



**United States Department of State**

***Washington, D.C. 20520***

February 9, 2024

Case No. FL-2022-00062

Mr. Gary Ruskin  
U.S. Right to Know  
4096 Piedmont Avenue, #963  
Oakland, CA 94611

Dear Mr. Ruskin:

As we noted in our letter dated December 29, 2023, we are processing your request for material under the Freedom of Information Act (“FOIA”), 5 U.S.C. § 552. The Department of State (“Department”) has identified an additional seven responsive records subject to the FOIA. We have determined all seven records may be released in part.

An enclosure explains the FOIA exemptions and other grounds for withholding material. Where we have made redactions, the applicable FOIA exemptions are marked on each record. Where applicable, the Department has considered the foreseeable harm standard when reviewing these records and applying FOIA exemptions. All non-exempt material that is reasonably segregable from the exempt material has been released and is enclosed.

We will keep you informed as your case progresses. If you have any questions, your attorney may contact Assistant United States Attorney Stephanie Johnson at [stephanie.johnson5@usdoj.gov](mailto:stephanie.johnson5@usdoj.gov) or (202) 252-7874. Please refer to the case number, FL-2022-00062, and the civil action number, 22-cv-01130, in all correspondence about this case.

Sincerely,

A handwritten signature in black ink, appearing to read "Diamonece Hickson", with a large, stylized initial "D" and a horizontal flourish extending to the right.

Diamonece Hickson  
Chief, Litigation and Appeals Branch  
Office of Information Programs and Services

Enclosures: As stated.

## The Freedom of Information Act (5 USC 552)

### FOIA Exemptions

- (b)(1) Information specifically authorized by an executive order to be kept secret in the interest of national defense or foreign policy. Executive Order 13526 includes the following classification categories:
- 1.4(a) Military plans, systems, or operations
  - 1.4(b) Foreign government information
  - 1.4(c) Intelligence activities, sources or methods, or cryptology
  - 1.4(d) Foreign relations or foreign activities of the US, including confidential sources
  - 1.4(e) Scientific, technological, or economic matters relating to national security, including defense against transnational terrorism
  - 1.4(f) U.S. Government programs for safeguarding nuclear materials or facilities
  - 1.4(g) Vulnerabilities or capabilities of systems, installations, infrastructures, projects, plans, or protection services relating to US national security, including defense against transnational terrorism
  - 1.4(h) Weapons of mass destruction
- (b)(2) Related solely to the internal personnel rules and practices of an agency
- (b)(3) Specifically exempted from disclosure by statute (other than 5 USC 552), for example:
- |                |   |
|----------------|---|
| ARMSEXP        | Arms Export Control Act, 50a USC 2411(c)                    |
| CIA PERS/ORG   | Central Intelligence Agency Act of 1949, 50 USC 403(g)      |
| EXPORT CONTROL | Export Administration Act of 1979, 50 USC App. Sec. 2411(c) |
| FS ACT         | Foreign Service Act of 1980, 22 USC 4004                    |
| INA            | Immigration and Nationality Act, 8 USC 1202(f), Sec. 222(f) |
| IRAN           | Iran Claims Settlement Act, Public Law 99-99, Sec. 505      |
- (b)(4) Trade secrets and confidential commercial or financial information
- (b)(5) Interagency or intra-agency communications forming part of the deliberative process, attorney-client privilege, or attorney work product
- (b)(6) Personal privacy information
- (b)(7) Law enforcement information whose disclosure would:
- (A) interfere with enforcement proceedings
  - (B) deprive a person of a fair trial
  - (C) constitute an unwarranted invasion of personal privacy
  - (D) disclose confidential sources
  - (E) disclose investigation techniques
  - (F) endanger life or physical safety of an individual
- (b)(8) Prepared by or for a government agency regulating or supervising financial institutions
- (b)(9) Geological and geophysical information and data, including maps, concerning wells

### Other Grounds for Withholding

- NR Material not responsive to a FOIA request excised with the agreement of the requester

**From:** "Gibbs, Jeffrey J" (b)(6)@state.gov>  
**To:** Gibbs, Jeffrey J (b)(6)@state.gov>  
**Subject:** Stuff FL-2022-00062 A-00000754875  
**Date:** Mon, 28 Dec 2020 17:11:42 +0000

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JeffGibbs  
Senior Adviser AVC  
SSD/AVC  
c:(b)(6)



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## **EcoHealth Alliance Orchestrated Key Scientists' Statement on "natural origin" of SARS-CoV-2**

by Jonathan Latham

by Sainath Suryanarayanan of U.S. Right to Know

Emails obtained by U.S. Right to Know show that a statement in *The Lancet* authored by 27 prominent public health scientists condemning "conspiracy theories suggesting that COVID-19 does not have a natural origin" was organized by employees of EcoHealth Alliance, a non-profit group that has received millions of dollars of U.S. taxpayer funding to genetically manipulate coronaviruses with scientists at the Wuhan Institute of Virology.



Peter Daszak of the Ecohealth Alliance

The emails obtained via public records requests show that EcoHealth Alliance President Peter Daszak drafted the *Lancet* statement, and that he intended it to “not be identifiable as coming from any one organization or person” but rather to be seen as “simply a letter from leading scientists”. Daszak wrote that he wanted “to avoid the appearance of a political statement”.

The scientists’ letter appeared in *The Lancet* on February 18, just one week after the World Health Organization announced that the disease caused by the novel coronavirus would be named COVID-19.

The 27 authors “strongly condemn[ed] conspiracy theories suggesting that COVID-19 does not have a natural origin,” and reported that scientists from multiple countries “overwhelmingly conclude that this coronavirus originated in wildlife.” The letter included no scientific references to refute a lab-origin theory of the virus. One scientist, Linda Saif, asked via email whether it would be useful “to add just one or 2 statements in support of why nCoV is not a lab generated virus and is naturally occurring? Seems critical to scientifically refute such claims!” Daszak responded, “I think we should probably stick to a broad statement.”

Growing calls to investigate the Wuhan Institute of Virology as a potential source of SARS-CoV-2 have led to increased scrutiny of EcoHealth Alliance. The emails show how members of EcoHealth Alliance played an early role in framing questions about possible lab origin of SARS-CoV-2 as “crackpot theories that need to be addressed,” as Daszak told *The Guardian*.

Although the phrase “EcoHealth Alliance” appeared only once in *The Lancet* statement, in association with co-author Daszak, several other co-authors also have direct ties to the group that were not disclosed as conflicts of interest. Rita Colwell and James Hughes are members of the Board of Directors of EcoHealth Alliance, William Karesh is the group’s Executive Vice President for Health and Policy, and Hume Field is Science and Policy Advisor.

The statement’s authors also claimed that the “rapid, open, and transparent sharing of data on this outbreak is now being threatened by rumours and misinformation around its origins.” Today, however, little is known about the origins of SARS-CoV-2, and investigations into its origins by the World Health Organization and *The Lancet* COVID-19 commission have been shrouded in secrecy and mired by conflicts of interests.

Peter Daszak, Rita Colwell, and *The Lancet* Editor Richard Horton did not provide comments in response to our requests for this story.

This article is reprinted from the website of US Right to Know.

**For more information:**

A link to the entire batch of EcoHealth Alliance emails can be found here: **EcoHealth Alliance emails: University of Maryland** (466 pages)

U.S. Right to Know is posting documents obtained through public freedom of information (FOI) requests for our Biohazards investigation in our post: **FOI documents on origins of SARS-CoV-2, hazards of gain-of-function research and biosafety labs.**

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*Ulrich Loening*

November 19, 2020 at 10:07 am Reply

Peter Daszak and colleagues at the EcoHealth Alliance and Shi Zengli and colleagues at the Wuhan Virology Institute must have a pretty clear idea about where the virus came from, but have kept their silence other than denial. It seems crazy the WHO has to spend public money and much effort to find out things that are known. At least WHO, investigating in China now, need to clear up these human mysteries first, then judge the significance of the MSc thesis about the 6 workers who fell ill 5-6 years ago, (3 died) and what happened to the analysis of their samples, then what might the doctor (I forget his name) who was imprisoned and died shortly after release – what might he have known? If WHO does not report on these glaring questions, then we will not be able to accept their findings.



*Susan*

November 29, 2020 at 8:30 pm Reply

Apologies if you've already covered these issues, but just wanted to make sure you'd seen this:

<https://www.minervanett.no/files/2020/07/13/TheEvidenceNoNaturalEvol.pdf>

It's from a researcher in the same group that's working on this vaccine:

<https://www.cambridge.org/core/journals/qrb-discovery/article/bio vacc19-a-candidate-vaccine-for-covid19-sarscov2-developed-from-analysis-of-its-general-method-of-action-for-infectivity/DBBC0FA6E3763B0067CAAD8F3363E527>

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# The Controversial Experiments and Wuhan Lab Suspected of Starting the Coronavirus Pandemic

BY FRED GUTERL , NAVEED JAMALI AND TOM O'CONNOR ON 4/27/20 AT 3:34 PM EDT

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The coronavirus pandemic may be a result of controversial experiments inside the Wuhan Institute of Virology, as U.S. intelligence now concedes. Chinese virologist Shi Zhengli inside the P4 laboratory in Wuhan, China, on February 23, 2017. - JOHANNES EISELE/AFP via Getty Images

**J**ust one day after the U.S. surpassed China to become the country with the highest number of Covid-19 cases, the U.S. Defense Intelligence Agency updated its assessment of the origin of the novel coronavirus to reflect that it may have been accidentally released from an infectious diseases lab, *Newsweek* has learned.

