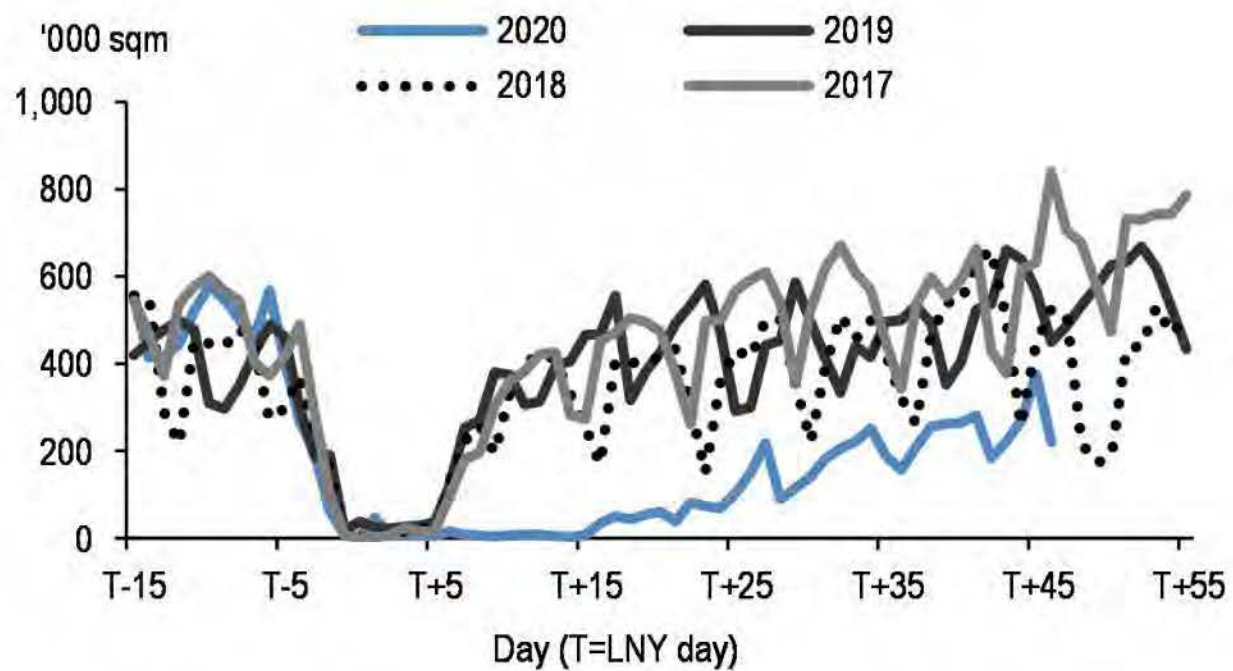
**Figure 8: Daily coal consumption during LNY**



Source: Wind, J.P. Morgan.

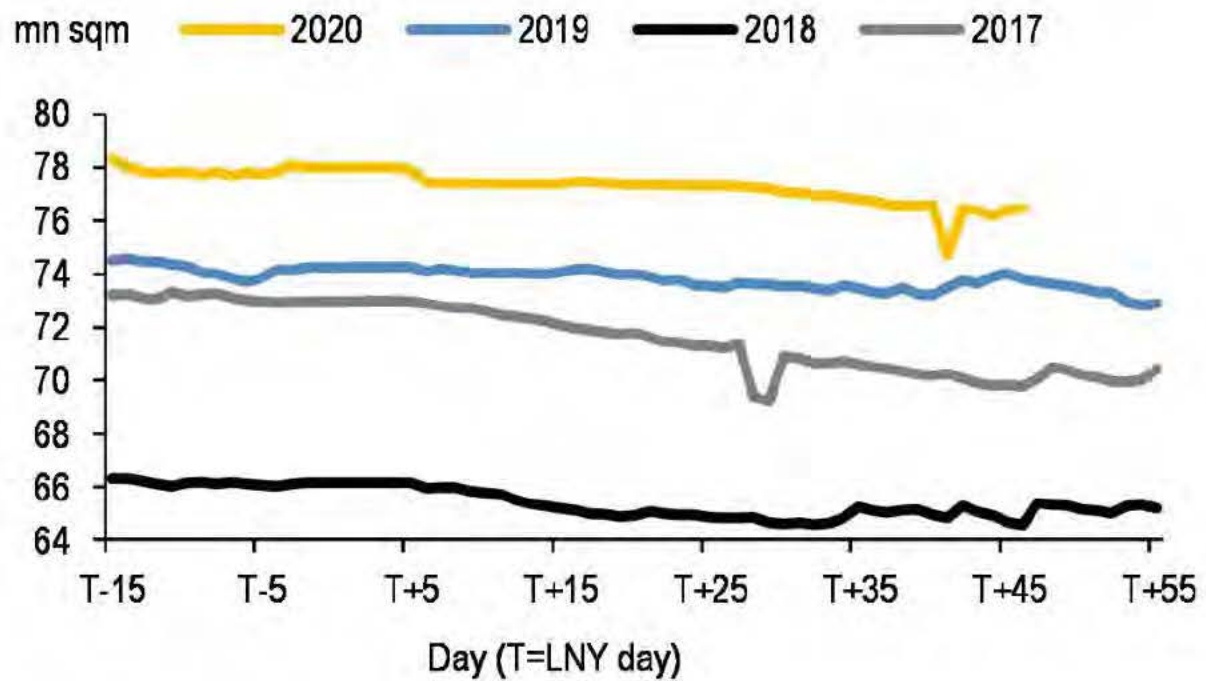
## Real estate transactions

**Figure 9: Housing transactions by sqm for 30 major cities**



Source: Wind, J.P. Morgan

**Figure 10: Housing available for sales of top 10 cities**



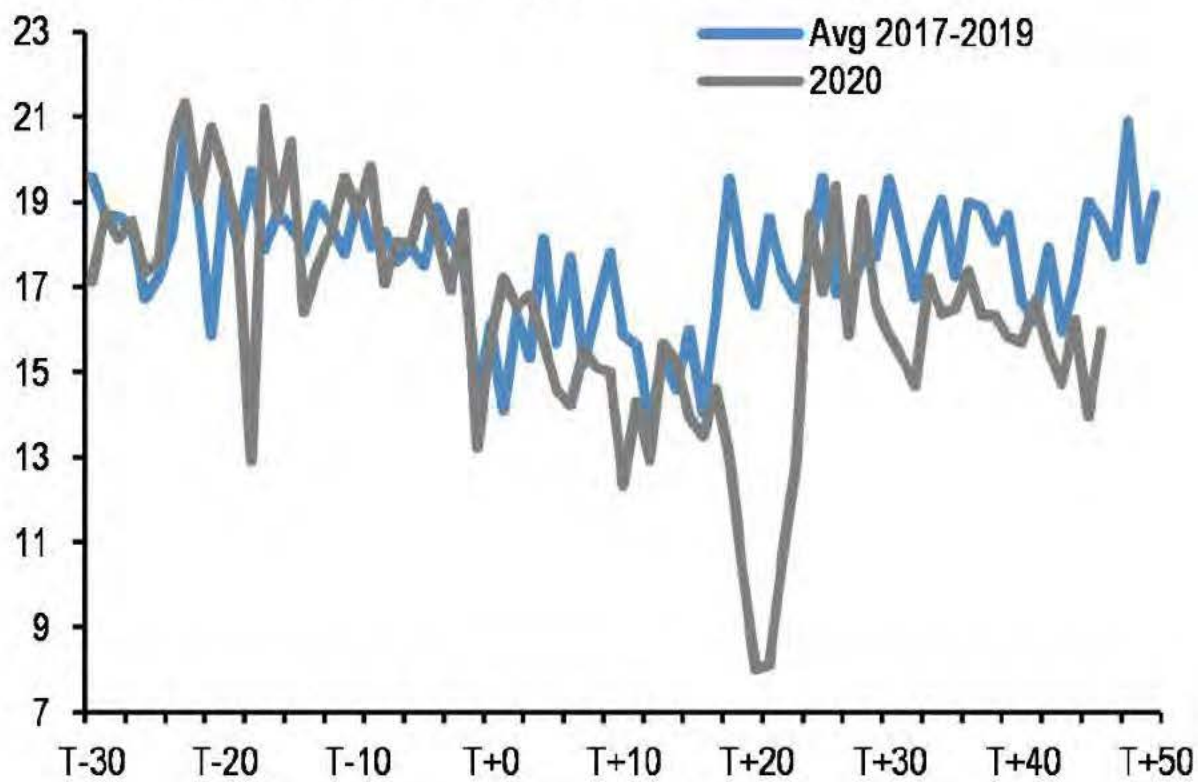
Source: Wind, J.P. Morgan.

### J.P. Morgan Big Data Shipping Index (BIDS)

**Figure 11: China BIDS inbound inc. domestic flows**



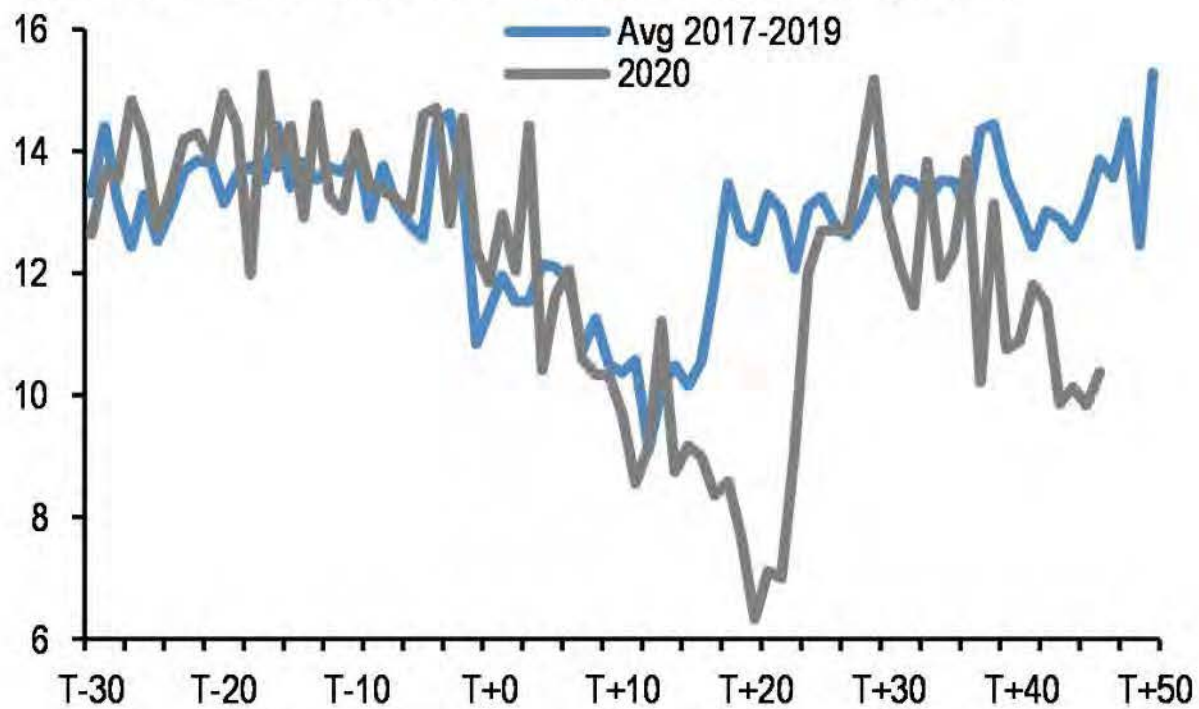
Inbound - million metric tons per day, centered on Lunar New Year



Source: J.P. Morgan, MariTrace.

**Figure 12: China BIDS I outbound inc. domestic flows**

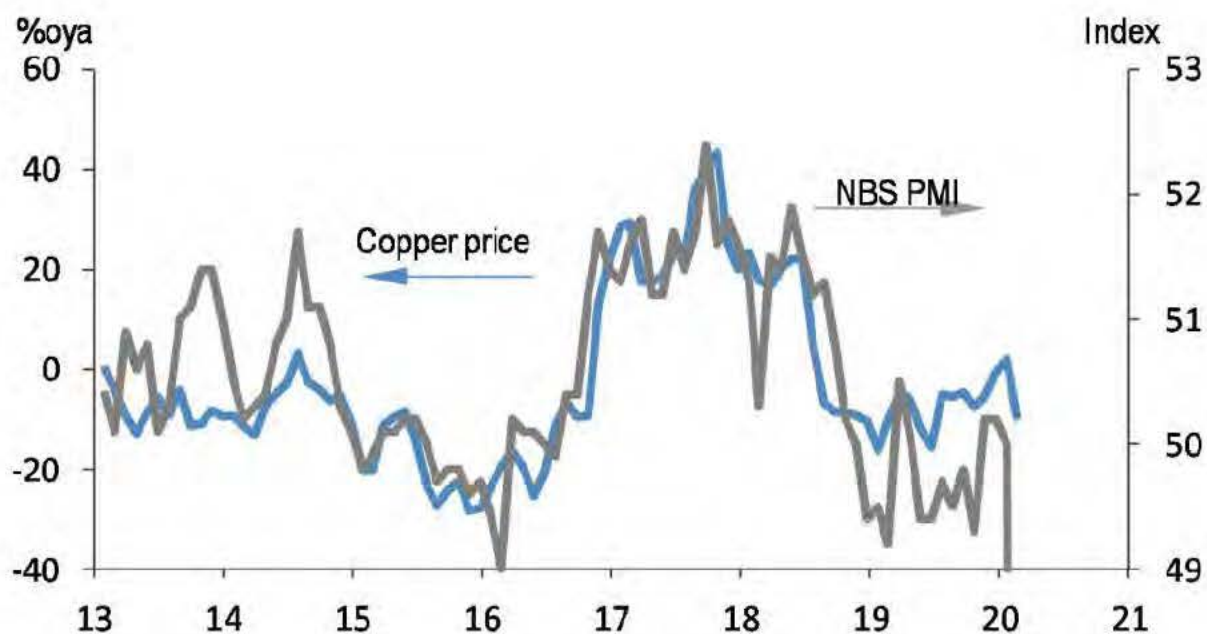
Outbound - million metric tons per day, centered on Lunar New Year



Source: J.P. Morgan, MariTrace.

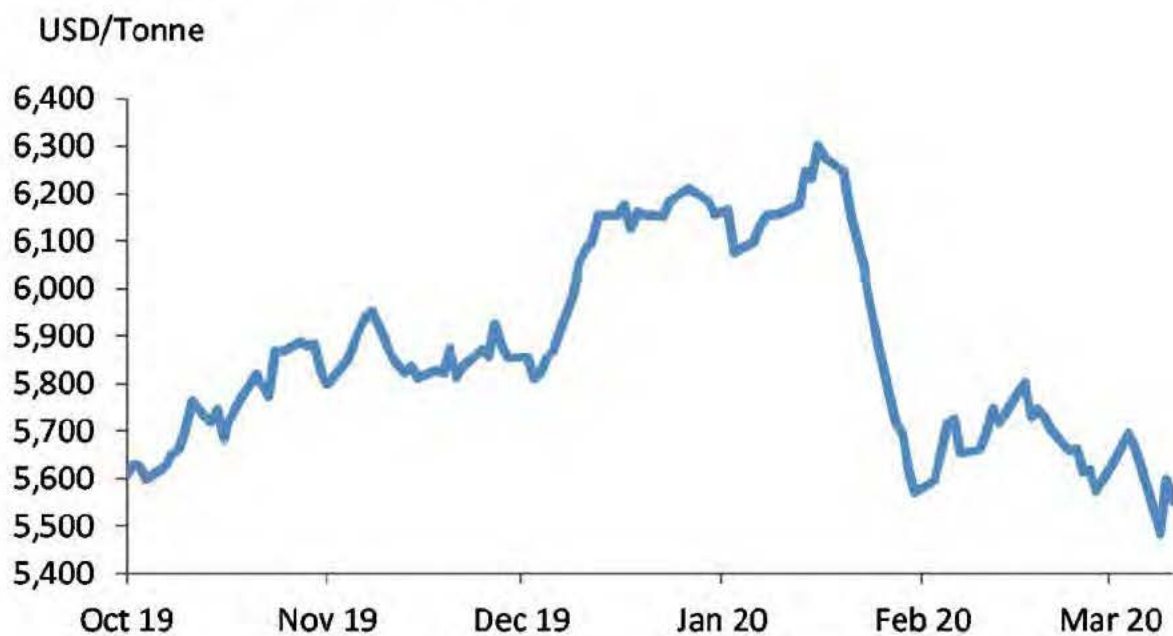
## Base metal prices

**Figure 13: Copper prices and NBS PMI**



Source: CEIC, J.P. Morgan. NBS PMI at 35.7 for February 2020.

**Figure 14: Copper daily prices**



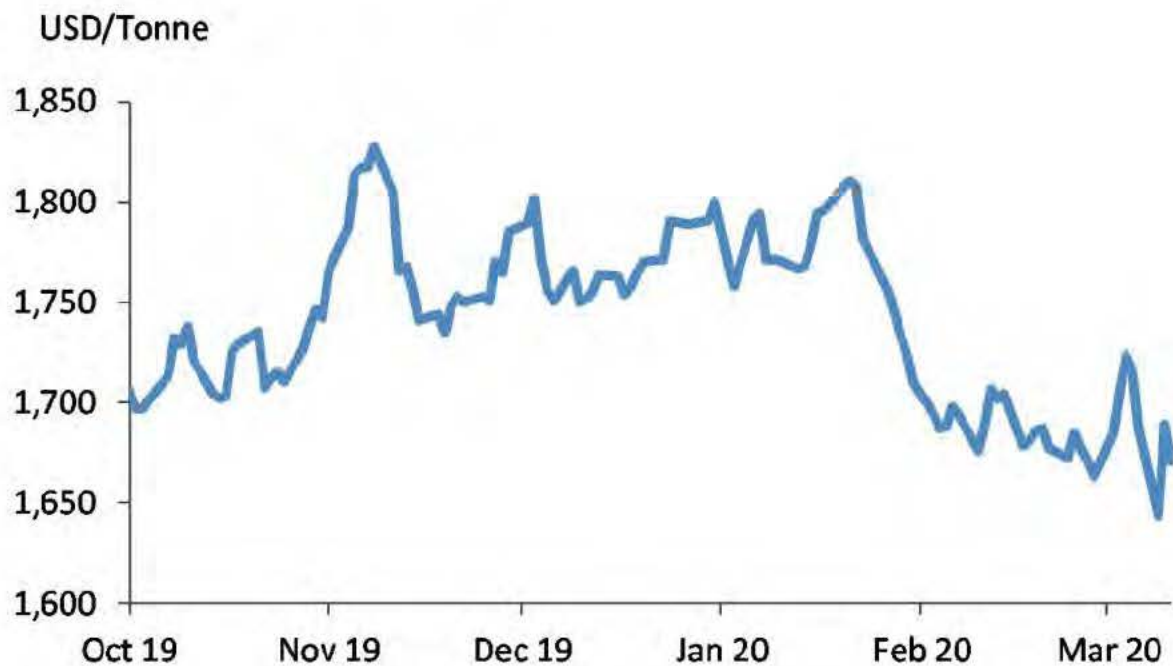
Source: CEIC, J.P. Morgan.

**Figure 15: Aluminum prices and NBS PMI**



Source: CEIC, J.P. Morgan. NBS PMI at 35.7 for February 2020.

**Figure 16: Aluminum daily prices**





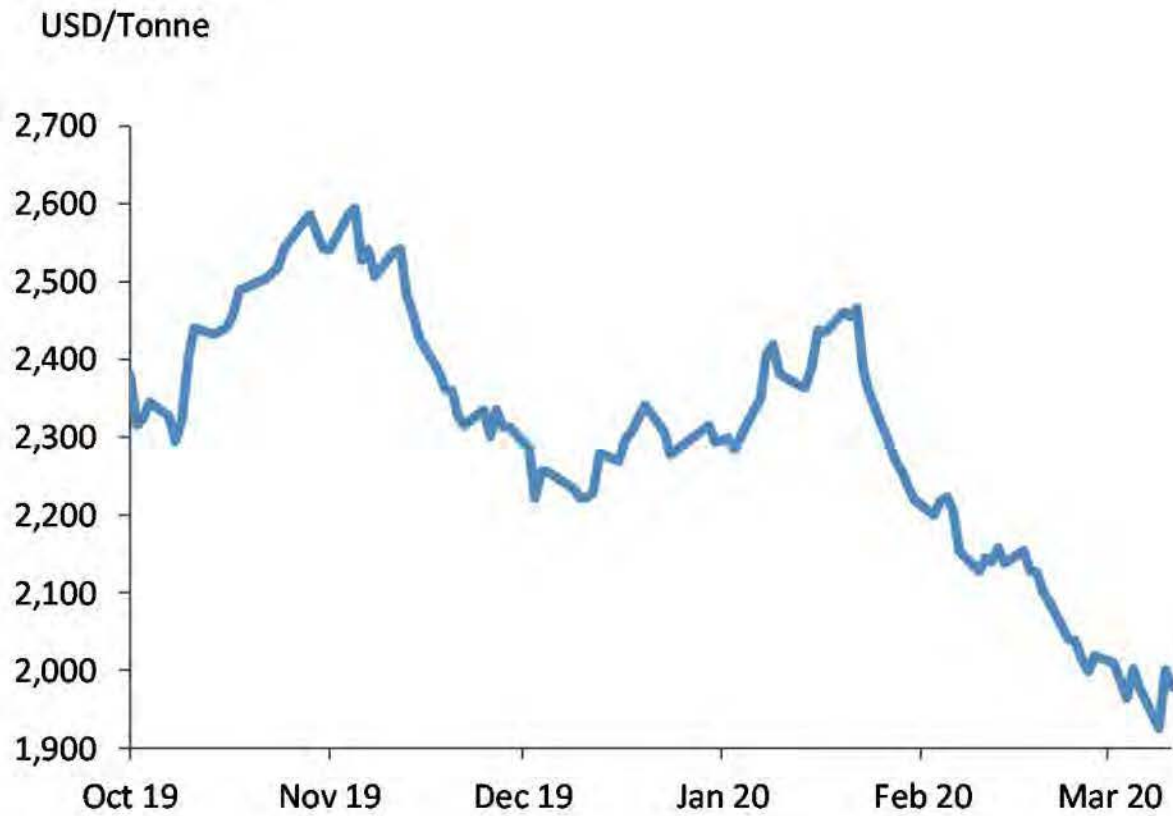
Source: CEIC, J.P. Morgan.

**Figure 17: Zinc prices and NBS PMI**



Source: CEIC, J.P. Morgan. NBS PMI at 35.7 for February 2020.

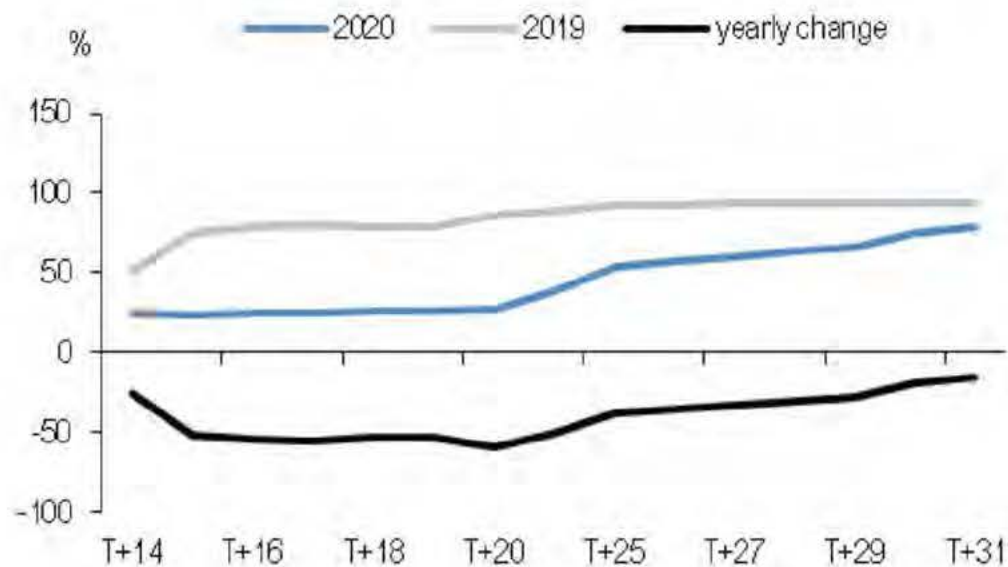
**Figure 18: Zinc daily prices**



Source: CEIC, J.P. Morgan.

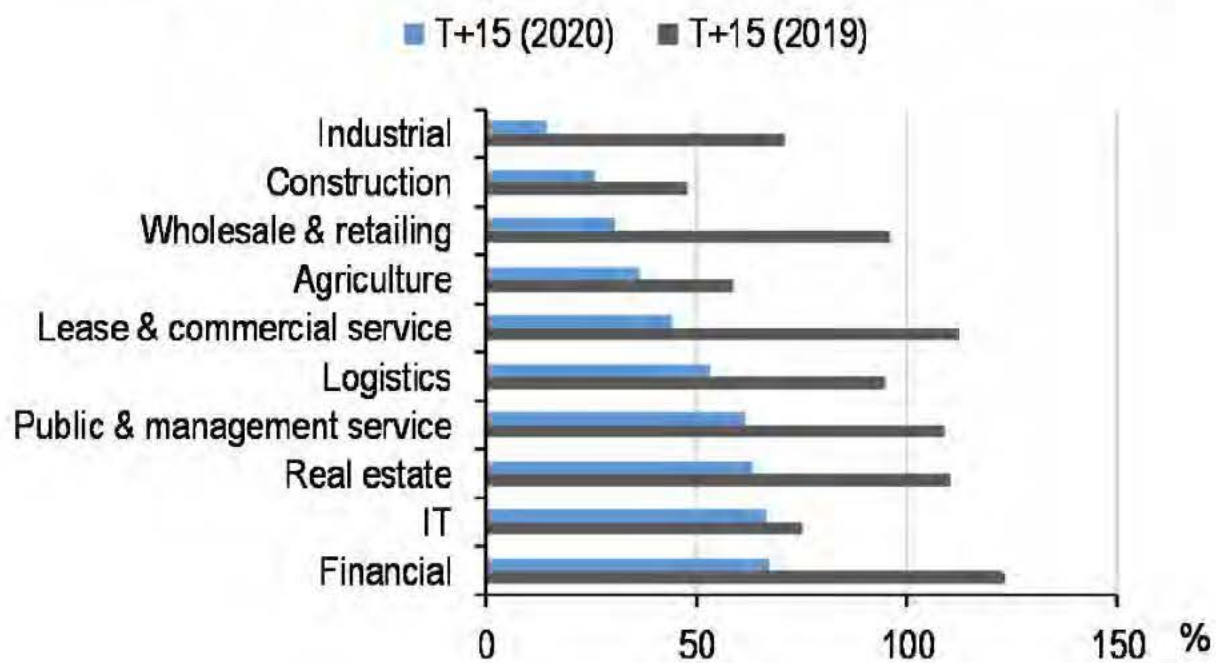
**Zhejiang work resumption electricity index** (last observation on Feb 25)

**Figure 19: Work resumption electricity index of Zhejiang province**



Source: Zhejiang Electricity Ltd, J.P. Morgan. Note: Index = 0.5 x electricity consumption resumption ratio (by usage) + 0.5 x factory work resumption ratio (by number).

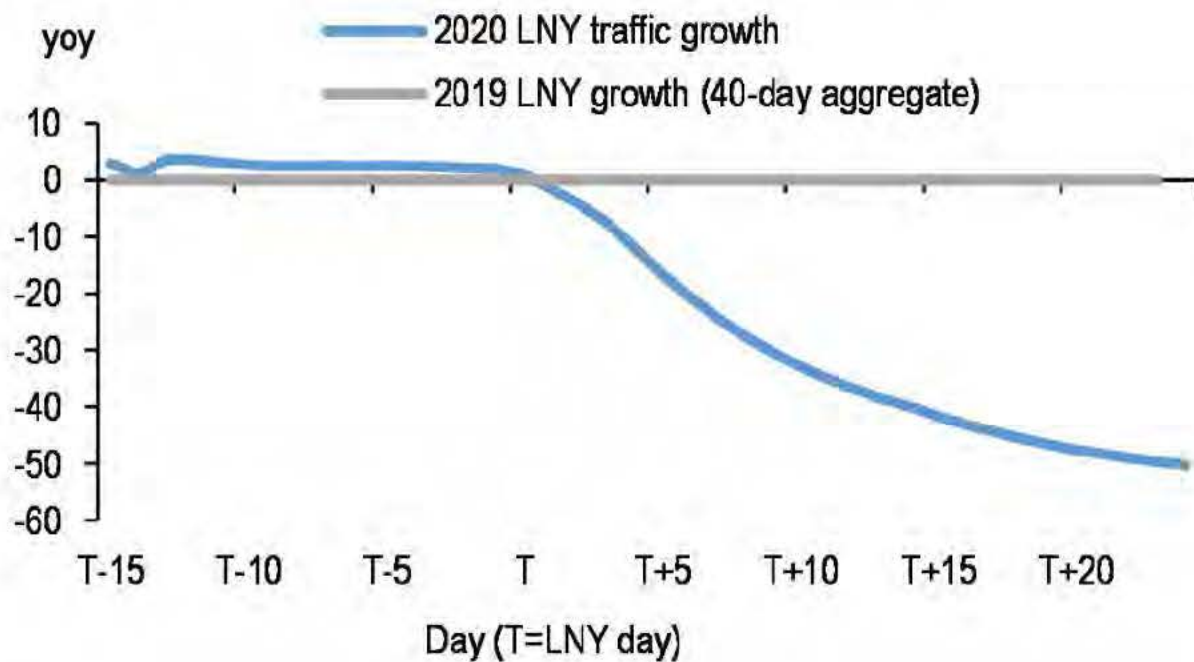
**Figure 20: Work resumption electricity index of Zhejiang's industries**



Source: Zhejiang electricity Ltd, J.P. Morgan. Note: Index = 0.5 x electricity consumption resumption ratio (by usage) + 0.5 x factory work resumption ratio (by number).

### Chinese New Year travel growth-LNY travel period

**Figure 21: LNY travel comparison (ended on Feb 18)**

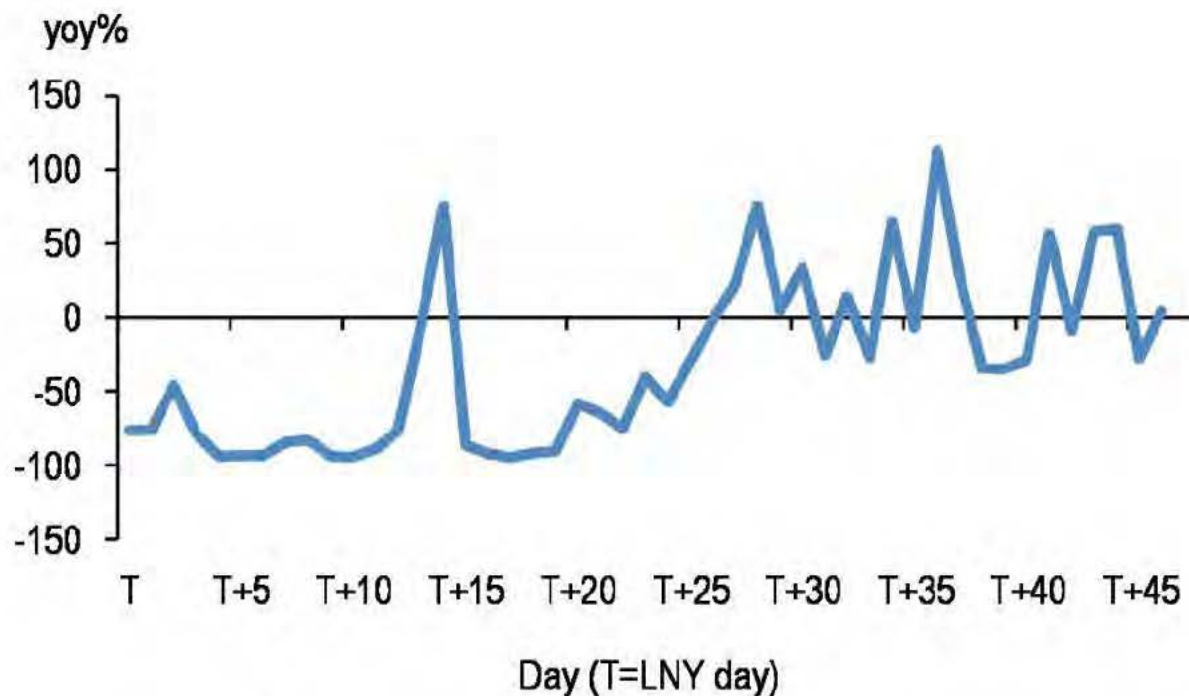


Source: MOT, J.P. Morgan. Note: LNY traffic starts from T-15 to T+25. T is LNY day.