The report, dated March 27 and corroborated by two U.S. officials, reveals that U.S. intelligence revised its January assessment in which it "judged that the outbreak probably occurred naturally" to now include the possibility that the new coronavirus emerged "accidentally" due to "unsafe laboratory practices" in the

central Chinese city of Wuhan, where the pathogen was first observed late last year. The classified report, titled "China: Origins of COVID-19 Outbreak Remain Unknown," ruled out that the disease was genetically engineered or released intentionally as a biological weapon.

"We have no credible evidence to indicate SARS-CoV-2 was released intentionally or was created as a biological weapon," the report found. "It is very unlikely that researchers or the Chinese government would intentionally release such a dangerous virus, especially within China, without possessing a known and effective vaccine." Every scientist interviewed by *Newsweek* for this story also rejected categorically the notion that the virus was intentionally released.

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Covid-19 has infected nearly 3 million people across the globe, initially ravaging China before hitting hardest in the West and leaving the United States as the most deeply-afflicted country, with more than 55,000 deaths as of April 27. Its origin remains the subject of not only scientific debate, but a politically charged dispute in the international community.

Citing academic literature, the DIA document states that a "definitive answer may never be known" as to how the disease truly first emerged. A U.S. intelligence spokesperson told *Newsweek*, "the Intelligence Community has not collectively agreed on any one theory."

### **Uncertain source**

Tracing the origin of a new virus is not easy. It took researchers at the Wuhan Institute more than a decade to trace the 2002-2003 SARS virus to remote bat caves in Yunnan province. It's not surprising, then, that in early February,

impossible for them to scientifically determine whether the Covid-19 outbreak was caused naturally or accidentally from a laboratory incident," according to the DIA document.

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Initial assessments conducted by the Chinese government pointed to the city's Huanan Seafood Market as the likely cause of a natural outbreak of SARS-CoV-2, a new coronavirus that causes Covid-19. In the early days of the outbreak, local officials played down the possibility of human-to-human transmission of the virus and silenced doctors who spoke out about the growing outbreak. It may have undercounted deaths and the number of cases of Covid-19. A spurious theory that the U.S. deliberately planted the virus in Wuhan also started circulating.

China's foreign ministry told reporters April 23rd that the World Health Organization found "no evidence" the outbreak started at the Wuhan laboratory, and Yuan Zhiming, vice president of the Wuhan Institute of Virology and president of the Chinese Academy of Sciences Wuhan Branch, blasted the inference of intentional misuse or creation as "malicious" and "impossible."

"The director of the Galveston National Laboratory in the United States made it clear that our laboratory is just as well managed as labs in Europe and the U.S.," he said. "I think it is understandable for people to make that association. But it is a malicious move to purposefully mislead the people" to think that the virus escaped from [our Wuhan] labs.

"They have no evidence or logic to support their accusations. They are basing it completely on their own speculations."

The DIA report, however, cites U.S. government and Chinese researchers that found "about 33 percent of the original 41 identified cases did not have direct exposure" to the market. That, along with what's known of the laboratory's work in past few years, raised reasonable suspicion that the pandemic may have been caused by a lab error, not the wet market.

Here's what the scientific and circumstantial evidence shows.

Back in 2002, when SARS emerged in China's Guangdong province, it served as a wake-up call. Over the next few decades, the U.S., China and other nations poured money into efforts to hunt down and catalogue strange new pathogens that live in wild animals and figure out how much of a threat they pose to humans, with the goal of preventing the next devastating pandemic.

In the fall of 2019, the SARS-CoV-2 coronavirus emerged in the middle of the large, cosmopolitan city of Wuhan. Chinese officials at first insisted that the virus, SARS-CoV-2, could be caught only through direct contact with animals. But many of the early patients in Wuhan had no connection to the wild animal markets, which meant that the virus had already been spreading from person to person. When this fact came out, it cast doubt on the veracity of information coming from China, but the virus was well on its way to becoming a deadly pandemic.

In the early days, the prevailing theory of the virus' origins was that it, like SARS, arose in bats, passed to some other mammal such as a pangolin, and ultimately entered the population through the wild-animal markets.

By March, the wild-virus theory was still the most likely explanation of the origin of SARS-CoV-2--but it was starting to look a little ragged around the edges. For one thing, the Wuhan Institute of Virology, not far from the animal markets in

downtown Wuhan, houses the world's largest collection of coronaviruses from wild bats, including at least one virus that bears a resemblance to SARS-CoV-2.

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What's more, Wuhan Institute of Virology scientists have for the past five years been engaged in so-called "gain of function" (GOF) research, which is designed to enhance certain properties of viruses for the purpose of anticipating future pandemics. Gain-of-function techniques have been used to turn viruses into human pathogens capable of causing a global pandemic.

This is no nefarious secret program in an underground military bunker. The Wuhan lab received funding, mostly for virus discovery, in part from a ten-year, \$200 million international program called PREDICT, funded by the U.S. Agency for International Development and other countries. Similar work, funded in part by the U.S. National Institutes of Health, has been carried out in dozens of labs throughout the world. Some of this research involves taking deadly viruses and enhancing their ability to spread quickly through a population—research that took place over the objections of hundreds of scientists, who have warned for years of the program's potential to cause a pandemic.

In the years since the SARS outbreak, many instances of mishaps involving the accidental release of pathogens have taken place in labs throughout the world. Hundreds of breaches have occurred in the U.S., including a 2014 release of anthrax from a U.S. government lab that exposed 84 people. The SARS virus escaped from a Beijing lab in 2004, causing four infections and one death. An accidental release is not complicated and doesn't require malicious intent. All it takes is for a lab worker to get sick, go home for the night, and unwittingly spread the virus to others.

The Wuhan Institute has a record of shoddy practices that could conceivably lead to an accidental release, as officials at the U.S. Embassy in Beijing

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reportedly warned in a cable on January 19, 2018. "During interactions with scientists at the WIV laboratory, they noted the new lab has a serious shortage of appropriately trained technicians and investigators needed to safely operate this high-containment laboratory," states the cable, according to the Washington Post.

To be sure, there's no evidence that SARS-Cov-2 came from the Wuhan lab, nor that the virus is the product of engineering. Most scientists believe, based on the evidence available, that a natural origin is the most likely explanation. But neither have they ruled out these possibilities. "At this stage, it is not possible to determine precisely the source of the virus which caused the COVID-19 pandemic," says the World Health Organization in a statement to *Newsweek*. "All available evidence suggests that the virus has a natural animal origin and is not a manipulated or constructed virus."

The circumstantial evidence is strong enough to warrant putting the lab's programs and practices at the heart of the investigation. And it's worth looking anew at whether scientists, in their efforts to protect the public from the threat of natural pathogens, overreached.

China Is Censoring Research on COVID-19 Origins, Deleted Web Page Suggests

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## **Animal Passage**

Ten years ago, the viral pathogen most in the news was not a coronavirus but influenza—in particular, a strain of flu, designated H5N1, that arose in birds and killed a high proportion of those who were infected. For a while, the virus made headlines. Then it became clear that nearly everyone who caught the bird-flu

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virus got it directly from handling birds. To cause a plague, it's not enough that a virus is an efficient killer. It also has to pass easily from one person to the next, a quality called transmissibility.

Around this time, Ron Fouchier, a scientist at Erasmus University in Holland, wondered what it would take for the bird flu virus to mutate into a plague virus. The question was important to the mission of virologists in anticipating human pandemics. If H5N1 were merely one or two steps away from acquiring human transmissibility, the world was in danger: a transmissible form of H5N1 could quickly balloon into a devastating pandemic on the order of the 1918 flu, which killed tens of millions of people.

To answer the question, scientists would have to breed the virus in the lab in cell cultures and see how it mutated. But this kind of work was difficult to carry out and hard to draw conclusions from. How would you know if the end result was transmissible?

The answer that Fouchier came up with was a technique known as "animal passage," in which he mutated the bird-flu virus by passing it through animals rather than cell cultures. He chose ferrets because they were widely known as a good stand-in for humans—if a virus can jump between ferrets, it is likely also to be able to jump between humans. He would infect one ferret with a bird-flu virus, wait until it got sick, and then remove a sample of the virus that had replicated in the ferret's body with a swab. As the virus multiplies in the body, it mutates slightly, so the virus that came out of the ferret was slightly different from the one that went into it. Fouchier then proceeded to play a version of telephone: he would take the virus from the first ferret and infect a second, then take the mutated virus from the second ferret and infect a third, and so on.



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After passing the virus through 10 ferrets, Fouchier noticed that a ferret in an adjacent cage became ill, even though the two hadn't come into contact with one another. That showed that the virus was transmissible in ferrets—and, by implication, in humans. Fouchier had succeeded in creating a potential pandemic virus in his lab.

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When Fouchier submitted his animal-passage work to the journal *Science* in 2011, biosecurity officials in the Obama White House, worried that the dangerous pathogen could accidentally leak from Fouchier's lab, pushed for a moratorium on the research. Fouchier had done his work in BSL-2 labs, which are intended for pathogens such as staph, of moderate severity, rather than BSL-4, which are intended for Ebola and similar viruses. BSL-4 labs have elaborate safeguards—they're usually separate buildings with their own air circulation systems, airlocks and so forth. In response, the National Institutes of Health issued a moratorium on the research.

What followed was a fierce debate among scientists over the risks versus benefits of the gain-of-function research. Fouchier's work, wrote Harvard epidemiologist Marc Lipsitch in the journal *Nature* in 2015, "entails a unique risk that a laboratory accident could spark a pandemic, killing millions."

Lipsitch and 17 other scientists had formed the Cambridge Working Group in opposition. It issued a statement pointing out that lab accidents involving smallpox, anthrax and bird flu in the U.S. "have been accelerating and have been occurring on average over twice a week."

viruses... poses substantially increased risks," the statement said. "An accidental infection in such a setting could trigger outbreaks that would be difficult or impossible to control. Historically, new strains of influenza, once they establish transmission in the human population, have infected a quarter or more of the world's population within two years." More than 200 scientists eventually endorsed the position.