**Figure 22: National daily tourism traffic by various transportation**

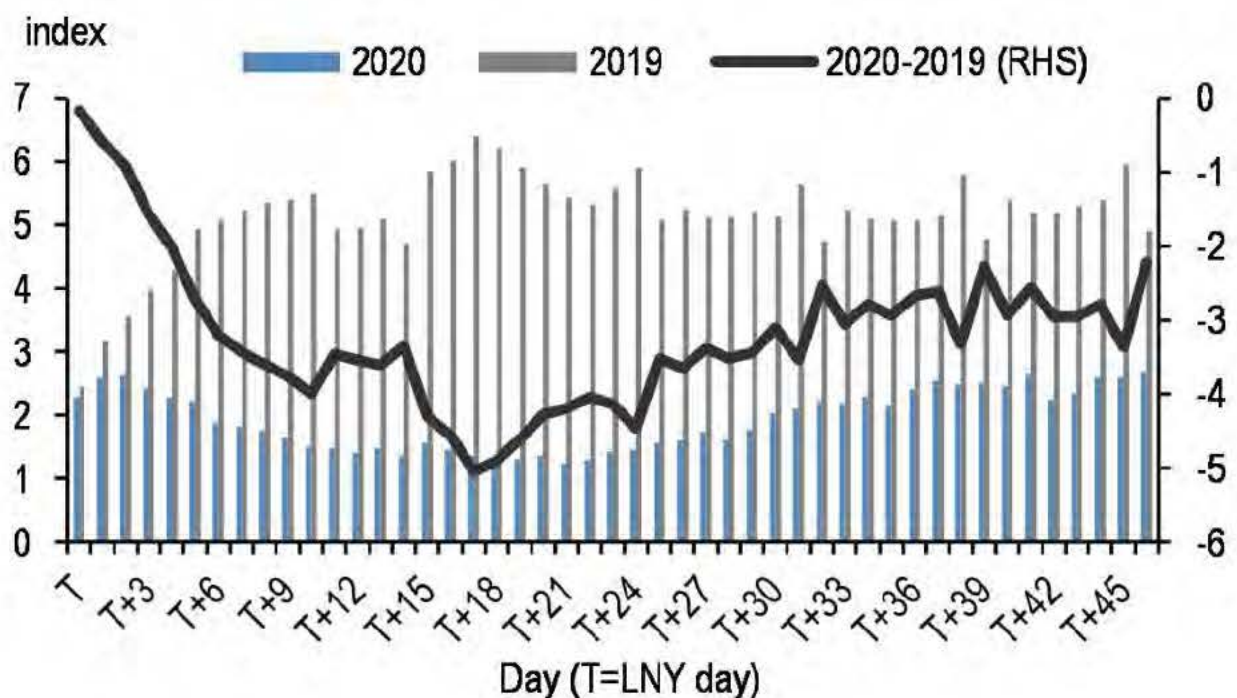






Source: Baidu, J.P. Morgan. Note: yoy comparison based on daily peak level of national highway traffic jam.

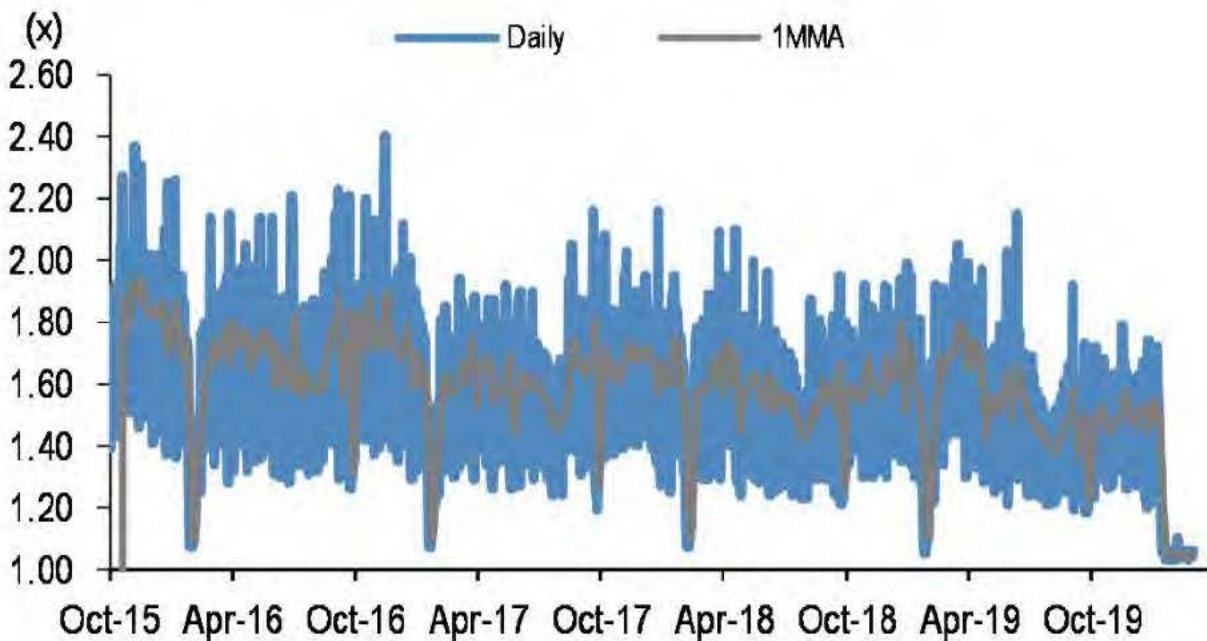
**Figure 24: Transportation hub passenger flow (index)**



Source: Baidu, J.P. Morgan. Transportation hub include airports and major train stations.

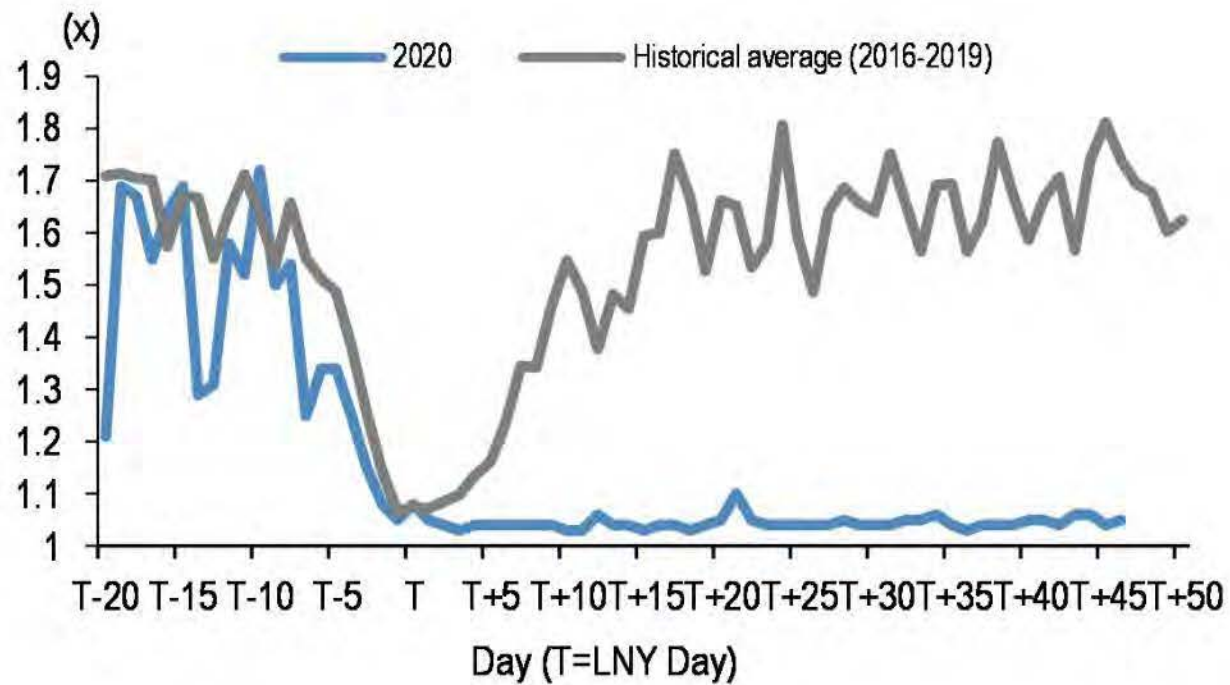
**Traffic delay index (Actual travel time divided by estimated travel time with no traffic)**

**Figure 25: Wuhan traffic delay index**



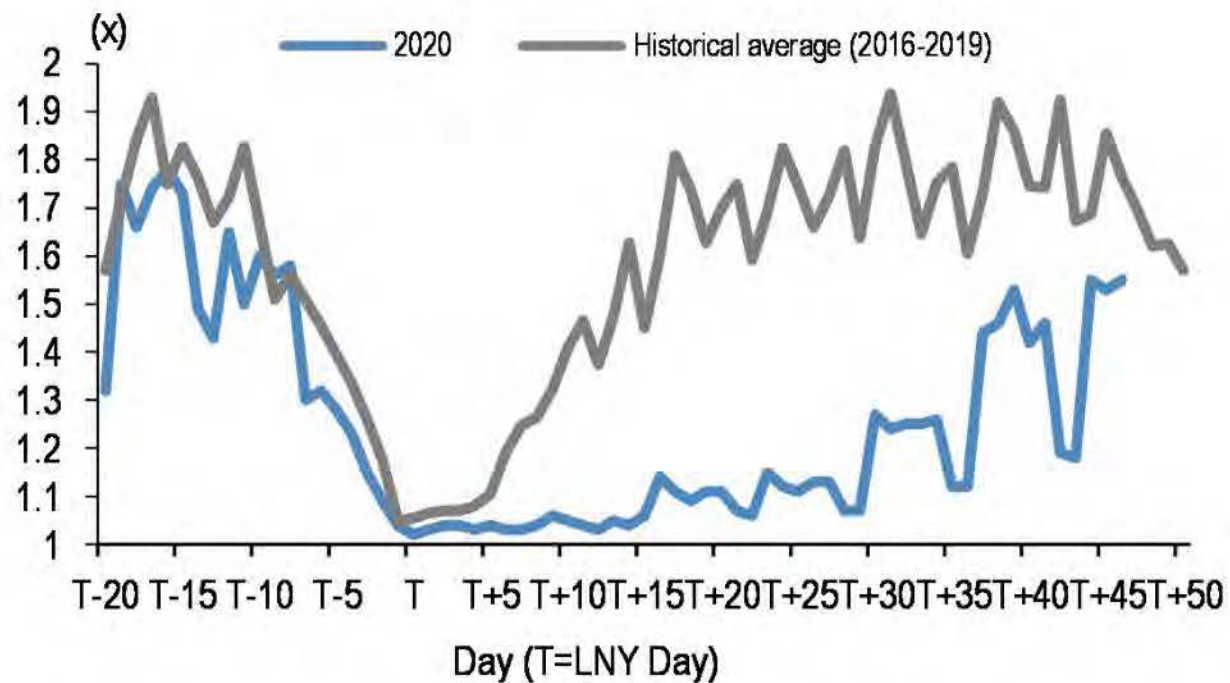
Source: Wind, J.P. Morgan.

**Figure 26: Wuhan traffic delay index during LNY**



Source: Wind, J.P. Morgan.

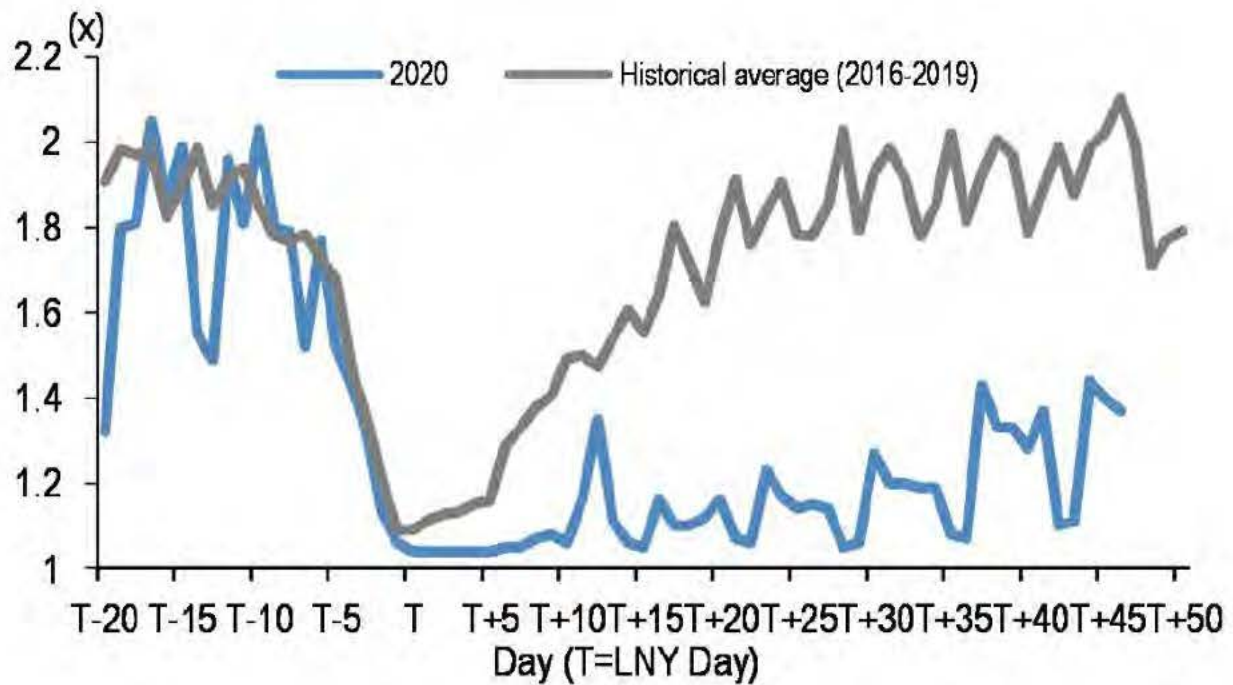
**Figure 27: Guangzhou traffic delay index during LNY**





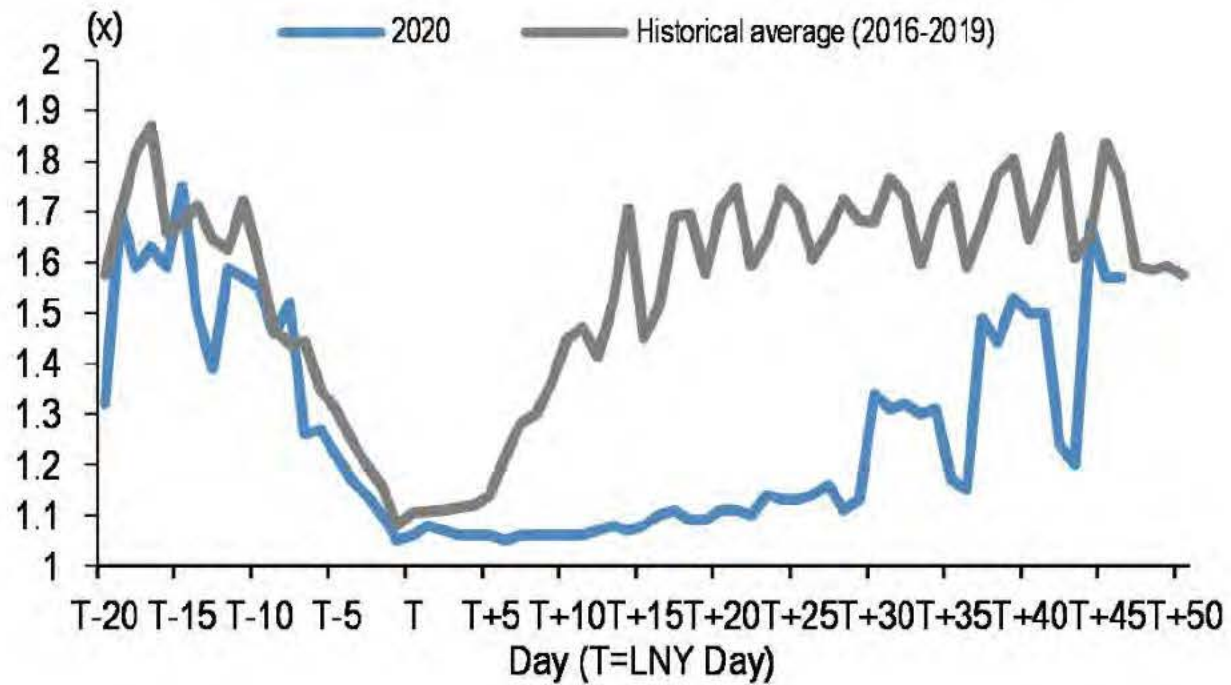
Source: Wind, J.P. Morgan.