The proponents of gain-of-function research were just as passionate. "We need GOF experiments," wrote Fouchier in *Nature*, "to demonstrate causal relationships between genes or mutations and particular biological traits of pathogens. GOF approaches are absolutely essential in infectious disease research."

The NIH eventually came down on the side of Fouchier and the other proponents. It considered gain-of-function research worth the risk it entailed because it enables scientists to prepare anti-viral medications that could be useful if and when a pandemic occurred.

By the time NIH lifted the moratorium, in 2017, it had granted dozens of exceptions. The PREDICT program, started in 2009, spent \$200 million over 10 years, sending virologists all over the world to look for novel viruses and support some gain-of-function research on them. The program ran out of funding in 2019 and was then extended.

By the time the current pandemic hit, animal-passage experiments had become commonplace. Scientists in many of the more than 30 BSL-4 labs around the world had used them to enhance the transmissibility of respiratory-tract pathogens.

Colin Carlson, an expert in emerging infectious diseases at Georgetown University, argued that work funded by PREDICT helped virologists rapidly isolate and classify the SARS-CoV-2 virus when it came out. However, the research "could have been better positioned for an overall impact." Although the program found hundreds of new viruses, it's nearly impossible for scientists to assess their risk to humans. The only way to tell is to "observe a human infection."

Richard Ebright, an infectious disease expert at Rutgers, put it more bluntly. "The PREDICT program has produced no results—absolutely no results—that are of use for preventing or combating outbreaks. There's no information from that project that will contribute in any way, shape or form to addressing the outbreak at hand. The research does not provide information that's useful for developing antiviral drugs. It does not provide information that's useful for developing vaccines."



The Wuhan Institute of Virology, not far from the animal markets in downtown Wuhan, houses the world's largest collection of coronaviruses from wild bats. The facility is among a handful of labs around the world cleared to handle Class 4 pathogens (P4) - dangerous viruses that pose a high risk of person-to-person transmission. HECTOR RETAMAL/AFP via Getty Images

## **China's role**

The Wuhan Institute of Virology is one of many labs to receive PREDICT funding. Shi Zheng-Li, a virologist known as "bat woman" for her group's work in collecting hundreds of coronaviruses, and her staff at the Institute explored the same bat caves that were thought to have given rise to the original SARS virus in 2002. Her scientists penetrated remote caves, swabbing bats' anuses and collecting their excretions. When they returned to the lab, they cultured the

viruses they found, determined their genomic sequences and tried to determine how they infect cells and animals in the lab.

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The Institute began a program of gain-of-function research into bat coronaviruses in 2015. That involved taking selected strains and seeking to increase the ability of those viruses to transmit from one person to another. The gain-of-function research went hand-in-hand with the surveillance project. As scientists identified new classes of bat viruses that have the ability to infect human cells, that raised the question of what changes would have to arise in nature to make that virus transmissible in humans, which would pose a pandemic threat.

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In 2015, the Wuhan lab performed a gain of function experiment using cut-and-paste genetic engineering, in which scientists take a natural virus and directly make substitutions in its RNA coding to make it more transmissible. They took a piece of the original SARS virus and inserted a snippet from a SARS-like bat coronavirus, resulting in a virus that is capable of infecting human cells. A natural virus altered with these methods would be easily flagged in a genetic analysis, like a contemporary addition to an old Victorian house.

A virus produced with animal passage methods would be much harder to spot. These viruses are not directly manipulated. When the virus passes from one animal to the next, it undergoes something similar to what would happen in the wild during the course of its evolution. A wild coronavirus passed through 10 ferrets would be difficult to identify as having been engineered or manipulated.

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There is no published record of animal-passage work on coronaviruses in the Wuhan Institute. The lab got its first BSL-4 lab in 2018, which is now considered a requirement for this kind of work (though some work proceeds in BSL-3-enhanced labs). It's possible that researchers started animal passage work in the BSL-4 lab but didn't finish it in time to publish before the current pandemic, when China tightened up on publications. It's possible that the work was done in secret. It's possible that it never happened at all. But some scientists think it's unlikely that an expensive BSL-4 lab would not be doing animal-passage research, which by 2018 was not unusual.

### **Tracing the origins**

To figure out where SARS-CoV-2 came from, Kristian Andersen of Scripps Research and his colleagues performed a genetic analysis: they published the work, which has been widely cited, on March 17 in *Nature Medicine*. The researchers focused on certain genetic features of the virus for telltale signs of "manipulation."

One feature was the spike of protein that the virus uses to attach so effectively to the human body's ACE2 receptors, a molecular feature of the cells in our lungs and other organs. The spike in SARS-Cov-2, the authors conclude, differs from that of the original SARS virus in ways that suggest it was "most likely the product of natural selection"—in other words, natural, not manipulated in a lab.

However, the paper's reasoning as to why animal passage, in particular, can be ruled out, is not clear. "In theory, it is possible that SARS-CoV-2 acquired the... mutations during adaptation to passage in cell culture," the authors write. The theory that the virus mutated in mammalian hosts such as pangolins "provides a much stronger... explanation." Whether or not that includes animal passage in a

Rutger's Ebright, a longtime opponent of gain of function research, says that the Andersen analysis fails to rule out animal-passage as an origin of SARS-CoV-2. "The reasoning is unsound," he wrote in an email to *Newsweek*. "They favor the possibility 'that the virus mutated in an animal host such as a pangolins' yet, simultaneously, they disfavor the possibility that the virus mutated in 'animal passage.' Because the two possibilities are identical, apart from location, one can't logically favor one and disfavor the other."

Who Should Doctors Save? Inside the Debate Over Rationing Coronavirus Care  
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Jonathan Eisen, an evolutionary biologist at UC Davis, says that the preponderance of evidence, while not definitive, suggests that the virus came from nature, not a lab. "There's no hint there that there's something unnatural, that is, genetically engineered or manipulated," he says. But "there is some wiggle room" in the findings that admits the possibility that the virus was concocted in a lab via animal passage. "Passaging is hard to test for. Escape from a lab is hard to test for," he says. "If [Wuhan researchers] collected something from the field and they were doing some experiments in the lab with it, and some person got infected and then it spread from there, that would be really hard to distinguish from it having spread in the field directly."

Wuhan is in possession of a virus, RATG13, that is thought to be the most similar to SARS-CoV-2 of any known virus—the two share 96 percent of their genetic material. That four-percent gap would still be a formidable gap for animal-passage research, says Ralph Baric, a virologist at the University of North Carolina who collaborated with Shi Zheng-Li on the 2015 gain-of-function

research. "You keep running into problems that just don't make it likely," he  
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says. Wuhan would probably have had to start with a virus closer to SARS-CoV-  
2 than RATG13, which is within the realm of possibilities.

"The only way to resolve it," says Baric, "is transparency and open science and have some real investigation into it. I don't think the Chinese are going to allow that. I don't know what any country would do in this situation. I would like to think that the U.S. would be transparent."

*Jenni Fink contributed to this report*

*4/29/2020 4:20 pm. Clarification: To avoid any misunderstanding on this sensitive issue, a quote from Jonathan Eisen was changed at his request to include the words "or manipulated." It now reads: "There's no hint there that there's something unnatural, that is, genetically engineered or manipulated."*

*4/30/2020 10:40 pm. Correction: The passage on the PREDICT program was changed to make it clear that most of the program's funding went for virus discovery activities. Also, the second 5-year funding for the program was slated to end in 2019, not 2018 as previously reported, before being extended.*

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# Human error in high-biocontainment labs: a likely pandemic threat

By Lynn Klotz | February 25, 2019



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Incidents causing potential exposures to pathogens occur frequently in the secure laboratories often known by their acronyms, BSL3 (Biosafety Level 3) and BSL4. Lab incidents that lead to undetected or unreported laboratory-acquired infections can lead to the release of a disease into the community outside the lab; lab workers with such infections will leave work carrying the pathogen with them. If the agent involved was a potential pandemic pathogen, such a community release could lead to a worldwide pandemic with many fatalities. Of great concern is a release of a flu created in mammalian-airborne-transmissible, highly pathogenic avian influenza virus, such as the airborne-transmissible H5N1 viruses created in the laboratories of Ron Fouchier in the Netherlands and Yoshihiro Kawada in Wisconsin, U.S.

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Such releases are fairly likely over time, as there are at least 100,000 BSL3 labs now carrying out this research. Whatever release probability is, it is clearly far too high a risk to human lives. Mammals are a real danger of a worldwide pandemic that can be spread by human error. Human error is the main cause of potential exposures to pathogens. Statistical data from two sources show that human error is the main cause of, according to my research, 67 percent and 79.3 percent of incident exposures in BSL3 labs. These percentages come from analyses of incident data from the Federal Select Agent Program (FSAP) and from the National Institutes of Health (NIH). (Details may be found in the Supplementary Materials.)

Understanding human error is important to calculating the probability that a pathogen will be released from a laboratory. Understanding community behavior is the first step in calculating the likelihood of a pandemic. A key question is that human error in the lab is mostly in the form of pathogen type and release level. Analyzing the types of release from laboratories researching less transmissible pathogens can serve as a reasonable surrogate for more transmissible pandemic pathogens. (We are forced to deal with surrogate data, thank goodness, there are no data on the release of potentially pandemic pathogens.) In another way, surrogate data allows us to determine with confidence the probability of release of a potentially pandemic pathogen into the environment. In a 2015 publication, Fouchier describes the careful design of his BSL3+ laboratory in Amsterdam and its standard operating procedures, which he contends should increase safety and reduce human error. Fouchier's work, however, addresses mechanical errors in the laboratory. But the percentage of human error reported here calls into question the state-of-the-art of BSL3, BSL3+ (so-called BSL3), and BSL4 labs will reduce the release of pathogens. How much lab-worker training might reduce human error? Given the uncertainty of unreported laboratory acquired infections remains an open question. Given the ways by which human error can occur, it is doubtful that Fouchier's error-prevention measures can eliminate release of airborne-transmissible avian influenza through undetected or unreported lab infections.

**Incident data.** In its 2016 study for the NIH, "Risk and Benefits of Gain-of-Function Research," Gryphon Scientific looked to the transportation, chemical, and biological factors to define types of human error and their probabilities. As Gryphon stated in its final report, "Three types of human error are skill-based (errors involving rule-based (errors in following instructions), rule-based (errors in following instructions), and knowledge-based (errors stemming from a lack of knowledge or a wrong judgment call based on lack of experience).

Gryphon claimed that "no comprehensive Human Reliability Analysis (HRA) study has yet been completed for a biological laboratory... . This lack of data required finding suitable proxies for accidents in other fields."

But mandatory incident reporting to FSAP and NIH actually does provide sufficient data to quantify human error in BSL3 biocontainment labs. **Federal Select Agent Program incident data.** FSAP incident data are collected from summary reports to Congress for the years 2009 through 2016.

Three of the seven FSAP incident categories involve skill-based errors: 1) needle sticks and other through the skin exposures from sharp objects, 2) dropped containers or spills/splashes of liquids containing pathogens, and 3) bites or scratches from infected animals. Some skill errors, such as spills and needle sticks, could be reduced with simple fixes (see below).

The rule-based and knowledge-based incident categories are: 4) pathogens manipulated outside of a biosafety cabinet or other equipment designed to protect workers from aerosols; 5) potential exposures resulting from non-adherence to safety procedures or

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deviations from lab standard operating procedures, and 6) failure to use personal protective equipment, a mix of skill, rule, or knowledge. The seventh category is mechanical or equipment failure, a category not mentioned in the FSAP reports. Personnel are instructed before transferring them to a lower biosafety level. During the 2009-2015 time period, 749 incident reports from select-agent research facilities. Consistent with 95 percent of those incidents involve human error. (Details may be found in [Supplementary Material](#).) National Institutes of Health (NIH) incident reports to the NIH Office of Biodefense Policy cover the period from 2009 through 2017 and BSL3 and BSL4 facilities were obtained through a Freedom of Information Act request.

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There were 127 incidents from BSL4 facilities. Reporting to NIH is required only for incidents involving pathogens that contain recombinant DNA. While it is highly likely there have been incidents in BSL4 facilities, they may not have involved pathogens with recombinant DNA and so would not show up in the reports to NIH. The 127 reports provide very detailed descriptions. The average length is several pages long so many questions remain about details. Of the 127 incidents, 86 or 68 percent were due to human error. This is the same as the FSAP reports. Human errors are “one-offs,” meaning they happened once and likely will not happen again. If errors are difficult to anticipate, so it is unlikely that one could design meaningful checklists or standard operating procedures to prevent them. Here is one example of a one-off error, modified from an incident report:

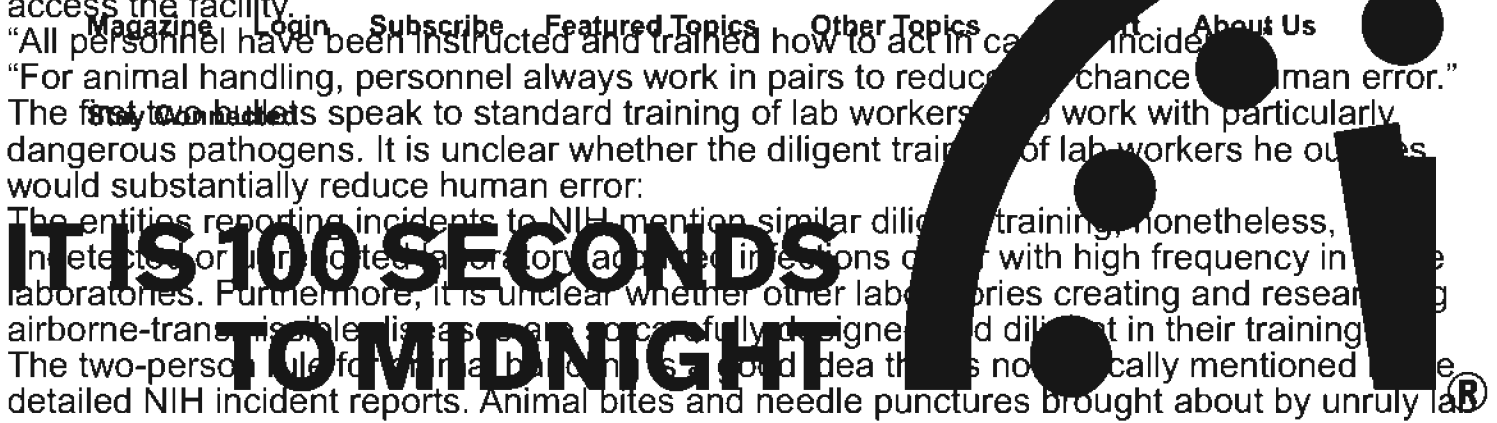
An investigator was exchanging two plastic 24-well plates in the tabletop Sero Typing Station. While lifting the lid, it was caught on a centrifuge wrench which was accidentally placed into the lid. The wrench jumped and knocked one of the removed 24-well plates onto the floor. The plate landed at approximately a 45-degree angle and lost approximately half of its contents. To the best of the investigator's knowledge, there were no aerosols released.

To reduce human errors, the following procedural changes that should reduce their frequency: for liquid transfers, use needle sticks from syringes with sharp metal needles versus using used metal needles to draw liquids from one container to another. For injecting animals, use blunt metal needles are needed; but for liquid transfers, blunt-plastic needles would suffice. Also, dropping items could sometimes be prevented using lab carts to transport items from place to place, rather than carrying them by hand.

Here are three comments from the aforementioned Fouchier publication: “Only authorized and experienced personnel that have received extensive training can access the facility.” “All personnel have been instructed and trained how to act in case of an incident.” “For animal handling, personnel always work in pairs to reduce the chance of human error.” The first two bullets speak to standard training of lab workers who work with particularly dangerous pathogens. It is unclear whether the diligent training of lab workers he outlines would substantially reduce human error:

The entities reporting incidents to NIH mention similar diligent training, nonetheless, they do not detect or report detected laboratory-acquired infections often with high frequency in their laboratories. Furthermore, it is unclear whether other laboratories creating and researching airborne-transmissible diseases are as carefully designed and diligent in their training. The two-person rule for animal handling is a good idea that is not explicitly mentioned in the detailed NIH incident reports. Animal bites and needle punctures brought about by unruly lab

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animals are not uncommon.

### Release from high biocontainment through incomplete inactivation

of the aforementioned undetected or unreported laboratory errors. The route by which pathogens can be released from high biocontainment laboratories is activation. Inactivation is designed to destroy the pathogen as an agent, while retaining its other characteristics for research in which the agent is not needed. Since there are reliable inactivation procedures, this is a human error.

Pathogens are inactivated for research that can be performed in lower BSL2 biocontainment, where it is much easier to work with. Research in BSL3 and BSL4 laboratories is difficult, both because of restricted access and the personal protective equipment that must be worn and because of restricted access to the laboratory. Inactivation procedures that aim to minimize exposure to pathogens.

While incomplete inactivation does not usually cause a release into the community, researchers in BSL3 and BSL4 laboratories work at a much higher level of biocontainment, and their street clothes, hair, and skin can be contaminated. But incomplete inactivation is a route to *potential* release into the community.

The FSAP does not routinely collect data on incomplete inactivation, and it seems no one else does. The GAO has enough data to calculate probabilities for this type of incident are not available. The Government Accountability Office (GAO) has weighed in on the issue. The GAO reviewed total evidence and some numbers on incomplete inactivation to support the conclusion that it is a serious problem. The office has identified 11 incidents in addition to 10 incidents already identified by the FSAP. Notably, two of the incidents involved Ebola and Marburg viruses, which become a focus of countermeasures (vaccines and treatments) are research in BSL4 facilities.

Among the findings, the GAO called attention to a well-publicized incident in which a Department of Health and Human Services laboratory inadvertently sent live *Bacillus anthracis* spores that could cause anthrax, to almost 200 laboratories worldwide over the course of a year. The laboratory believed that the samples had been inactivated." The report cited another well-publicized incident in China in which "two researchers conducting virus research were exposed to severe acute respiratory syndrome (SARS) coronavirus samples that were not properly inactivated. The researchers subsequently transmitted SARS to their colleagues, leading to several infections and one death in 2004."

The GAO also identified the releases of Ebola and Marburg viruses from BSL4 to lower safety level labs due to incomplete inactivation.

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A fourth release in 2014 from the CDC labs occurred when "Scientists inadvertently switched samples designated for live Ebola virus studies with samples intended for studies with inactivated material. As a result, the samples with viable Ebola virus, instead of the samples with inactivated Ebola virus, were transferred out of a BSL-4 laboratory to a laboratory at a lower safety level for additional analysis. While no one contracted Ebola virus in this instance, the consequences could have been dire for the personnel involved as there are currently no approved treatments or vaccines for this virus." The CDC has issued a report on this mixup, and the steps that have been taken to avoid a particular error in the future.

All these incidents confirm the role of incomplete inactivation that would lead to an increased likelihood of release into the community from a BSL2 laboratory. These are all human errors involving BSL2 pathogens. Along with the observation that other human errors are the cause of more than two-thirds of the incidents in BSL3 laboratories, it is clear that state-of-the-art laboratory design will not prevent release into the community.