**Figure 28: Beijing traffic delay index during LNY**



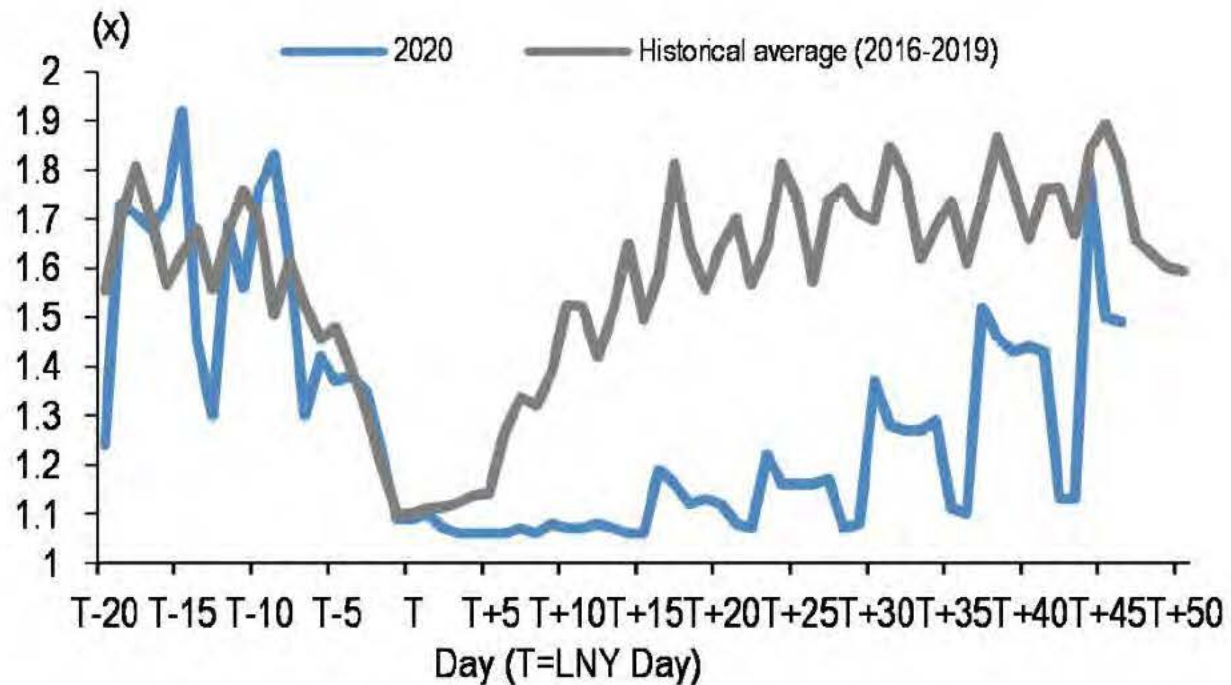
Source: Wind, J.P. Morgan.

**Figure 29: Shenzhen traffic delay index during LNY**



Source: Wind, J.P. Morgan.

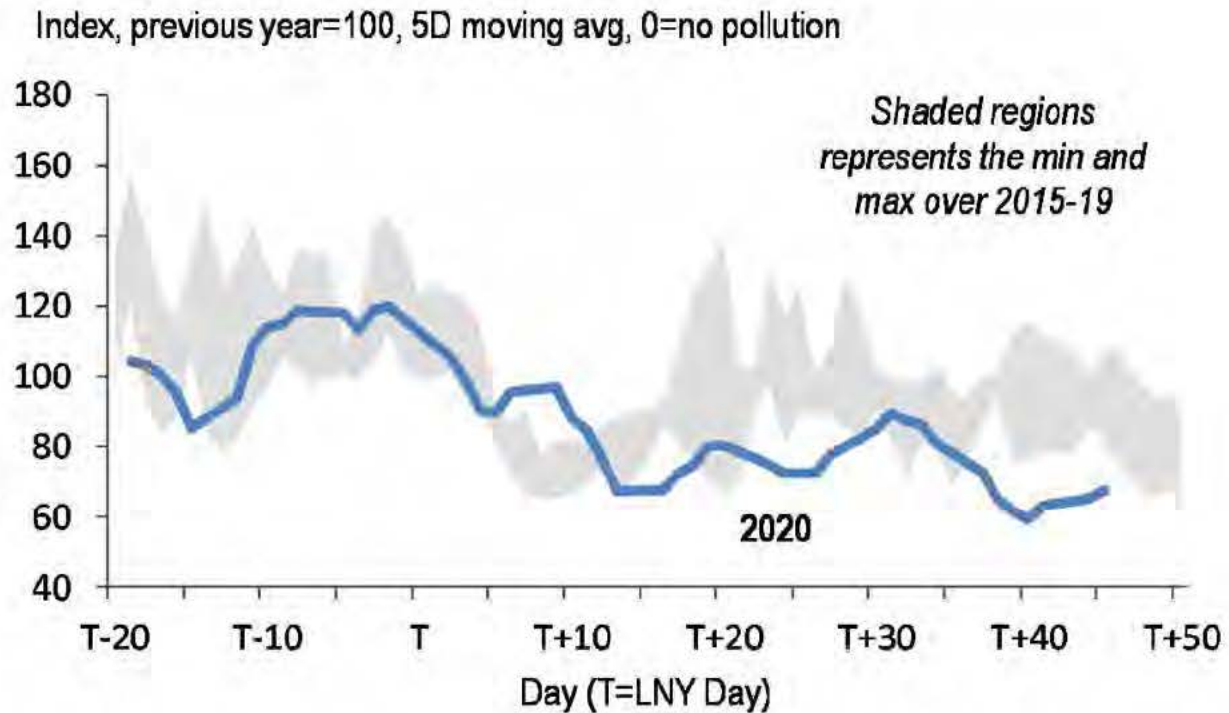
**Figure 30: Shanghai traffic delay index during LNY**



Source: Wind, J.P. Morgan.

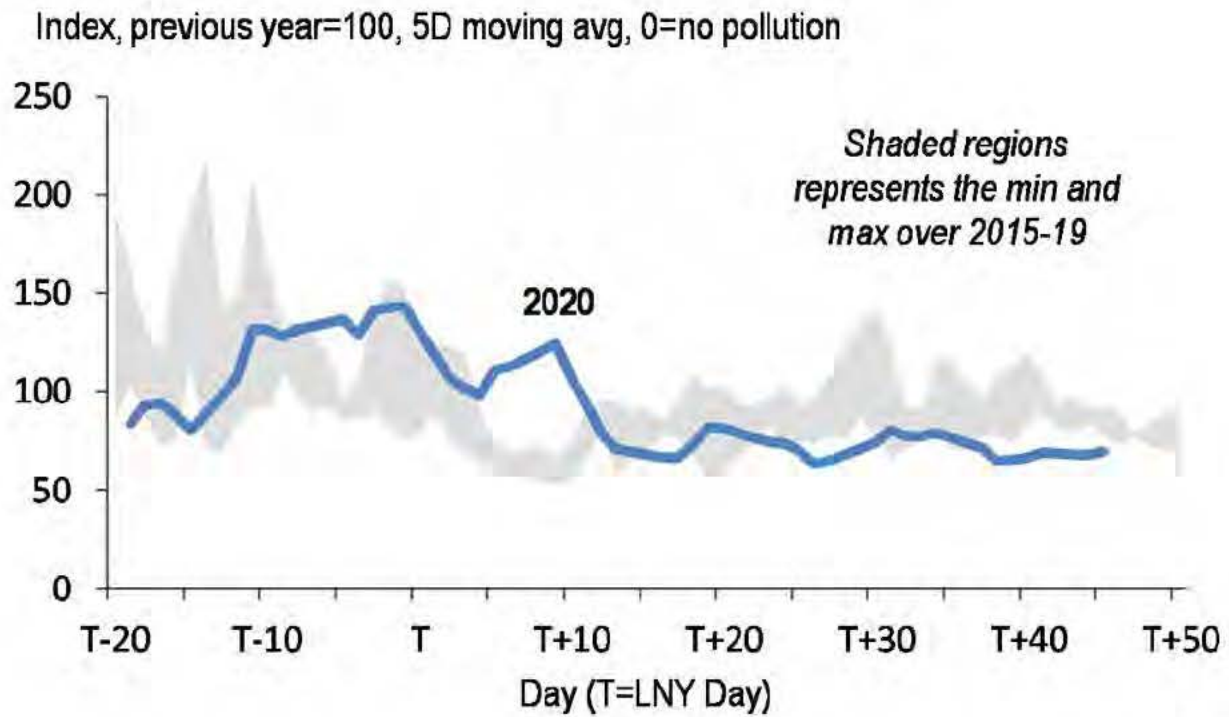
## Air Quality index: Top industrial cities

**Figure 31: China Air Quality Index: Top 10 industrial cities**



Source: Haver, J.P. Morgan. Simple average of top 10 cities include Shenzhen, Shanghai, Suzhou, Tianjin, Chongqing, Chengdu, Guangzhou, Wuhan, Wuxi and Ningbo.

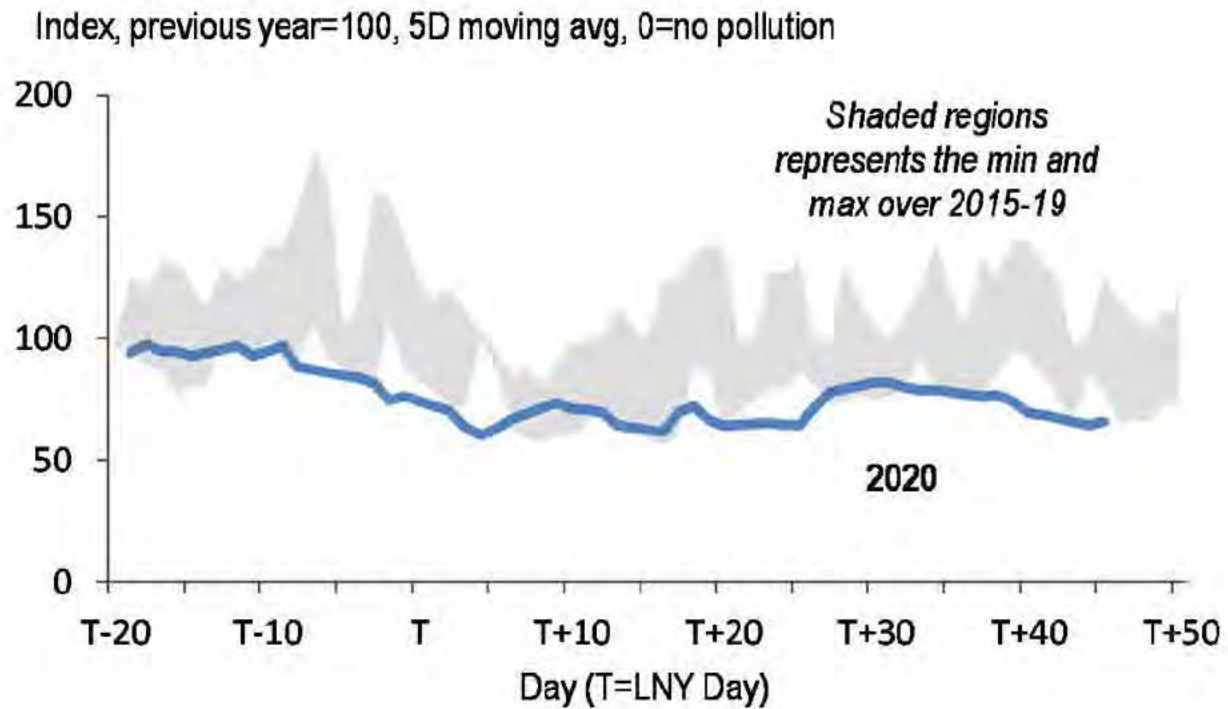
**Figure 32: China Air Quality Index: Shanghai**



Source: Haver, J.P. Morgan.

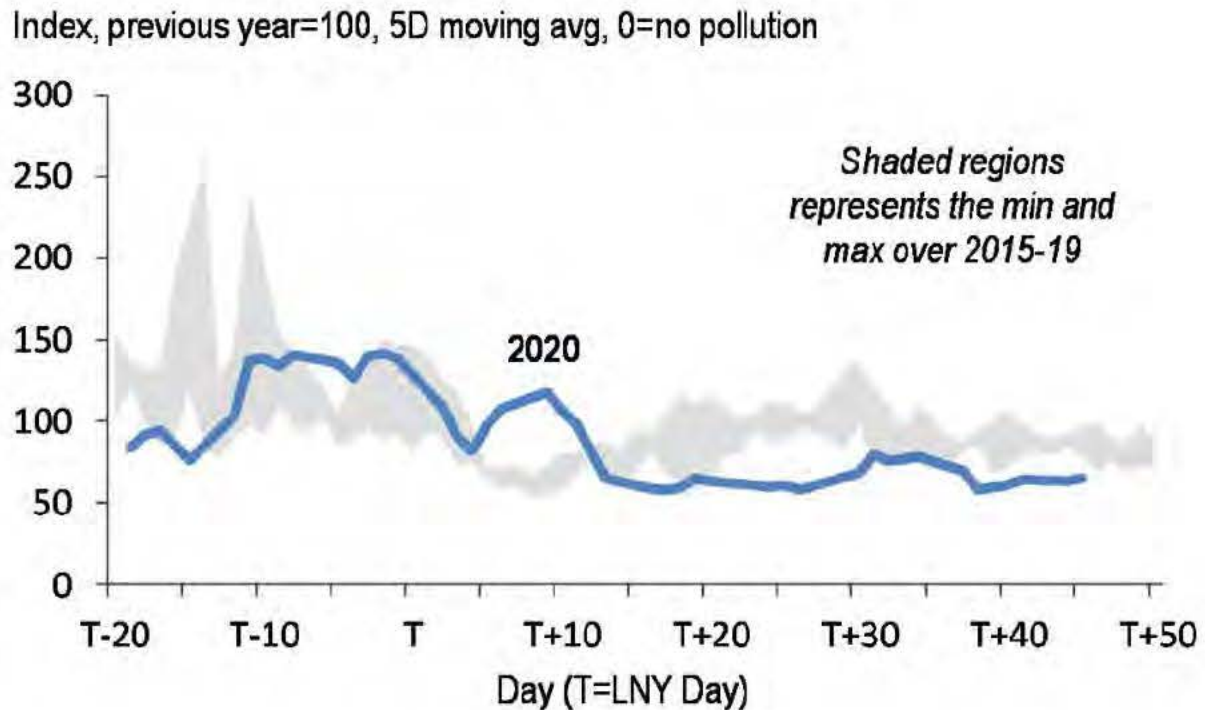
**Figure 33: China Air Quality Index: Shenzhen**





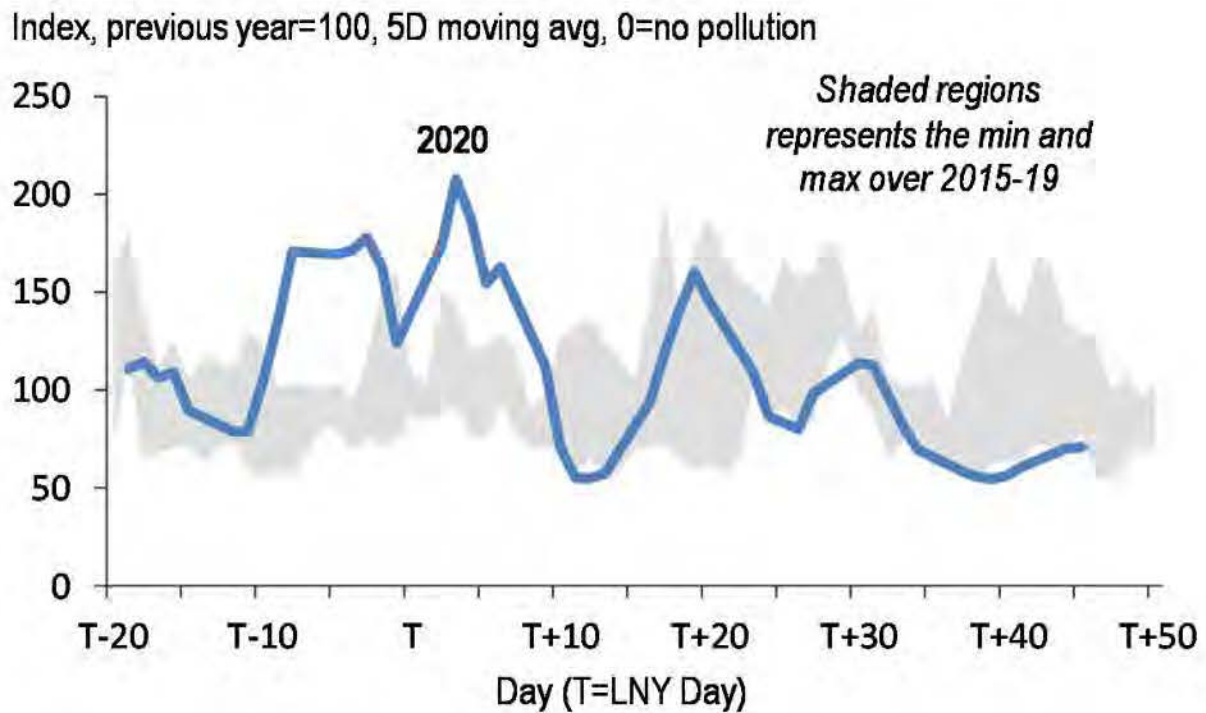
Source: Haver, J.P. Morgan.

**Figure 34: China Air Quality Index: Suzhou**



Source: Haver, J.P. Morgan.