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**The probability of release into the community.** In an analysis of 17 meetings for the Biological Weapons Convention, a conservative estimate of the probability is about 20 percent for a release of a highly pathogenic avian influenza virus into the community over a 10-year period of developing and researching the virus. This percentage was calculated from FSAP data for the years 1992-2006.

Analysis of the FOIA NIH data gives a release probability—that is, a factor five to 10 times higher, based on the number of incident reports.

While there is no obvious reason for data that would explain this high probability, exposures and latent (non-symptomatic) infections with *M. tuberculosis* was indicated in incident reports. *M. tuberculosis* is not a select agent so incidents involving it do not necessarily be reported to the HHS. Tuberculosis is highly contagious by airborne route, so it might be easier to acquire a TB infection in a laboratory. Unfortunately, airborne infections might be a harbinger of a more serious event. Facility-reported cases of the 11 relevant incidents are provided in the Supplementary Material (Appendix 1). Laboratory-acquired infections were discovered some time after the incident occurred. For three were the causes determined to be human error. For the other eight, neither the lab workers nor facility officials knew how the infection occurred. While it is likely that human error was involved in many of these eight incidents, their causes will never be known.

**Likelihood of mammalian-airborne-transmissible, highly pathogenic avian influenza release to cause a deadly pandemic.** The avian flu virus H5N1 has caused the death of people who came in contact with infected birds. The virus is also highly contagious by airborne route. A highly pathogenic avian influenza created in the laboratory should be able to be transmitted to humans through the air, and the

A release of the community of such a pathogen could seed a pandemic with a probability of 20 percent. This estimate is from an average of two very different studies. One study involves purely mathematical branching theory, where Harvard biologist Marc Lipsitch and his coworkers provide a graph in which, conservatively, the probability of a pandemic seeded from a single release is about 20 percent. In the second study, which tracks the progression through the community from person to person is from Bruno N. Kivlenko and Stefano Merler and coworkers found that the probability of a pandemic from five releases is about 20 percent that a single release could seed a pandemic. How long transmissible such viruses are in humans is not known.

**Realistically, human errors in lab research.** Human error will continue to play a major role in laboratory accidents, and undetected or unreported laboratory-acquired infections and incomplete inactivation incidents will continue to occur. No matter how well

facilities are designed to prevent release into communities, human error will dodge the best. For an already identified 14 labs creating or researching mammalian-airborne-transmissible, highly pathogenic avian influenza, the potential 16 percent probability of laboratory release into the community over five years of research (a result found in a study now being prepared for publication) is already uncomfortably high. NIH incident reports indicate possibly much higher probabilities of a such a release—thus, a greater likelihood of a pandemic.

This does not take into the account a release from incomplete inactivation. Combining release probability with the not insignificant probability that an airborne-transmissible influenza virus could seed a pandemic, we have an alarming situation.

Those who support mammalian-airborne-transmissible, highly pathogenic avian influenza experiments either believe the probability of community release is infinitesimal or they believe in reverting a pandemic to great numbers. For this research, it would be extraordinary benefits and significant risk reduction via extraordinary biosafety measures to correct such a misperception. The highly uncertain benefits to justify the high-risk. Whatever probability of release we assign, it is clearly far too high a risk to human lives. There are experimental approaches that do not involve live mammalian-airborne-

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transmissible, highly pathogenic avian influenza which identifies mammalian airborne transmission. These "safer experiments" are more scientifically informative and more straightforward than the "healthier" Asian bird flu virus research to develop live vaccines for mammals (and perhaps some other pathogens) research as well), should for the present be restricted to specialized or augmented BSL3 facilities where lab workers are not allowed to leave the facility. It is certain that they have not become infected.

It must be emphasized that these facilities are for only a very small subset of pathogen research. Most pathogens can be handled and proceed unimpeded by unnecessary regulations.

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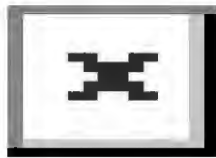




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# Peter Daszak's EcoHealth Alliance Has Hidden Almost

# \$40 Million In Pentagon Funding And Militarized Pandemic Science

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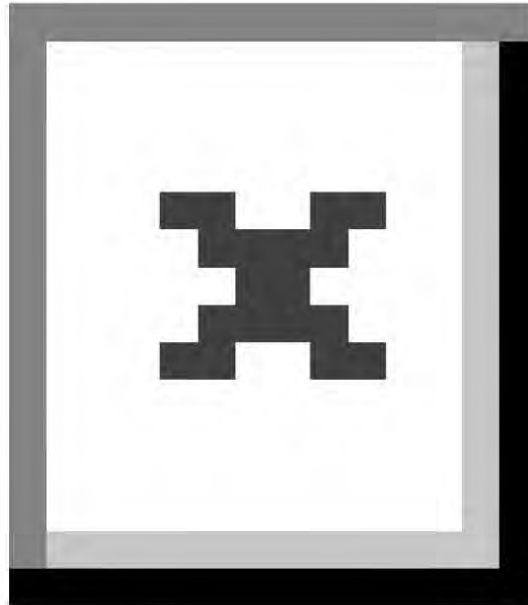
by Sam Hussein

“Pandemics are like terrorist attacks: We know roughly where they originate and what’s responsible for them, but we don’t know exactly when the next one will happen. They need to be handled the same way — by identifying all possible sources and dismantling those before the next pandemic strikes.”

This statement was written in the *New York Times* earlier this year by Peter Daszak. Daszak is the longtime president of the [EcoHealth Alliance](#), a New York-based non-profit whose claimed focus is pandemic prevention. But the EcoHealth Alliance, it turns out, is at the very centre of the COVID-19 pandemic in many ways.

To depict the pandemic in such militarized terms is, for Daszak, a commonplace. In an [Oct. 7 online talk organized by Columbia University’s School of International and Public Affairs](#), Daszak presented a slide titled “Donald Rumsfeld’s Prescient Speech.”:

“There are known knowns; there are things we know that we know. There are known unknowns; that is to say, there are things that we know we don’t know. But there are also unknown unknowns — there are things we don’t know we don’t know.” (This Rumsfeld quote is in fact from a news conference)



The Pentagon (Credit the Smithsonian)

In the subsequent online discussion, Daszak emphasized the parallels between his own crusade and Rumsfeld's, since, according to Daszak, the "potential for unknown attacks" is "the same for viruses".

Daszak then proceeded with a not terribly subtle pitch for over a billion dollars. This money would support a fledgling virus hunting and surveillance project of his, the Global Virome Project — a "doable project" he assured watchers — given the cost of the pandemic to governments and various industries.

Also on the video was Columbia University professor Jeffrey Sachs. Sachs is a former special advisor to the UN, the former head of the Millennium Villages Project, and was recently appointed Chair of the newly-formed EAT Lancet Commission on the pandemic. In September, Sachs' commission named Daszak to head up its committee on the pandemic's origins. Daszak is

also on the WHO's committee to investigate the pandemic's origin. He is the only individual on both committees.

These leadership positions are not the only reason why Peter Daszak is such a central figure in the COVID-19 pandemic, however. His appointment dismayed many of those who are aware that Daszak's EcoHealth Alliance funded bat coronavirus research, including virus collection, at the Wuhan Institute for Virology (WIV) and thus could themselves be directly implicated in the outbreak.

For his part, Daszak has repeatedly dismissed the notion that the pandemic could have a lab origin. In fact, a recent FOIA by the transparency group U.S. Right To Know revealed that Peter Daszak drafted an influential multi-author letter published on February 18 in the Lancet. That letter dismissed lab origin hypotheses as "conspiracy theory." Daszak was revealed to have orchestrated the letter such as to "avoid the appearance of a political statement."

Sachs for his part seemed surprised by Daszak's depiction of Rumsfeld but Daszak reassured him. "It's an awesome quote! And yes, it's Donald Rumsfeld, Jeff, and I know he's a Republican, but what a genius!"

### **Following the EcoHealth Alliance's money trail to the Pentagon**

Collecting dangerous viruses is typically justified as a preventive and defensive activity, getting ahead of what "Nature" or "The Terrorists" might throw at us. But by its nature, this work is "dual use". "Biodefense" is often just as easily biowarfare since biodefense and the products of biowarfare are identical. It's simply a matter of what the stated goals are.

This is openly acknowledged [See below] by scientists associated with EcoHealth Alliance when talking about alleged programs in other countries like Iraq.

For much of this year, Daszak's EcoHealth Alliance garnered a great deal of sympathetic media coverage after its \$3.7 million five-year NIH grant was prematurely cut when the Trump administration learned that EcoHealth Alliance funded bat coronavirus research at the WIV.

The temporary cut was widely depicted in major media as Trump undermining the EcoHealth Alliance's noble fight against pandemics. The termination was reversed by NIH in late August, and even upped to \$7.5 million. But entirely overlooked amid the claims and counter-claims was that far more funding for the EcoHealth Alliance comes from the Pentagon than the NIH.

To be strictly fair to the media, Daszak's EcoHealth Alliance obscures its Pentagon funding. On its website EcoHealth Alliance states that "A copy of the EHA Grant Management Manual is available upon request to the EHA Chief Financial Officer at finance ( at ) [ecohealthalliance.org](mailto:ecohealthalliance.org)". But an email to that address and numerous others, including Peter Daszak's, requesting that Manual, as well as other financial information, was not returned. Neither were repeated voicemails.

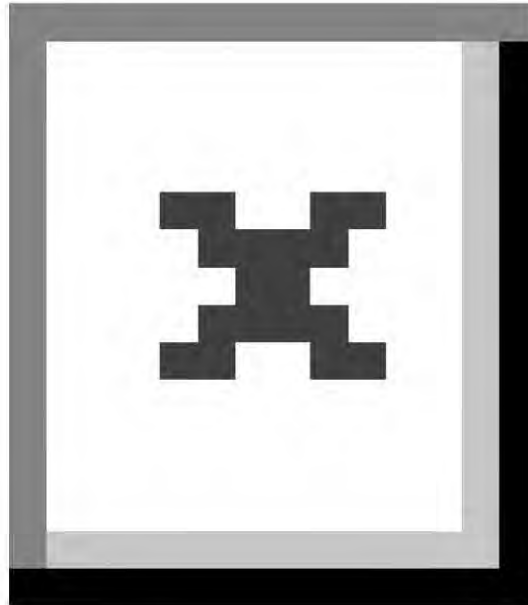
Only buried under their "Privacy Policy," under a section titled "EcoHealth Alliance Policy Regarding Conflict of Interest in Research," does the EcoHealth Alliance concede it is the "recipient of various grant awards from federal agencies including the National Institute of

Health, the National Science Foundation, US Fish and Wildlife Service, and the US Agency for International Development and the Department of Defense.”

Even this listing is deceptive. It obscures that its two largest funders are the Pentagon and the State Department (USAID); whereas the US Fish and Wildlife Service, which accounts for a minuscule \$74,487, comes before either.

**Meticulous investigation of U.S. government databases reveals that Pentagon funding for the EcoHealth Alliance from 2013 to 2020, including contracts, grants and subcontracts, was just under \$39 million. Most, \$34.6 million, was from the Defense Threat Reduction Agency (DTRA), which is a branch of the DOD which states it is tasked to “counter and deter weapons of mass destruction and improvised threat networks.”**

Most of the remaining money to EHA was from USAID (State Dept.), comprising at least **\$64,700,000** (1). These two sources thus total over **\$103 million**. (See Fig).



Summary of EHA Grants and Contracts. Note this figure doesn't count subcontracts so it undercounts USAID's contribution, see footnote (1) below (Credit: James Baratta and Mariamne Everett)

Another \$20 million came from Health and Human Services (\$13 million, which includes National Institutes of Health and Centers for Disease Control), National Science Foundation (\$2.6 million), Department of Homeland Security (\$2.3 million), Department of Commerce (\$1.2 million), Department of Agriculture (\$0.6 million), and Department of Interior (\$0.3 million). So, total U.S. government funding for EHA to-date stands at \$123 million, approximately one third of which comes from the Pentagon directly. The full funding breakdown is [available here](#) and is summarized by year, source, and type, in a spreadsheet format.

Pdf versions of this the spreadsheet are available to download. The summary is [here](#) and all Federal grants and contracts are [here](#).

### **More military connections**

The military links of the EcoHealth Alliance are not limited to money and mindset. One noteworthy ‘policy advisor’ to the EcoHealth Alliance is David Franz. Franz is former commander of Fort Detrick, which is the principal U.S. government biowarfare/biodefense facility.

David Franz was part of UNSCOM which inspected Iraq for alleged bioweapons — what were constantly referred to as WMDs or Weapons of Mass Destruction by the U.S. government and the media. Franz has been one of those eager to state, at least when discussing alleged Iraqi programs, that “in biology ... everything is dual use — the people, the facilities and the equipment.” (NPR, May 14, 2003; link no longer available).

Just this year Franz wrote a piece with former *New York Times* journalist Judith Miller, whose stories of Iraqi WMDs did much to misinform the US public regarding the case for the 2003 invasion of Iraq. Their joint article, “A Biosecurity Failure: America’s key lab for fighting infectious disease has become a Pentagon backwater,” urges more funding for Fort Detrick.

Miller and Franz are long-time associates. Miller co-wrote the book *Germs*, released amid the 2001 false flag anthrax attacks, which repeatedly quotes Franz. Miller at the time received a hoax letter with a harmless white powder, increasing her prominence.

Franz continued hyping the existence of Iraqi WMDs even after the invasion of Iraq. While she was still with the *Times*, Miller quoted him in a story “U.S. Analysts Link Iraq Labs To Germ Arms” on May 21, 2003 pushing the theory that Iraq had mobile biological WMD units. (This theory was debunked by the British scientist Dr David Kelly, who would die, apparently by suicide, soon thereafter.

Four significant insights emerge from all this. First, although it is called the EcoHealth Alliance, Peter Daszak and his non-profit work closely with the military. Second, the EcoHealth Alliance attempts to conceal these military connections. Third, through militaristic language and analogies Daszak and his colleagues promote what is often referred to as, and even then somewhat euphemistically, an ongoing agenda known as “securitization”. In this case it is the securitization of infectious diseases and of global public health. That is, they argue that pandemics constitute a vast and existential threat. They minimize the very real risks associated with their work, and sell it as a billion dollar solution. The fourth insight is that Daszak himself, as the Godfather of the Global Virome Project, stands to benefit from the likely outlay of public funds.

### Acknowledgements

Thanks to James Baratta and Mariamne Everett for researching the funding sources.

### Footnote

1. The figure for EHA’s USAID funding was obtained from the University of California at Davis, a major grantee of PREDICT funds, which EHA has been a major sub-grantee of Davis confirmed that

EHA's funding from PREDICT totaled \$64,722,669 (PREDICT-1: 2009 to 2014: \$19,943,214; PREDICT-2: 2014 to present (2020) \$44,779,455)

*Sam Husseini is an independent journalist.*

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BIOTECHNOLOGY, HEALTH, NEWS NOVEMBER 19, 2020

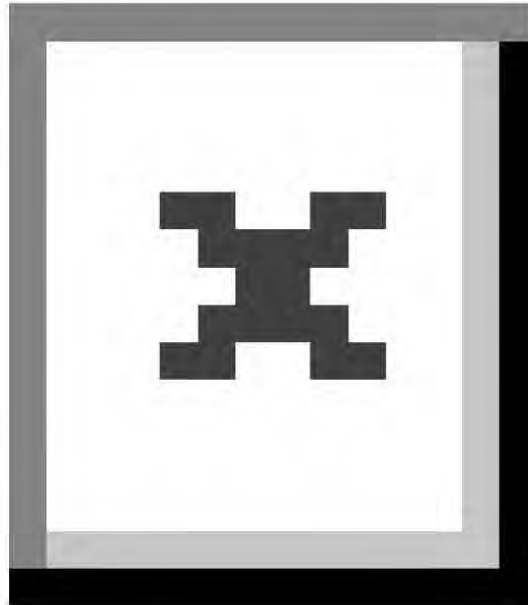
# EcoHealth Alliance Orchestrated Key Scientists' Statement on "natural origin" of SARS-CoV-2

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by [Sainath Suryanarayanan](#) of U.S. Right to Know

Emails obtained by U.S. Right to Know show that a [statement in \*The Lancet\*](#) authored by 27 prominent public health scientists condemning "conspiracy theories suggesting that COVID-19 does not have a natural origin" was organized by employees of EcoHealth Alliance, a non-profit group that has [received millions of dollars of U.S. taxpayer funding to genetically manipulate coronaviruses with scientists at the Wuhan Institute of Virology.](#)





Peter Daszak of the Ecohealth Alliance

The emails obtained via public records requests show that EcoHealth Alliance President Peter Daszak drafted the *Lancet* statement, and that he intended it to “not be identifiable as coming from any one organization or person” but rather to be seen as “simply a letter from leading scientists”. Daszak wrote that he wanted “to avoid the appearance of a political statement”.

The scientists’ letter appeared in *The Lancet* on February 18, just one week after the World Health Organization announced that the disease caused by the novel coronavirus would be named COVID-19.

The 27 authors “strongly condemn[ed] conspiracy theories suggesting that COVID-19 does not have a natural origin,” and reported that scientists from multiple countries “overwhelmingly conclude that this coronavirus originated in wildlife.” The letter included no scientific references to refute a lab-origin theory of the virus. One scientist, Linda Saif, asked via email whether it

would be useful "to add just one or 2 statements in support of why nCOV is not a lab generated virus and is naturally occurring? Seems critical to scientifically refute such claims!" Daszak responded, "I think we should probably stick to a broad statement."

Growing calls to investigate the Wuhan Institute of Virology as a potential source of SARS-CoV-2 have led to increased scrutiny of EcoHealth Alliance. The emails show how members of EcoHealth Alliance played an early role in framing questions about possible lab origin of SARS-CoV-2 as "crackpot theories that need to be addressed," as Daszak told *The Guardian*.

Although the phrase "EcoHealth Alliance" appeared only once in *The Lancet* statement, in association with co-author Daszak, several other co-authors also have direct ties to the group that were not disclosed as conflicts of interest. Rita Colwell and James Hughes are members of the Board of Directors of EcoHealth Alliance, William Karesh is the group's Executive Vice President for Health and Policy, and Hume Field is Science and Policy Advisor.

The statement's authors also claimed that the "rapid, open, and transparent sharing of data on this outbreak is now being threatened by rumours and misinformation around its origins." Today, however, little is known about the origins of SARS-CoV-2, and investigations into its origins by the World Health Organization and The Lancet COVID-19 commission have been shrouded in secrecy and mired by conflicts of interests.

Peter Daszak, Rita Colwell, and *The Lancet* Editor Richard Horton did not provide comments in response to our requests for this story.

This article is reprinted from the website of US Right to Know.

#### **For more information:**

A link to the entire batch of EcoHealth Alliance emails can be found here: [EcoHealth Alliance emails: University of Maryland](#) (466 pages)

U.S. Right to Know is posting documents obtained through public freedom of information (FOI) requests for our Biohazards investigation in our post: [FOI documents on origins of SARS-CoV-2, hazards of gain-of-function research and biosafety labs](#).