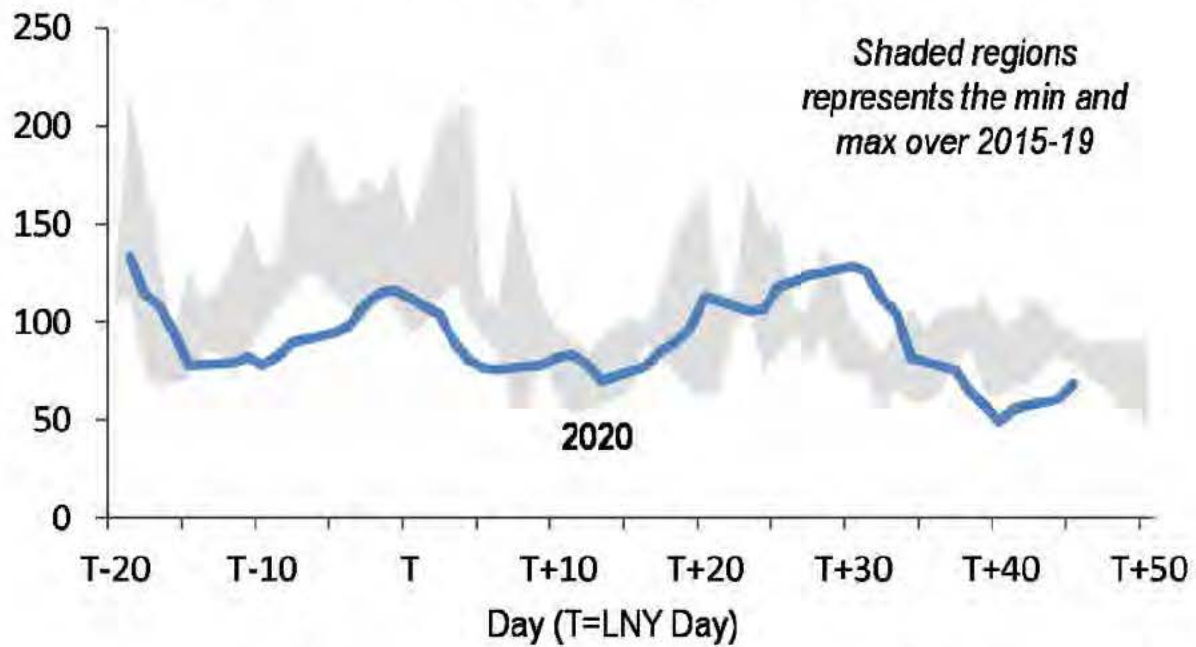
**Figure 35: China Air Quality Index: Tianjin**



Source: Haver, J.P. Morgan.

**Figure 36: China Air Quality Index: Chongqing**

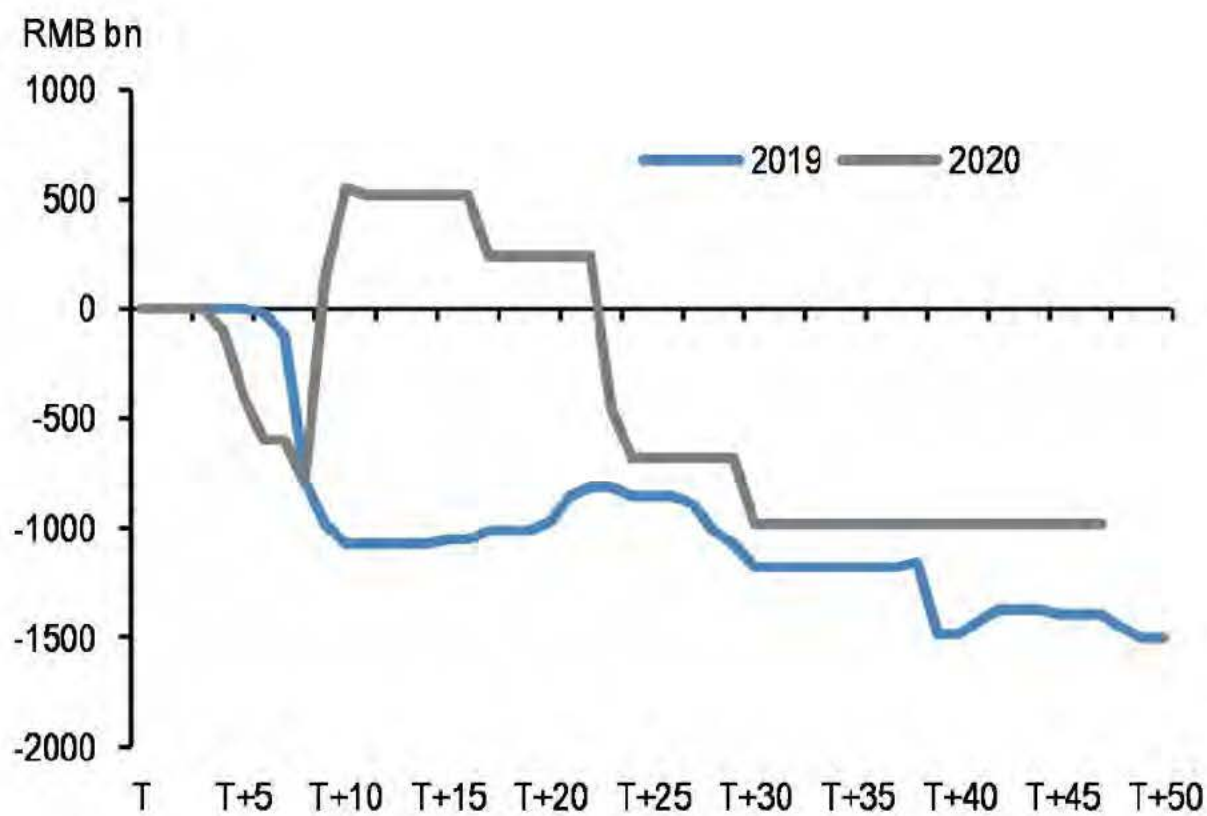
Index, previous year=100, 5D moving avg, 0=no pollution



Source: Haver, J.P. Morgan.

## Market indicators

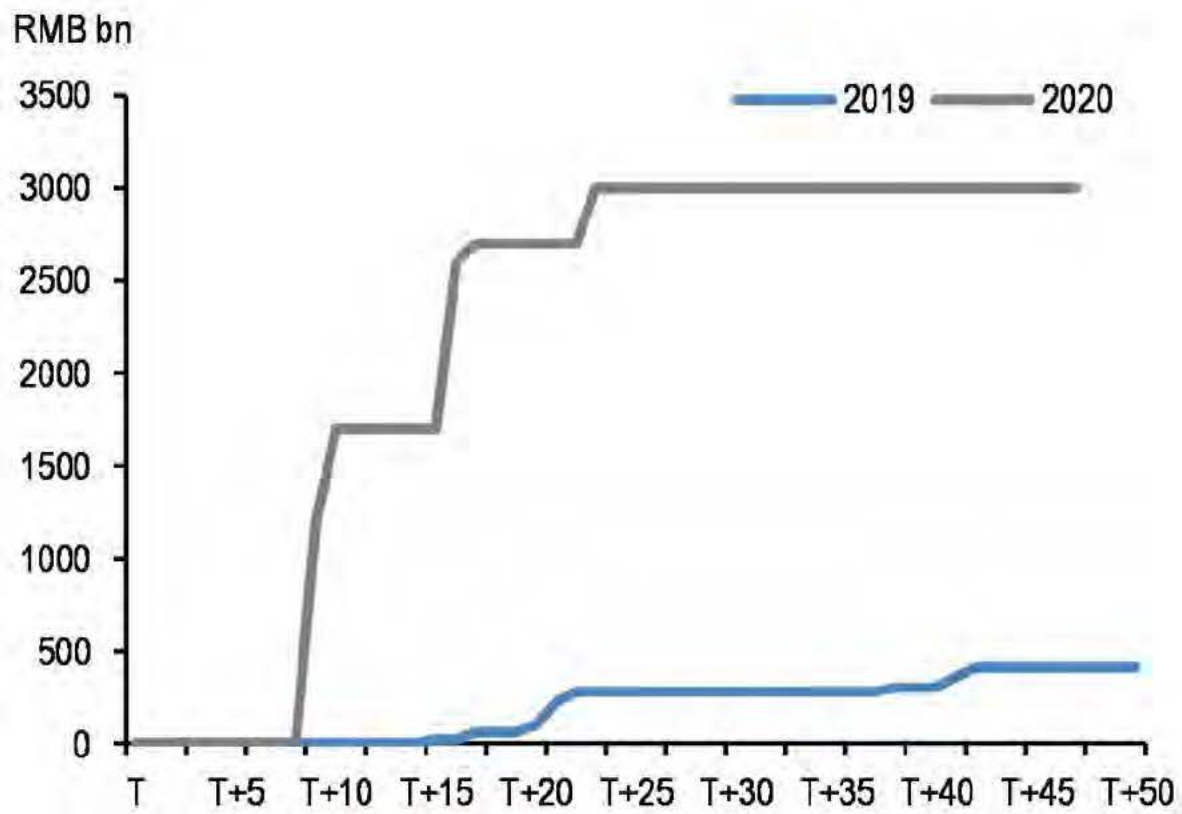
**Figure 37: Cumulative net liquidity injection/withdrawal since LNY**



Source: PBOC, Bloomberg, J.P. Morgan

**Figure 38: Cumulative gross liquidity injection since LNY**





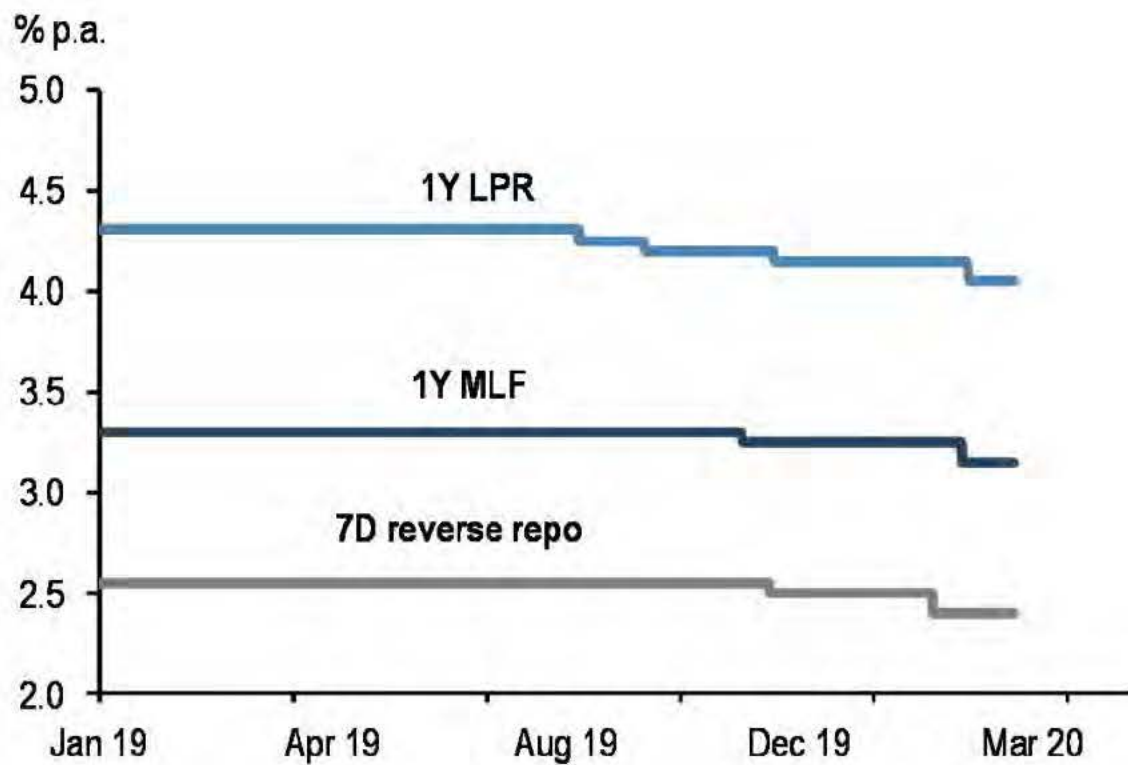
Source: PBOC, Bloomberg, J.P. Morgan

**Figure 39: Key market interest rates**



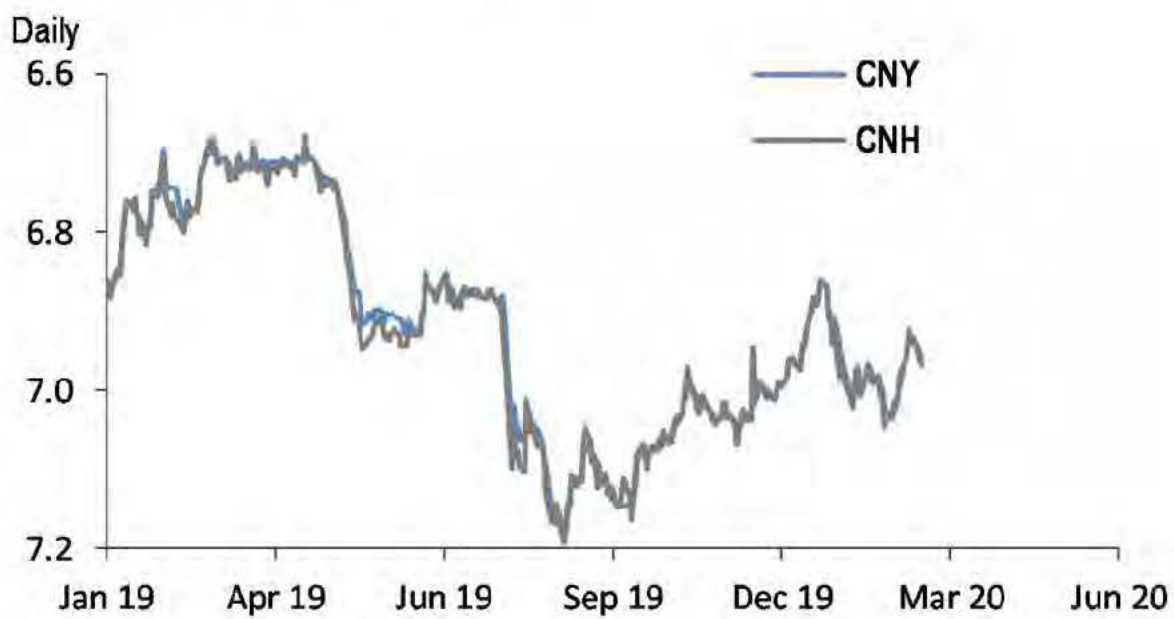
Source: CEIC, J.P. Morgan

**Figure 40: Key policy rates in China**



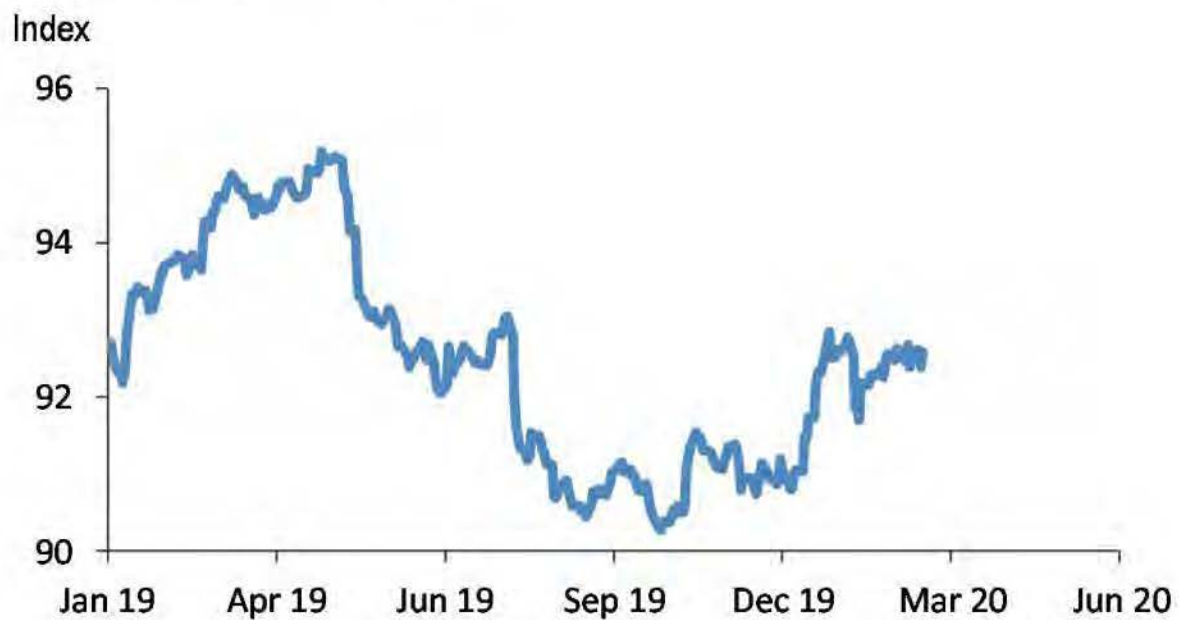
Source: CEIC

**Figure 41: USD/CNY exchange rate**



Source: Bloomberg, J.P. Morgan

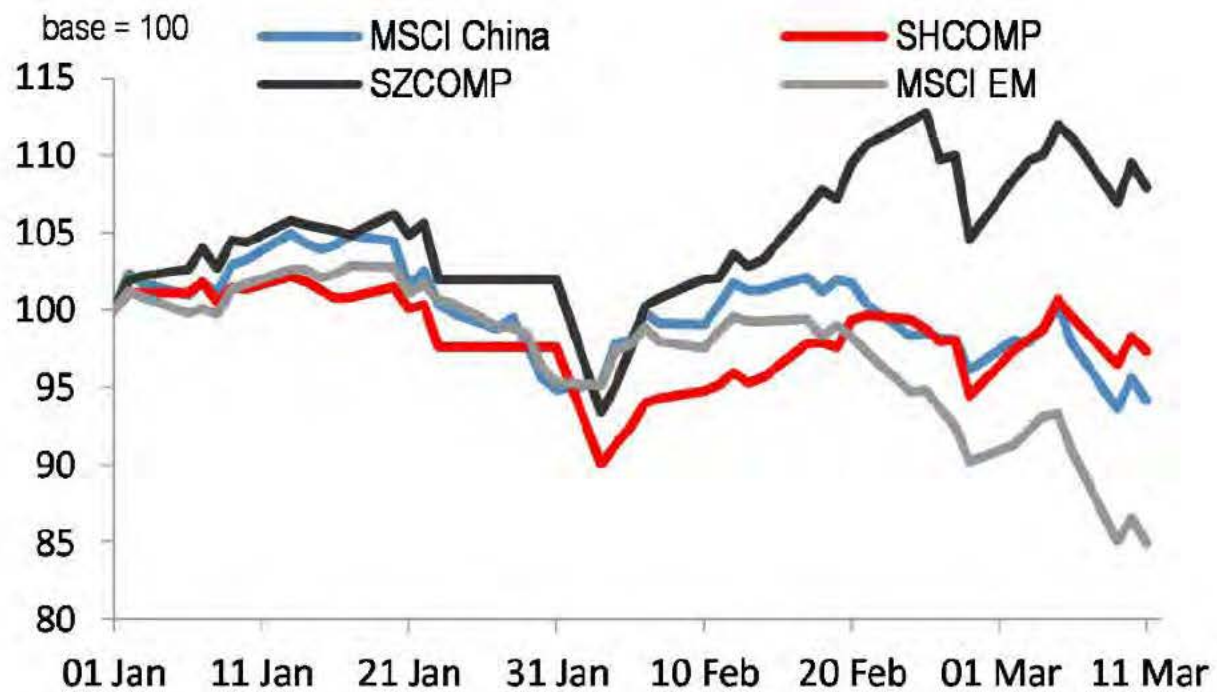
**Figure 42: CNY CFETS index**



Source: Bloomberg, J.P. Morgan

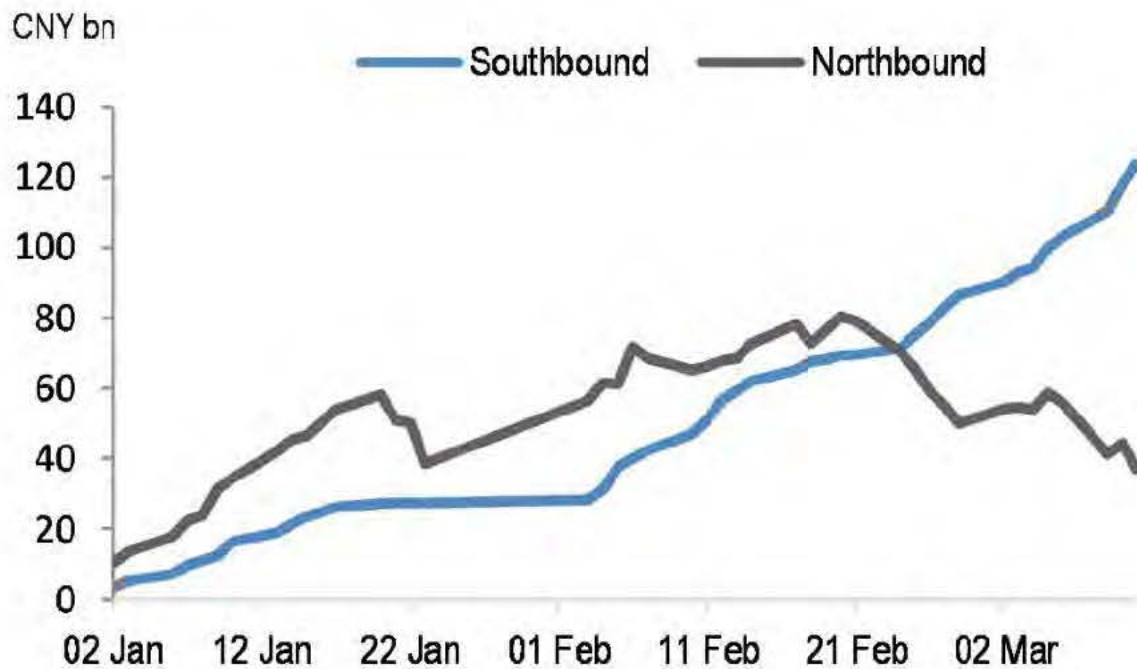
**Figure 43: Equity market performance - YTD**





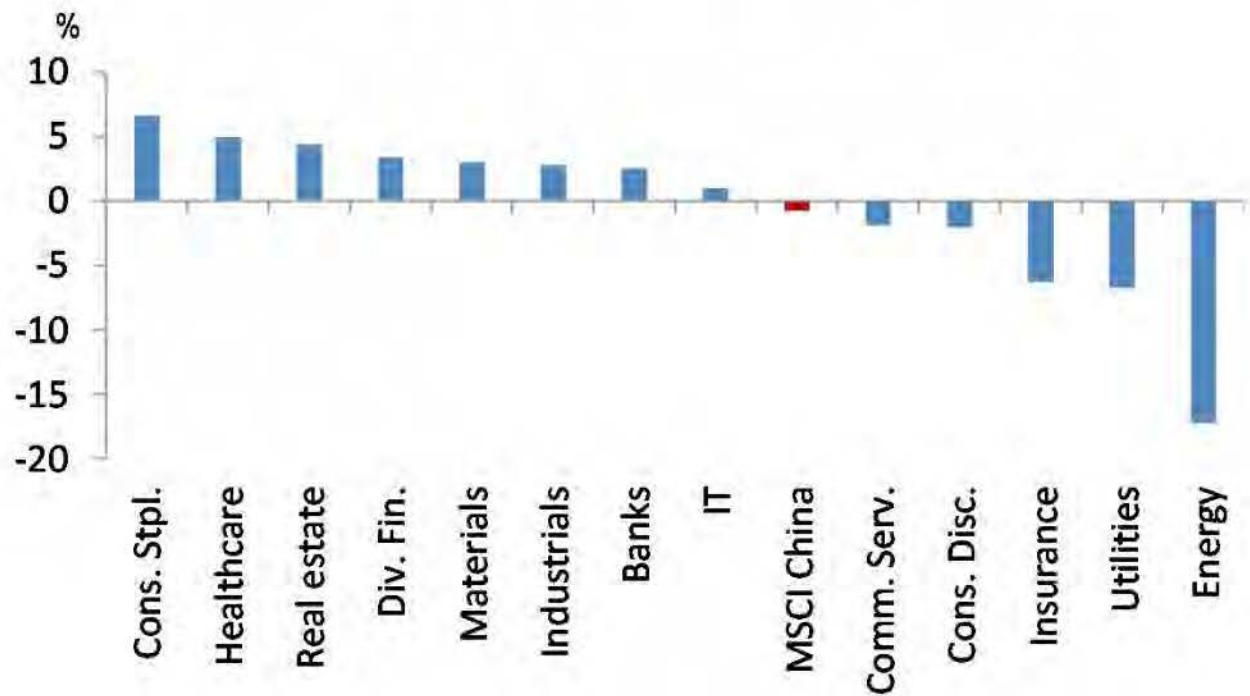
Source: MSCI, Bloomberg, J.P. Morgan.

**Figure 44: Stock connect cumulative net flows - YTD**



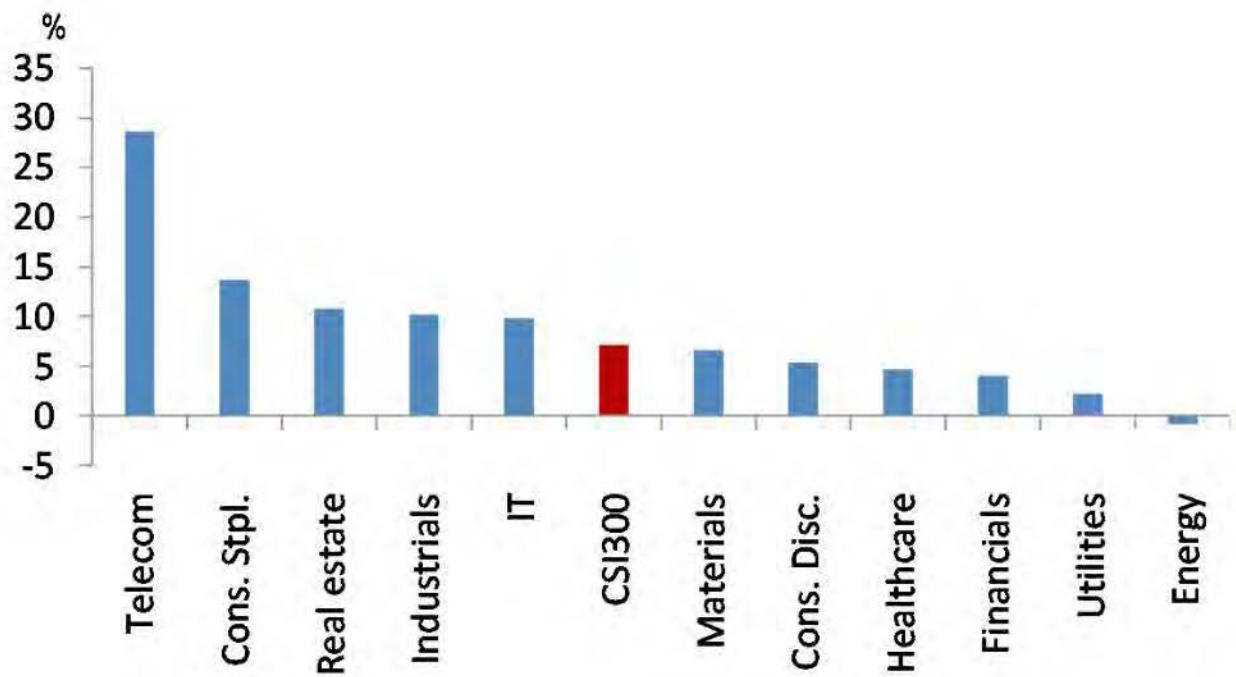
Source: Wind, J.P. Morgan

**Figure 45: MSCI China sector performance since February 2020**



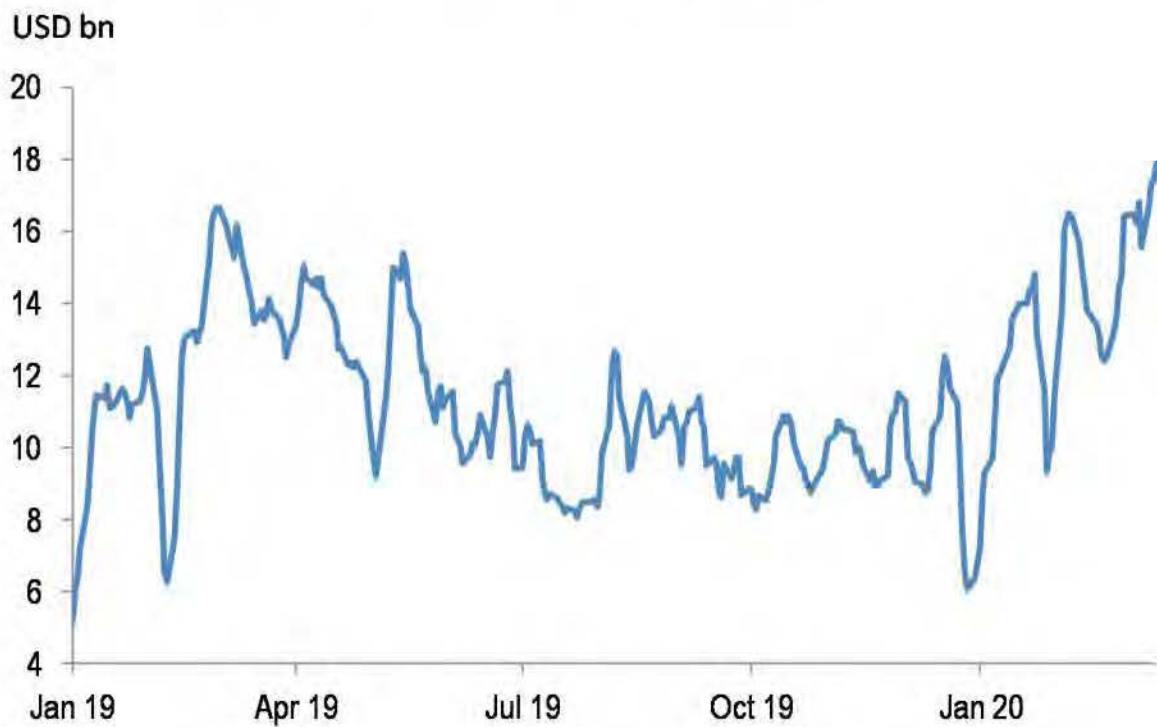
Source: MSCI, Bloomberg, J.P. Morgan

**Figure 46: CSI300 sector performance since February 2020**



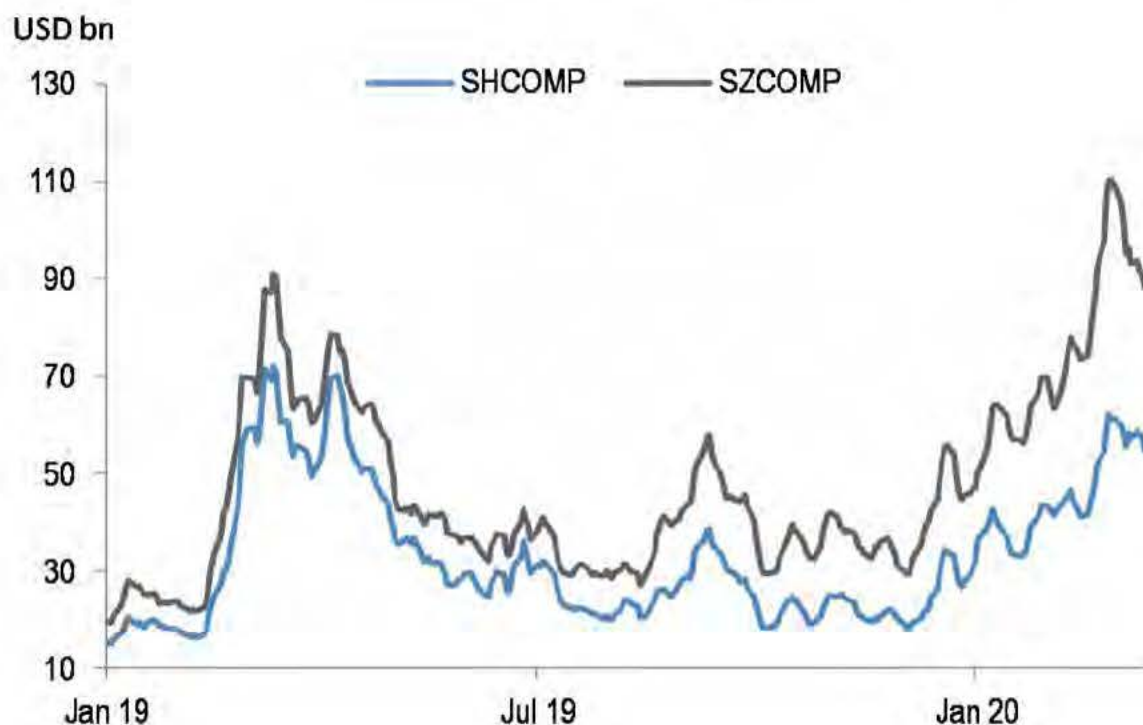
Source: Bloomberg, J.P. Morgan. Since February 3, 2020.