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**From:** (b)(6)@state.gov>

**Sent:** Saturday, December 26, 2020 6:16 PM

**To:** DiNanno, Thomas G (b)(6)@state.gov> (b)(6)@state.gov>; Feith, David

(b)(6)@state.gov>; Gibbs, Jeffrey J (b)(6)@state.gov>

**Cc:** (b)(6)@state.gov>; Jih, (b)(6)@state.gov>; Asher, David

(b)(6)@state.gov>

**Subject:** Re: Baric UNC FOIA Emails Update

One question from me: (b)(5)

(b)(5)

(b)(6)

Director, AVC/VPO

(b)(6)

(b)(6)@state.gov

From: DiNanno, Thomas G (b)(6)@state.gov>

Sent: Saturday, December 26, 2020 6:07:26 PM

To: (b)(6)@state.gov>; Feith, David (b)(6)@state.gov>; Gibbs, Jeffrey J

(b)(6)@state.gov>; (b)(6)@state.gov>

Cc: (b)(6)@state.gov>; (b)(6)@state.gov>; Asher, David

(b)(6)@state.gov>

Subject: Re: Baric UNC FOIA Emails Update

(b)(5)

On December 26, 2020 at 5:17:59 PM EST (b)(6)@state.gov> wrote: First, the bad news: UNC's or Baric's lawyers did what most lawyers do when responding to FOIA requests - i.e., they purposefully converted all emails to low resolution image files. This makes it very hard to convert them back to usable text. Consequently we get a higher percentage of misidentified letters, numbers and symbols (aka "noise") during the OCR process. Now for the good news: The techs at Sayari did a great job of OCRing the huge set of PDF image files, although there is still is a significant amount of noise in the text to contend with. From the resulting 89 raw text files (76MB) I was able to isolate at least 2,141 emails within about 200 threads spanning dates from October 2017 through 30 July 2020. Of note, as highlighted below:

(b)(5)

More to follow.

Here is a summary table of unique subject lines/threads harvested from the text files:

Thread Subject Text	Emails	Days	Earliest Thread Email	Latest Threat Email	Found In
Collaborative coronavirus	1	1	1/10/2017	1/10/2017	1-1-1000.txt

discussion invitation					
nice work !!!!!!!	2	1	2/15/2017	2/15/2017	1-1-1000.txt
Zika in SE Asia	1	1	4/19/2017	4/19/2017	1-1-1000.txt
Nido2017 invited speakers	1	1	4/25/2017	4/25/2017	1-1-1000.txt
Professorship Virology, Berlin	1	1	5/10/2017	5/10/2017	1-1-1000.txt
Nido2017 Oral Presentation	1	1	5/26/2017	5/26/2017	1-1-1000.txt
Nido2017 Group Photo	1	1	6/7/2017	6/7/2017	1-1-1000.txt
Nido2017 Gala Dinner	1	1	6/8/2017	6/8/2017	1-1-1000.txt
Nido2017 Gala Dinner at the Grand Hall	1	1	6/8/2017	6/8/2017	1-1-1000.txt
Thank you for attending Nido2017	1	1	6/15/2017	6/15/2017	1-1-1000.txt
CETR Program Information	1	1	6/23/2017	6/23/2017	1-1-1000.txt
Nido2017 Photo Gallery	1	1	7/3/2017	7/3/2017	1-1-1000.txt
IDEA team photo	1	1	7/13/2017	7/13/2017	1-1-1000.txt
NBIC Biosurveillance Presentation Series	9	6	7/13/2017	7/18/2017	1-1-1000.txt
NBIC Biosurveillance Presentation Series info for presenters	2	2	7/18/2017	7/19/2017	1-1-1000.txt
Talk	2	1	7/19/2017	7/19/2017	1-1-1000.txt
Virology Special Issue Presubmission Deadline is Aug 18, 2017	1	1	8/14/2017	8/14/2017	1-1-1000.txt
CEPI invitation to vaccine R&D pipeline and cost tracking survey against epidemic infectious diseases	1	1	9/27/2017	9/27/2017	1-1-1000.txt
NAS GNL invitation to participate in a meeting of U.S. and Chinese experts, Jan 16-18 2018	1	1	11/2/2017	11/2/2017	1-1-1000.txt
NAS mtg in Galveston	2	2	11/10/2017	11/11/2017	1-1-1000.txt
RFA-AI-17-042: Centers of Excellence for Translational Research (CETR)	1	1	12/1/2017	12/1/2017	1-1-1000.txt
Flight arrangements to Galveston for NAS/Chinese Academy meeting Jan. 16-18	7	3	12/18/2017	12/20/2017	1-1-1000.txt
Happy Holidays from Virologica Sinica!	1	1	12/22/2017	12/22/2017	1-1-1000.txt

US-China meeting in Galveston	2	3	1/3/2018	1/5/2018	1-1-1000.txt
Agenda and travel info for upcoming Galveston, Texas meeting	1	1	1/12/2018	1/12/2018	1-1-1000.txt
Two tenure track assistant professor positions at Duke-NUS EID	1	1	1/17/2018	1/17/2018	1-1-1000.txt
Thank You!	2	1	1/19/2018	1/19/2018	1-1-1000.txt
EcoHealth Alliance - W9	1	1	1/24/2018	1/24/2018	1-1-1000.txt
Nice meeting you in Galveston and invitation to Wuhan meeting in October 2018	2	1	2/7/2018	2/7/2018	1-1-1000.txt
Ralph's upcoming visit	1	1	2/23/2018	2/23/2018	1-1-1000.txt
trip to new york	2	1	3/6/2018	3/6/2018	1-1-1000.txt
"Baric Dinner" has been canceled.	1	1	3/6/2018	3/6/2018	1-1-1000.txt
"Baric Dinner" has been canceled.	1	1	3/6/2018	3/6/2018	1-1-1000.txt
[RESCHEDULED] Call with Peter - now on 3/15	1	1	3/12/2018	3/12/2018	1-1-1000.txt
dual use safety language	1	1	3/23/2018	3/23/2018	1-1-1000.txt
Visit to UNC	1	1	3/28/2018	3/28/2018	1-1-1000.txt
Invitation Letter for the 8th International Symposium on Emerging Viral Diseases	5	140	4/14/2018	8/31/2018	1-1-1000.txt
visit	1	1	4/23/2018	4/23/2018	1-1-1000.txt
Information for ICEID 2018 Plenary and Panel Speakers	1	1	8/10/2018	8/10/2018	1-1-1000.txt
Thank you for speaking at ICEID	2	1	8/30/2018	8/30/2018	1-1-1000.txt
Abstract for Wuhan meeting	1	1	9/24/2018	9/24/2018	1-1-1000.txt
International Symposium on Emerging Viral Diseases, Wuhan	4	10	9/30/2018	10/9/2018	1-1-1000.txt
Final Program of the 8th International Symposium on Emerging Viral Diseases	1	1	10/15/2018	10/15/2018	1-1-1000.txt
NASEM bio meetings in Harbin, China in Jan 2019?	4	4	11/13/2018	11/16/2018	1-1-1000.txt
Visa information for NAS January trip to Harbin, China	1	1	11/28/2018	11/28/2018	1-1-1000.txt
NASEM bio meetings in Harbin, China in Jan 2019 - update and	1	1	12/11/2018	12/11/2018	1-1-1000.txt

conference call					
NASEM bio meetings in Harbin, China in Jan 2019 - conference call on 12/18 at 2 PM ET	1	1	12/14/2018	12/14/2018	1-1-1000.txt
NASEM bio meetings in Harbin, China in Jan 2019 - conference call on 12/18 at 2 PM ET docs	2	1	12/17/2018	12/17/2018	1-1-1000.txt
NASEM bio meetings in Harbin, China in Jan 2019 - travel memo and final agenda	1	1	1/3/2019	1/3/2019	1-1-1000.txt
new call from DTRA	1	1	1/3/2019	1/3/2019	1-1-1000.txt
National Academies Travel Reimbursement: Harbin 2019 meeting	1	1	1/11/2019	1/11/2019	1-1-1000.txt
postdoctoral position available at the Virus Ecology Unit, Rocky mountain Laboratories, NIAID	1	1	1/14/2019	1/14/2019	1-1-1000.txt
National Academies Travel Reimbursement: Harbin 2019 meeting - docs and photos	1	1	1/17/2019	1/17/2019	1-1-1000.txt
Ralph's visit to Columbia	3	1	3/20/2019	3/20/2019	1-1-1000.txt
new coronavirus from Wuhan	6	2	1/9/2020	1/10/2020	1-1-1000.txt
Rg novel coronavirus	2	12	1/10/2020	1/21/2020	1-1-1000.txt
Wuhan outbreak	5	9	1/20/2020	1/28/2020	1-1-1000.txt
{EXTERNAL} 2019-nCoV	1	1	1/22/2020	1/22/2020	1-1-1000.txt
2019-nCoV	10	8	1/22/2020	1/29/2020	1-1-1000.txt
2019-nCov	2	4	1/23/2020	1/26/2020	1-1-1000.txt
Wolverines 2019-nCoV Call	1	1	1/26/2020	1/26/2020	1-1-1000.txt
Red Dawn Call Listening Session 2019-nCoV Call	139	20	1/26/2020	2/14/2020	1-1-1000.txt 1-1001-2000.txt 1-2001-3000.txt 1-3001-4000.txt 1-4001-5000.txt 9-6001-7000.txt
2019-nCoV	18	3	1/28/2020	1/30/2020	1-1-1000.txt
Red Dawn: Wolverines 2019-nCoV Call is open	3	1	1/29/2020	1/29/2020	1-1-1000.txt
deadline question re: Virology paper/for publication in San Jose Mercury News/Bay Area News Group	1	1	1/30/2020	1/30/2020	1-1-1000.txt