**Figure 47: Hong Kong turnover (5d moving average)**



Source: Bloomberg, J.P. Morgan

**Figure 48: SHCOMP and SZCOMP turnover (5d moving average)**



Source: Bloomberg, J.P. Morgan

## Government measures

**Table 1: Epidemic prevention and control measures**

Epidemic prevention and control measures		Govt level	Source
10-Mar	Hunan and Chongqing lowered the emergency level from Level 1 to Level 2	Local	<a href="#">link</a>
09-Mar	Shanxi lowered the emergency level from Level 2 to Level 3	Local	<a href="#">link</a>
09-Mar	Guangdong government introduced new rule to ban the consumption of wild animal. The eaters could be fined by 10k yuan.	Local	<a href="#">link</a>



08-Mar	Shandong lowered the emergency level, bringing the total provinces with emergency levels below 1 (the most severe) to twenty-three.	Local	<a href="#">link</a>
06-Mar	Tibet lowered the emergency level, bringing the total provinces with emergency levels below 1 (the most severe) to twenty-two.	Local	<a href="#">link</a>
04-Mar	Heilongjiang lowered the emergency level, bringing the total provinces with emergency levels below 1 (the most severe) to twenty-one.	Local	<a href="#">link</a>
01-Mar	Ningxia and Zhejiang provinces lowered the emergency level, bringing the total provinces with emergency levels below 1 (the most severe) to twenty.	Local	<a href="#">link</a>
01-Mar	Ministry of Transportation announced cease the online ride-hailing vehicles to leave Wuhan or Hubei.	Local	<a href="#">link</a>
28-Feb	Shaanxi has lowered the emergency level, bringing the total provinces with emergency levels below 1 (the most sever) to eighteen.	Local	<a href="#">link</a>
27-Feb	Jilin, Hainan and Fujian have lowered their emergency levels, bringing the total provinces with emergency levels below 1 (the most sever) to seventeen	Local	<a href="#">link</a>
26-Feb	Sichuan, Inner Mongolia, Xinjiang and Qinghai have lowered their emergency levels	Local	<a href="#">link</a>
25-Feb	Jiangxi has lowered its emergency level to level 2 for 24 regions and to level 3 for 16 regions	Local	<a href="#">link</a>
25-Feb	For regions outside Hubei and Beijing, NDRC guided to assign risk level (high/mid/low) to each country. Low risk regions are permitted to fully resume production and remove traffic restriction.	Central	<a href="#">link</a>
25-Feb	NHC said to maintain the most stringent COVID-19 prevention measures for Hubei.	Local	<a href="#">link</a>
24-Feb	NHC said provincial governments could lower the emergency level based on respective condition. Six provinces lowered the emergency level:	Central	<a href="#">link</a>

	Gansu/Liaoning/Guizhou/Yunan from Level 1 to 3 and Guangdong/Shanxi from Level 1 to 2.		
24-Feb	Wuhan loosened the city-wide lockdown. For those who are stranded or seeking treatment elsewhere, Wuhan now is allowing qualified personnel to leave the city.	Local	<a href="#">link</a>
22-Feb	Wuhan government announced that cured patients should take another 14-day quarantine before full release.	Local	<a href="#">link</a>
19-Feb	Shenzhen's Nanshan district said qualified companies (except cinema, KTV, bars, etc.) can resume work without government approvals	Local	<a href="#">link</a>
19-Feb	Wuhan tightened the supermarket control and only allowed the purchase conducted by institutions (community, company).	Local	<a href="#">link</a>
18-Feb	Ministry of Civil Affairs and National Health Commission said to provide subsidy for volunteers who are working in COVID-19 prevention regions.	Central	<a href="#">link</a>
17-Feb	The Standing Committee of National People's Congress will meet on Feb24 to discuss the delay of annual NPC meeting, which previously scheduled to commence on Mar 5.	Central	<a href="#">link</a>
16-Feb	Beijing's Dongcheng district announced to implement the lockdown management for residential community areas.	Local	<a href="#">link</a>
14-Feb	Tianjin city issued new laws on forbidding the wild animal consumption.	Local	<a href="#">link</a>
13-Feb	Hubei's Huanggang city will put all residential communities and areas on lockdown as the city upgraded COVID-19 prevention and control measures.	Local	<a href="#">link</a>
12-Feb	Hubei will extend shutdowns in the region and not resume work before Feb. 21. School re-openings have also been postponed, but did not specify a date	Local	<a href="#">link</a>
11-Feb	Guangzhou and Shenzhen announced that local government could temporarily expropriate private	Local	<a href="#">link</a>



	facilities (houses, venues, vehicles, etc.) for COVID-19 prevention, if necessarily.		
11-Feb	National Health Commission stated that companies who encounter infected employees may not need to shut down operation, as long as the infected cases are discovered at early stage, investigation is well conducted and no other infected cases occurred.	Central	<a href="#">link</a>
11-Feb	Shenzhen, now considered a potential new infection hot spot, banned home sales in every possible form for as long as city authorities have the alert level set at the highest response. Zhengzhou, a metropolis on the Yellow River in central Henan province, has restricted all property construction until mid-March.	Local	<a href="#">link</a>
9-Feb	State Council sent a central government team to Huanggang, Hubei, to ensure hospital admission for all confirmed cases and isolation of suspected cases	Central	<a href="#">link</a>
6-Feb	Several cities (Shenzhen, Shanghai, Hangzhou, etc.) tightened the entry/exit permits for residence community. In particular, residents need valid pass certificate for enter/exit, along with temperature measuring.	local	<a href="#">link</a>
6-Feb	The State Council meeting stressed further measures in epidemic prevention and control and production resumption. Multipronged measures will be taken to increase berths, medical staff members and other healthcare forces in Wuhan specifically. Enterprises are encouraged to innovate the way they operate and reduce staff flows. In addition, schools of all kinds are allowed to postpone the spring semester or stagger dates to start school.	Central	<a href="#">link</a>
5-Feb	State Council Standing Committee meeting focused on epidemic control and supportive macro policies. Priority support to Hubei; local government should ensure essential necessities for consumption; Smooth transportation management.	Central	-
2-Feb	22 provinces (jointly accounting for 77% of GDP) announced delay of factory reopen no earlier than February 9.	Local	<a href="#">link</a>

30-Jan	World Health Organization (WHO) declared the COVID-19 as a Public Health Emergency of International Concern.	International	<a href="#">link</a>
27-Jan	(i) State Council announced extension of Lunar New Year holiday by two days to February 2nd; (ii) Cities in Guangdong, Zhejiang, Jiangsu and Shanghai announced that schools and factories will reopen no earlier than February 9	Central, Local	
26-Jan	Wuhan city ban non-essential vehicles in the center; (ii) Beijing stops all inter-provincial shuttle buses	Local	
25-Jan	(i) CPC Politburo held a meeting on containing the risk of COVID-19 outbreak, a leading team was established. Premier Li was appointed as the head of the leading team. (ii) Hubei province changed Level-2 to Level-1 Responsive Mechanism; (iii) China suspended all overseas and domestic group tours	Central, Local	
24-Jan	Lockdown was expanded to other 12 cities in Hubei province.		
23-Jan	(i) Wuhan announced lockdown of the city: (i) restricted travel and suspend public transportation services; (ii) Ban large gatherings and limit public activities, (iii) require people in public places to wear medical masks. (ii) Zhejiang and Fujian provinces first initiated Level-1 Responsive Mechanism (highest level).	Local	
20-Jan	Human-to-human spread officially publicly confirmed. President Xi called for all-out prevention and control measures in response to COVID-19 outbreak. State Council Standing Committee meeting laid out key prevention and control measures.	Central	<a href="#">link</a>
8-Dec	First case of COVID-19 identified.	Local	

Source: Various newswire, J.P. Morgan.



**Table 2: Economic supportive measures**

<b>Economic supportive measures in response to COVID-19 outlook</b>		<b>Government level</b>	<b>Source</b>
<b>12-Mar</b>	<b>To boost auto sales, CAAM (China Association of Automobile Manufacturers) suggested to (i) sustain the NEV subsidy policy, (ii) enhance NEV infra construction, (iii) loosen the NEV purchase and car plate quota for restricted cities, and (iv) lower purchase tax for small emission vehicles (&lt;1.6L)</b>	<b>Central</b>	<a href="#">link</a>
<b>11-Mar</b>	<b>NDRC has provided guidance and streamlining processes on facilitating work resumption for foreign companies. In addition, the State Council is considering shortening the negative list for foreign investment to expand domestic access for foreign capital.</b>	<b>Central</b>	<a href="#">link</a>
<b>11-Mar</b>	<b>State Council emphasized targeted RRR cuts to support SME. In addition, it announced measures to support foreign companies/investments.</b>	<b>Central</b>	<a href="#">link</a>
<b>11-Mar</b>	Hubei government announced work resumption schedules. For Wuhan city, virus-prevention and important civil related industries (e.g. transportation, consumer staples, farming and corporates with significant supply chain impact, etc) are approved to resume work, while the rest can start from Mar 21.	Local	<a href="#">link</a>
<b>11-Mar</b>	Shenzhen government approved first-class quality developers to unfreeze capital from bank, with value no more than 20% of presale project revenue.	Local	<a href="#">link</a>
<b>10-Mar</b>	Henan province approved to raise the leverage for micro loan companies that are related to virus-prevention and work resumption. State-owned micro finance companies should lower annualized lending rate by 5-10%.	Local	<a href="#">link</a>
<b>10-</b>	China Custom said to further trim the fees, such as	Central	<a href="#">link</a>

Mar	delayed declaration fee and overdue fine.		
10-Mar	The Poverty Alleviation and Development Office said to (i) provide one-off subsidy and loan interest reduction for corporates that are supportive to regional poverty alleviation (e.g. job creation), and (ii) allow low income households to delay the interest payment by maximum 6 months.	Central	<a href="#">link</a> <a href="#">link</a>
09-Mar	Civil Aviation Administration of China introduced supportive measures, which highlighted to: (i) cut airport landing fee by 10%, etc; (ii) complete RMB 100bn fixed assets investment in 2020.	Central	<a href="#">link</a>
09-Mar	Shanghai Film Group rolled out RMB 1bn fund to help disrupted cinemas in Yangtze River Delta.	Local	<a href="#">link</a>
07-Mar	Two provinces released real estate policy adjustments: (i) Shandong government lowered the construction requirement for presales permit approvals. (ii) In contrast, Hainan province announced to limit local residents to 3 home purchases in Hainan. Also, the housing presales will be restricted in order to improve quality control. Lastly, the government also introduced piloting program for public housing.	Local	<a href="#">Link</a> <a href="#">link</a>
07-Mar	Heilongjiang province set up a “SMEs stability fund” valued at RMB 10bn.	Local	<a href="#">link</a>
06-Mar	CSRC announced to lower securities firms’ contribution ratio on investor protection funds to ease the operating impact from COVID-19. The investor protection fund collection in 2019 was RMB2.26bn and CSRC expects the collection to drop by 45% in 2020, translating to ~RMB1bn in cost savings for the industry.	Central	<a href="#">link</a>
06-Mar	Liaoning province announced to waive of social security collection for SMEs from Feb to Jun.	Local	<a href="#">link</a>
05-Mar	Hunan government disclosed 105 important investment projects with total valued at 1 trillion yuan, which included the revamp of Changsha airport and 12 highway projects.	Local	<a href="#">link</a>



05-Mar	Guangdong government rolled out 1,230 important investment projects with total valued at 5.9 trillion yuan. For 2020, the investment plan is estimated at 700bn yuan.	Local	<a href="#">link</a>
05-Mar	State Council unveiled a guidance on deepening the reform of the country's medical insurance system, which highlighted to build up special medical insurance payment policies to ensure that medical institutions can provide treatments before charging fee, amidst epidemic outbreak. The goal of the reform is to set up a medical security system that could provide basic medical service nationwide.	Central	<a href="#">link</a>
05-Mar	Beijing announced to cut the company medical insurance collection by 50%, effective till Jun 30.	Local	<a href="#">link</a>
05-Mar	China State Railway Group announced to lower logistic miscellaneous fee by 50%, which valued at 380mn yuan, effective till Jun 30.	Central	<a href="#">link</a>
04-Mar	President Xi held the State Council Standing Committee meeting, which highlighted to: (i) leverage on the power and creativity of entrepreneurs; (ii) enhance the investment and accelerate the construction of 5G network and data center (first mention).	Central	<a href="#">link</a>
03-Mar	Changzhou city announced 8 real estate measures, including the delays of developers' tax declaration and land purchase payments, as well as the relaxed criteria of presale housing projects.	Local	<a href="#">link</a>
03-Mar	In order to ensure the local civil expense payments (e.g. salary), State Council said to (i) raise the provincial reserve fund by 5%, which amounts to ~110bn yuan and all will be allocated to county-level governments; (ii) accelerate the transfer payment to support local government.	Central	<a href="#">link</a>
03-Mar	State Council rolled out measures to support transportation and express: (i) avoid the inappropriate approvals on work resumption; (ii) enhance tax/fee reduction. From Mar 1 to Jun 30, the port construction fee will be exempted and fees	Central	<a href="#">link</a>

	such as 'harbor dues on cargo' will be cut by 20%. Some airport service fee will be lowered as well. (iii) encourage insurance/taxi companies to cut/waive relevant fees for transport units.		
03-Mar	State Taxation Administration announced to delay the tax declaration date of March from Mar 16 to Mar 23.	Central	<a href="#">link</a>
03-Mar	Guangzhou government introduced car purchase subsidy plan, effective from Mar to Dec 2020. In particular, for individual consumer, the government will subsidize 10k yuan per NEV and 3K yuan per vehicle that meet "National VI" emission standard.	Local	<a href="#">link</a>
02-Mar	China Auto Dealer Chamber of Commerce proposed five supporting measures to the central government for auto consumption. Key takeaways: (i) accelerate OEM's rebate payment to dealers, (ii) delay the implementation of "National VI" emission standard, (iii) lower second-hand cars' transaction tax.	Local	<a href="#">link</a>
01-Mar	NDRC announced to transform the enterprise bond issuance to a registration-based system from an approval-based one, effective on March 1. Key takeaways: (i) loosened the financial criteria, such as the removal of "new issuance amount cannot exceed 40% of NAV"; (ii) streamlined the approval process. NDRC will no longer participate the project review/approval.	Central	<a href="#">link</a>
01-Mar	Year to date, seven provinces disclosed infra investment plans, with total amount valued at 25trillion yuan and targeted investment amount for 2020 at 3.5tn yuan.	Local	<a href="#">link</a>
01-Mar	MOT said to support taxi companies by lowering fee and providing subsidy.	Central	<a href="#">link</a>
28-Feb	Chinese Academy of Social Sciences commented on real estate industry amidst COVID-19 impact. Key takeaways: (i) provide adequate supports to developers facing financial difficulties, based on the rule of "housing is for living, not for	Central	<a href="#">link</a>



	speculation”; (ii) ease the mortgage repayment pressure for low income households; (iii) strictly control the leverage level of house purchase and other stimulus measures.		
28-Feb	Aimed to ease the employment pressure, Ministry of Education planned to increase the enrollment of master’s degree students in China by 189,000 this year. Meanwhile, the bachelor degree program will try to admit an additional 322,000 junior college students. The incremental master degrees mainly target at healthcare, integrated circuit and AI, etc.	Central	<a href="#">link</a>
28-Feb	Shenzhen city offered 10% discount of water fee for industrial and commercial service companies.	Local	<a href="#">link</a>
27-Feb	PBOC planned to lower the targeted RRR for qualified financial institutions, in order to support inclusive finance. PBOC also reported that financial institutions have well leveraged the 300bn yuan targeted refinancing quota, as actual financing cost for virus prevention corporates now stands at 1.28% by average, lower than the 1.60% guided by State Council.	Central	<a href="#">link</a>
27-Feb	MOFCOM introduced 4 insurance measures for small-mid export companies: (i) expand the short-term insurance policy’s coverage; (ii) create a fast track for claim settlement; (iii) lower/ delay fee payment; (iv) raise the scale of policy financing.	Central	<a href="#">link</a>
26-Feb	China Zheshang bank guided to lower the housing down payment from 30% to 20%, for first home buyers in non-HPR (home purchase restriciton) cities. Beside, Dongguan city loosened housing policy by extending longest loan period of provident fund loans to 30 years from 20 years, and raising the maximum loanable amount.	Local	<a href="#">link</a>
26-Feb	In order to ease SMEs liquidity pressure, PBOC raised the ‘COVID-19 prevention’ refinancing quota by 500bn yuan, in addition to the current 300bn yuan. Meantime, refinancing rates for agriculture and SMEs are lowered by 25bps to 2.5%. Industry wise, refinancing quota will be	Central	<a href="#">link</a>

	mainly used for farming, livestock, exports, travel/leisure and transportation, etc.		
26-Feb	Shanghai will provide subsidy for cinemas and movie distribution companies	Local	<a href="#">link</a>
26-Feb	Shandong announced to allocate 12.7bn yuan to support transportation projects, including 3.6bn for railway, 9.1bn for roads.	Local	<a href="#">link</a>
24-Feb	MIIT reported 30% resumption rate for SMEs and highlighted 5 measures to help SMEs: (i) accelerate the synchronized resumption schedules for supply chain; (ii) ensure the implementation of supporting measures; (iii) enhance the cooperation between different departments, especially on raw materials, medicals and logistics; (iv) optimize the leading role of central SOEs; (v) guide and help SMEs' COVID-19 prevention during the work resumption.	Central	<a href="#">link</a>
24-Feb	NDRC officials highlighted that: (1) 2020 economic and social targets could still be achieved. (2) Central government will continue to roll out fiscal support, including targeted fee/tax cuts for SMEs, more subsidies on less developed regions, and higher special bond issuance quota.	Central	<a href="#">link</a>
24-Feb	PBOC officials commented on the next phase monetary policy and pledged to: (1) accelerate the implementation of 300bn yuan refinancing loans, (2) adjust targeted RRR cuts for inclusive finance, (3) support manufacturing, exports, and hog supply chain via 3 policy banks.	Central	<a href="#">link</a>
24-Feb	MOF said the central and regional governments have planned 99.5bn yuan for COVID-19 prevention fund.	Central	<a href="#">link</a>
24-Feb	China State Grid and China Southern Power Grid announced the waiver of electricity fees valued at 48.9bn and 10.6bn yuan, respectively.	Central/local	<a href="#">link</a>
22-Feb	Anhui province rolled out 17 measures to support agricultural companies, including work resumption acceleration and credit support.	Local	<a href="#">link</a>



21-Feb	President Xi held the TP meeting for city-above leaders and highlighted the latest policy stance. In particular, fiscal policy should be “more proactive” and monetary policy should be “more flexible”. The meeting also emphasized efforts to shore up demand by accelerating the implementation of new projects and supporting the new economy, such as healthcare, 5G and industrial internet.	Central	<a href="#">link</a>
21-Feb	CAAM (China Association of Automobile Manufacturers) have submitted the application, seeking to delay the implementation of vehicle emission standards VI, due to the COVID-19 shock.	Central	<a href="#">link</a>
21-Feb	Henan province rolled out 18 measures to support real estate industry, including temporal credit expansion, and fee collection delay/cut, etc.	Local	<a href="#">link</a>
21-Feb	State Taxation Administration officially announced to temporarily waive the social security collection (pension, unemployment, and employment injury) for companies, based on regions’ financial condition. In particular, SMEs and big corporates could be waived by no more than 5 and 3 months, respectively.	Central	<a href="#">link</a>
21-Feb	MOFCOM announced to further trim down the negative list, broaden the access of foreign capital, and accelerate the market-driven reform for experimental free trade zones.	Central	<a href="#">link</a>
20-Feb	Guangdong rolled out the 2 <sup>nd</sup> version of employment supporting measures, including the extended cut of social security fee till 30 April 2021.	Local	<a href="#">link</a>
20-Feb	Hebei province set up a fund valued at 50bn yuan, in order to support work resumption, COVID-19 prevention and infra construction, etc.	Local	<a href="#">link</a>
20-Feb	Guangdong CBIRC relaxed the non-performing loan recognition. SMEs collateral loans with 90-day interest delay payment are not required to be booked as NPL.	Local	<a href="#">link</a>

20-Feb	Ministry of Housing and urban-rural development announced that companies could apply to delay the housing provident fund contribution till June 30.	Central	<a href="#">link</a>
20-Feb	Ministry of Human Resource and Social Security announced to raise the adjustment portion of central pension fund to 4% from 3.5%. The adjustment portion was designed to balance the pension expense among provinces and aimed to allocate more to less developed regions.	Central	<a href="#">link</a>
20-Feb	PBOC cut 10bps for 1 year LPR to 4.05% and cut 5bps for 5 year LPR to 4.75%.	Central	<a href="#">link</a>
20-Feb	National Health Security Admission said the 50% wavier of corporates' medical insurance contribution (no longer than 5 months) could save 150bn yuan for corporates by total.	Central	<a href="#">link</a>
19-Feb	PBOC said the central bank has largely collected the liquidity injected post LNY and current liquidity status remains adequate.	Central	<a href="#">link</a>
19-Feb	ICBC raised the credit loan limit to 100mn yuan and offered lending rate discounts for epidemic prevention SMEs and Hubei SMEs.	Central	<a href="#">link</a>
19-Feb	Beijing Custom announced 24 measures to support work resumption, mainly focusing on faster clearing, tax/fee collection delay and digitalizing paper work.	Local	<a href="#">link</a>
19-Feb	Ministry of Human Resource and Social Security announced to loosen the criteria for SMEs to collect the unemployment insurance premium. Up to date, government has returned 3.4bn yuan unemployment premium to 110k companies.	Central	<a href="#">link</a>
18-Feb	MOFCOM announced measures to support work resumption for global trade, foreign companies and e-commerce, which suggested to streamline business approval process and accelerate the usage of subsidy fund.	Central	<a href="#">link</a>
18-Feb	State Council standing committee meeting emphasized: (i) taking measure to ensure spring	Central	<a href="#">link</a>



	agriculture production and support livestock and poultry production; (ii) waiver of pension/unemployment/work injury insurance contribution for all enterprises in Hubei and all SMEs outside Hubei between February and June, and halved for large enterprises outside Hubei; (iii) delay of housing fund payment before late-June.		
18-Feb	Shandong province announced to delay medical insurance fee collections (6 months max) for SMEs that are facing operation difficulty.	Local	<a href="#">link</a>
18-Feb	NDRC urged local governments to ensure the fertilizer supply during spring farming, especially to provide sufficient credit supports for fertilizer producers.	Central	<a href="#">link</a>
18-Feb	SASAC made a speech and highlighted: (i) up till Feb 17, ~20,000 production-type SOEs reached over 80% work resumption rate, among which oil, telecom, electricity and transportation sectors reach over 95%; (ii) yearly production/operation targets and reform tasks will remain intact; (iii) central SOEs will maintain the infra supply (electricity, gas, etc.) even if users delay the fee payment.	Central	<a href="#">link</a>
18-Feb	Jiangsu rolled out 8 measures to ensure employment stability and work resumption	Local	<a href="#">link</a>
18-Feb	MOF said to remove the counter tariff on certain US imports, starting from Mar 2. This is in addition to reciprocal Phase 1 tariff reduction, aiming to support increasing purchase of US products.	Central	<a href="#">link</a>
17-Feb	The Ministry of Finance chief Liu Kun made a speech regarding latest fiscal policy stance. Key points: fiscal policy should focus on structural adjustment, increasing spending and tax cuts in priority areas but cut general expense, meantime be wary of local government fiscal problem.	Central	<a href="#">link</a>
17-Feb	PBOC injected RMB200bn liquidity via MLF with interest rate lowered by 10bp and issued another RMB100bn in reverse repos on Feb 17. Nonetheless, given RMB1 trillion in reverse repo	Central	<a href="#">link</a>

	maturities, net liquidity was still negative on the day.		
16-Feb	Guangdong province and Ningbo city announced measures to support factory reopening.	Local	<a href="#">link</a> <a href="#">link</a>
16-Feb	Guangxi province announced the reopening schedule for service enterprises above designated size, 50% by end-Feb and 100% by end-Mar	Local	<a href="#">link</a>
16-Feb	Ministry of Transportation announced the highway fees will be waived from Feb 17	Central	<a href="#">link</a>
14-Feb	Hunan province's Hengyang city rolled out 17 measures to support real estate, including fee/tax reduction and expansion on qualified graduate buyers for housing subsidy.	Local	<a href="#">link</a>
14-Feb	CSRC loosened the refinancing rules to help listed companies on work resumption and working capital. The major revisions include: (i) the removal of profitability requirement for private placements on ChiNext (a start-up board). (ii) Issuing price discount for private placements is now raised to 20% (previously: 10%). (iii) Lockup periods of private placement were shortened to 18 and 6 months, from previous 36 and 12 months (18m for major shareholders and strategic investors, 6m for other investors).	Central	<a href="#">link</a>
14-Feb	CBIRC announced to raise the tolerance of non-performing loan and allow certain delay of loan repayment.	Central	<a href="#">link</a>
14-Feb	Up till Feb 13, central and local governments have allocated 80.55bn fiscal fund for COVID-19 prevention, actual expense reached 41bn yuan.	Central	<a href="#">link</a>
13-Feb	Wuxi city rolled out 17 supportive measures for real estate. Key measures include: (i) real estate companies (developers, constructors, housing agents, etc.) can delay tax payment. (ii) Developers can apply for housing presales once complete the 25% of planned project investment.	Local	<a href="#">link</a>
13-	Communist party leaders of the Hubei province	Local	<a href="#">link</a>



Feb	and Wuhan were replaced. Previous Shanghai mayor Ying Yong will take over as party secretary of Hubei, while Wang Zhonglin takes over in Wuhan.		
13-Feb	Ministry of Transportation and National Health Commission announced to streamline the vehicle pass certificate, especially vehicles for emergency purposes. Regulators also stated to loosen the 14 days quarantine policy for drivers/operators who are supplying the infected regions.	Central	<a href="#">link</a>
13-Feb	State Council highlighted that local government should take the stability of food staples supply as an important political mission, in order to ensure the orderly operation of supply chain. Supportive measures covered food staples' production, logistics, trading, work resumption, and credit supports, etc.	Central	<a href="#">link</a>
12-Feb	Shenzhen government eased the repayment policy of housing provident funds loan for COVID-19 related individuals (front line workers and patients)	Local	<a href="#">link</a>
12-Feb	Shanghai, Xi'an and Zhejiang announced to extend payment schedule for land acquisitions and extend project completion dates.	Local	<a href="#">Link</a> <a href="#">Link</a> <a href="#">Link</a>
12-Feb	Premier Li held the politburo and State Council meeting, which highlighted the “ <i>six stability</i> ” (employment, financial markets, trade, foreign and domestic investments and outlook) implementation and local measures to help private sectors, in particular SMEs.	Central	<a href="#">link</a>
12-Feb	Up till Feb12, there are at least 25 provinces/cities rolled out ~90 measures to support SMEs. Most frequently mentioned measures include credit injection, lower financing costs, interest subsidy, tax payment delay, rent/tax deduction and extra subsidy for employment stability.	Local	
12-Feb	Shanghai announced to allocate 1bn yuan credit loan to support companies that are facing liquidity	Local	<a href="#">link</a>

	issue.		
12-Feb	For hog production companies, Ministry of Agricultural announced to support by increasing the funding/interest subsidies.	Central	<a href="#">link</a>
11-Feb	State Council announced to increase front loaded local government bond quota by 858bn yuan, with 558bn allocated to general bonds and 290bn yuan to special bond. In addition to the pre-approved special bond quota of 1 trillion yuan, the latest front loaded bond quota reached 1.848 trillion yuan.	Central	<a href="#">link</a>
11-Feb	Shanghai government announced to waive the rents of Feb and Mar for private SMEs that are leasing SOE's real estate property.	Local	<a href="#">link</a>
11-Feb	CBIRC Shanghai strengthens its support for banks to ensure regulatory policies. Key measures include: Lower funding cost for SMEs by 50bps; loosen the 60/90 days non-performing loan recognition for companies that lost revenue during COVID-19, grant loan extension (not exceeding 1 year) to companies that fail to repay the loans before June 30,2020, and increase the line of credit for qualified SMEs with no additional information/credit enhancement measures needed.	Local	<a href="#">link</a>
10-Feb	According to survey, Shanghai government said ~70% of manufacturing companies and ~80% of IT/software companies resumed operation. Also, Shanghai coordinated 598 companies to return to work.	Local	<a href="#">link</a>
10-Feb	(i) President Xi emphasized to adopt policy to minimize the COVID-19 impact on the economy and attempt to achieve key policy targets for 2020; (ii) Zhejiang government issued guidelines to control epidemic contagion and to ensure stability for corporate, for local economy and for local development. Zhejiang announced local fiscal and financial supportive measures for epidemic prevention related corporates, reduce corporate burden (tax, fee, electricity/water/gas cost,	Central and local	<a href="#">link</a>



	transportation and rental cost); rescue measures for distressed firms (fiscal and financial measures); gradual factory reopen by region/industry/timing; (iii) Up till Feb 08, China government has allocated 72bn yuan for epidemic prevention fund (central government: 17bn yuan). Actual expense reached 32bn.		
10-Feb	Most of provinces will partially grant the unemployment insurance expense / social security contribution for the companies (mainly SMEs), who did not or slightly lay off their employees during the COVID-19 period.	Local	<a href="#">link</a>
9-Feb	MIIT rolled out 20 measures to support SMEs, including support for factory reopen, delay in fee collection (electricity, water, gas), rent deduction, tax deduction/delay, delay/refund in social security contribution, and strengthened financing support. For SMEs involved epidemic prevention, government will provide targeted interest/fiscal subsidy.	Central	<a href="#">link</a>
8-Feb	NDRC encouraged to issue aggregate SMEs bond products to support SMEs' liquidity and will allow the issuers to use no more than 40% of bond issuance to supplement operating liquidity. NDRC also encouraged to issue bond for COVID-19 prevention related projects, with less requirement on project return.	Central	<a href="#">link</a>
7-Feb	NDRC and MIIT will maintain a list of important epidemic prevention corporate entities. PBOC will provide 300bn yuan re-lending facility (at 250bp below LPR, 1-year maturity) to encourage banks to lend to these corporate entities, with lending rate capped at 100bps below most recent LPR. In addition, government will provide 50% interest subsidy to ensure actual corporate interest rate is below 1.6%. Loan term is 1 year.	Central	<a href="#">link</a>
7-Feb	China Development bank issued the first "COVID-19 bond" to support COVID-19 prevention, totaling 13.5 billion yuan at 1.65% interest rate. This product is open to retail investors.	Central	<a href="#">link</a>

5-Feb	State Council Standing Committee meeting focused on epidemic control and supportive macro policies. Favorable policies include VAT deduction in epidemic prevention related business activities; waiver of Aviation Development Fund; support for medicine and vaccine R&D; favorable loans to epidemic prevention related SMEs with fiscal subsidy, with actual loan rate capped at 1.6%.	Central	<a href="#">link</a>
1-Feb	PBOC, MOF and CBIRC and SAFE have co-jointly introduced 30 measures to ensure reasonable, aiming to provide sufficient liquidity, strengthen support for enterprises in the medical and pharmaceutical industry, better meet people's normal financial needs, and sustain economic growth amid the COVID-19 outbreak.	Central	<a href="#">link</a>

Source: Various newswire, J.P. Morgan.

**Table 3: China's publish health emergency level by province**

	Level I	Level II	Level III	No. of consecutive days of no new confirmed cases	Cumulative new confirmed cases (rolling 4 weeks)	Share of GDP %
Guangdong	23-Jan	24-Feb			115	11.0
Jiangsu	24-Jan	25-Feb		22	61	10.2
Shandong	24-Jan	8-Mar			254	7.3
Zhejiang	23-Jan	2-Mar		7	63	6.4
Henan	25-Jan				104	5.5
Hubei	24-				20596	4.6

	Jan					
Sichuan	24-Jan	26-Feb		7	88	4.5
Fujian	24-Jan	27-Feb	27-Feb	14	17	4.2
Hunan	23-Jan	10-Mar		12	50	4.0
Shanghai	24-Jan			1	31	4.0
Anhui	24-Jan	25-Feb		13	80	3.7
Beijing	24-Jan			1	69	3.6
Hebei	24-Jan			13	53	3.6
Shaanxi	25-Jan		28-Feb	20	20	2.6
Liaoning	25-Jan		22-Feb	9	9	2.6
Jiangxi	24-Jan	25-Feb	25-Feb	13	63	2.5
Yunnan	24-Jan		24-Feb	20	19	2.3
Chongqing	24-Jan	10-Mar		16	58	2.2
Guangxi	24-Jan		24-Feb	16	30	2.2
Inner Mongolia	25-Jan		26-Feb	22	14	1.8
Shanxi	25-Jan	24-Feb	9-Mar	16	7	1.8
Guizhou	24-Jan		24-Feb	24	11	1.6

Heilongjiang	25-Jan	4-Mar		1	87	1.5
Tianjin	24-Jan			13	24	1.5
Xinjiang	25-Jan	26-Feb		23	13	1.4
Jilin	25-Jan	26-Feb		17	9	1.2
Gansu	25-Jan		21-Feb		40	0.9
Hainan	25-Jan		26-Feb	21	11	0.5
Ningxia	25-Jan	28-Feb		8	11	0.4
Qinghai	25-Jan		26-Feb	35	0	0.3
Tibet	29-Jan	6-Mar		42	0	0.2

Source: NHC, J.P. Morgan. Note: China's public health emergency levels range from 1 to 4, with level 1 as the highest. GDP data as of 2018. Fujian revised down 22 regions from level 1 to level 2 and 66 regions from level 1 to level 3 on Feb 27. Jiangxi revised down 24 regions from level 1 to level 2 and 16 regions from level I to level 3 on Feb 25.

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