Red Dawn Call Listening Session 2019-nCoV Call,	3	1	2/2/2020	2/2/2020	1-1-1000.txt
Red Dawn Call Listening Session 2019-nCOV Call	12	9	2/2/2020	2/10/2020	1-1-1000.txt 1-1001-2000.txt 1-2001-3000.txt
Reminder - Invitation to the Global Research and Innovation Forum: Towards a Roadmap for the 2019 Novel Coronavirus	1	1	2/3/2020	2/3/2020	1-1-1000.txt
2019-nCoV in kids--the dog that didn't bark	1	1	2/3/2020	2/3/2020	1-1-1000.txt
Reminder - Invitation to the Global Research and Innovation Forum: Towards a Roadmap for the 2019 Novel	1	1	2/3/2020	2/3/2020	1-1-1000.txt
{EXTERNAL} Red Dawn Call Listening Session 2019-nCoV Call	1	1	2/4/2020	2/4/2020	1-1001-2000.txt
URGENT: Please review by NOON if at all possible...	10	1	2/4/2020	2/4/2020	1-1-1000.txt 1-1001-2000.txt
Link to documents on prioritisation of vaccines documents	1	1	2/5/2020	2/5/2020	1-1001-2000.txt
please use -	1	1	2/5/2020	2/5/2020	1-1001-2000.txt
Thanks and News about the letter	1	1	2/7/2020	2/7/2020	1-1001-2000.txt
nCOV-2019	4	1	2/8/2020	2/8/2020	1-1001-2000.txt
nCoV-2019	3	1	2/8/2020	2/8/2020	1-1001-2000.txt
ACE/ACE2	1	1	2/10/2020	2/10/2020	1-2001-3000.txt
Red Dawn COVID-2019	5	1	2/13/2020	2/13/2020	1-3001-4000.txt
Isolation and Quarantine for HCWs	25	2	2/14/2020	2/15/2020	1-4001-5000.txt
Isolation and Quarantine for HCWS	4	2	2/14/2020	2/15/2020	1-4001-5000.txt
Flash!!! Red Dawn Call Saturday Air Evacuation--What Time works??	15	1	2/15/2020	2/15/2020	1-4001-5000.txt
Flash!! Red Dawn Call Air Evacuation Risk Mitigation Measures	2	1	2/15/2020	2/15/2020	1-4001-5000.txt
Flash!! Red Dawn Call Detection Kits, Disease	1	1	2/15/2020	2/15/2020	1-5001-5508.txt

Characterization					
Red Dawn Breaking, COVID-19	11	3	2/16/2020	2/18/2020	1-5001-5508.txt 2-2001-3000.txt
Red Dawn Breaking, COVID-19 Collaborative, Feb 16	15	7	2/16/2020	2/22/2020	1-5001-5508.txt 2-1-1000.txt 2-2001-3000.txt
Red Dawn Breaking, COVID-19 Collaborative, Feb 16 start	137	9	2/16/2020	2/24/2020	1-4001-5000.txt 1-5001-5508.txt 2-1-1000.txt 2-1001-2000.txt 2-2001-3000.txt
Time to chat about coronavirus?	3	2	2/17/2020	2/18/2020	1-4001-5000.txt
Red Dawn Breaking, COVID-19 Collaborative, Feb 16 start --- Rapid testing vs Safe and compliant quarantine -	1	1	2/21/2020	2/21/2020	2-1-1000.txt
Red Dawn Breaking, COVID-19 Collaborative, Feb 16 start -- asymptomatic vs symptomatic, flu vs COVID-19	1	1	2/24/2020	2/24/2020	2-2001-3000.txt
Red Dawn Breaking Bad, Start	2	2	2/24/2020	2/25/2020	2-3001-4000.txt
Red Dawn Breaking Bad, Start Feb 24	121	7	2/24/2020	3/1/2020	2-2001-3000.txt 2-3001-4000.txt 2-4001-5000.txt 2-5001-6000.txt
Red Dawn Rising Start Feb 29	124	5	2/29/2020	3/4/2020	2-5001-6000.txt 2-6001-6093.txt 3-1-1000.txt
Restricted Wolverine Call Sunday Evening (today) at 8 PM EST	2	1	3/1/2020	3/1/2020	3-1-1000.txt
Updated Travel Policy and Meeting Guidelines in Response to Coronavirus	1	1	3/3/2020	3/3/2020	3-1-1000.txt
Red Dawn Rising Start Feb 29 -- Evidence of how NPI works --	1	1	3/4/2020	3/4/2020	3-1-1000.txt
Red	2	1	3/5/2020	3/5/2020	2-2001-3000.txt 3-5001-6000.txt
Red Dawn Raging Start March	6	8	3/5/2020	3/12/2020	3-5001-6000.txt 4-8001-9000.txt



Red Dawn Raging Start	16	9	3/5/2020	3/13/2020	3-5001-6000.txt 4-1-1000.txt 4-1001-2000.txt 4-13001-14000.txt 4-2001-3000.txt 4-3001-4000.txt 6-1-1000.txt 7-10001-11000.txt 7-8001-9000.txt
Red Dawn Raging Start March 4	204	12	3/5/2020	3/16/2020	3-1-1000.txt 3-1001-2000.txt 3-2001-3000.txt 3-3001-4000.txt 3-4001-5000.txt 3-5001-6000.txt 3-6001-6626.txt 4-1-1000.txt 4-10001-11000.txt 4-1001-2000.txt 4-11001-12000.txt 4-12001-13000.txt 4-13001-14000.txt 4-2001-3000.txt 4-3001-4000.txt 4-4001-5000.txt 4-5001-6000.txt 4-6001-7000.txt 4-7001-8000.txt 4-8001-9000.txt 4-9001-10000.txt 5-1-1000.txt 5-1001-2000.txt 5-2001-3000.txt 5-4001-5000.txt 5-5001-6000.txt 5-6001-7000.txt 6-1-1000.txt 7-1-1000.txt 7-12001-12178.txt
Dean Nelson and other admin at CVM were in/are still in Wash DC	1	1	3/6/2020	3/6/2020	3-1001-2000.txt

[EXTERNAL] Red Dawn Raging Start March 4	15	5	3/8/2020	3/12/2020	3-1001-2000.txt 3-2001-3000.txt 3-3001-4000.txt 3-4001-5000.txt 4-3001-4000.txt
[EXTERNAL] Red Dawn Raging Start March 4	45	9	3/8/2020	3/16/2020	3-1001-2000.txt 3-2001-3000.txt 3-3001-4000.txt 3-4001-5000.txt 4-2001-3000.txt 6-1001-2000.txt 6-3001-4000.txt 7-10001-11000.txt 7-1001-2000.txt 7-3001-4000.txt 7-4001-5000.txt 7-6001-7000.txt 7-8001-9000.txt
[EXTERNAL] Red Dawn Raging Start	2	1	3/9/2020	3/9/2020	3-3001-4000.txt
Red Dawn Raging, Start March 4	4	1	3/10/2020	3/10/2020	3-4001-5000.txt
[EXT] Red Dawn Raging Start March 4	2	1	3/12/2020	3/12/2020	4-1-1000.txt
Epidemiologist needed	1	1	3/13/2020	3/13/2020	4-6001-7000.txt
Singapore's measures to contain COVID-19	11	2	3/15/2020	3/16/2020	5-4001-5000.txt 7-8001-9000.txt
Impact of Social Distancing Practices	1	1	3/16/2020	3/16/2020	7-12001-12178.txt
Red Dawn Responding, Start 16	2	2	3/16/2020	3/17/2020	8-1-1000.txt
[EXTERNAL] Red Dawn	4	5	3/16/2020	3/20/2020	7-10001-11000.txt 9-1-1000.txt 9-1001-2000.txt
Red Dawn Responding, Start 16 March	91	15	3/16/2020	3/30/2020	10-4001-5000.txt 7-12001-12178.txt 8-1-1000.txt 8-1001-1670.txt 9-1-1000.txt 9-1001-2000.txt 9-2001-3000.txt 9-4001-5000.txt 9-5001-6000.txt

Social Distancing	1	1	3/17/2020	3/17/2020	8-1-1000.txt
No reinfection and titer data in COVID Plasma	4	1	3/18/2020	3/18/2020	8-1-1000.txt
COVID Plasma	1	1	3/18/2020	3/18/2020	8-1-1000.txt
CONFIRMED - COVID-19 Conversations Webinar Series Advisory Group Meeting	1	1	3/18/2020	3/18/2020	8-1-1000.txt
Has everyone seen this?	2	1	3/19/2020	3/19/2020	8-1001-1670.txt
NPI New Statistical Analysis Study	1	1	3/19/2020	3/19/2020	8-1001-1670.txt
The psychological impact of quarantine and how to reduce it	3	1	3/19/2020	3/19/2020	9-1-1000.txt
[EXTERNAL] Red Dawn Reflux,	1	1	3/19/2020	3/19/2020	9-1-1000.txt
Have you seen this article on hydroxychloroquine and azithromycin tx	2	1	3/19/2020	3/19/2020	8-1001-1670.txt
[EXTERNAL] Red Dawn Reflux, Start	2	1	3/19/2020	3/19/2020	9-1-1000.txt 9-1001-2000.txt
[EXTERNAL] Red Dawn Reflux,	5	2	3/19/2020	3/20/2020	9-1001-2000.txt 9-2001-3000.txt
[EXTERNAL] Red Dawn Reflux, Start 2020 0319, 10:35	5	2	3/19/2020	3/20/2020	9-1-1000.txt 9-1001-2000.txt
[EXTERNAL] Red Dawn Reflux, Start 2020	6	2	3/19/2020	3/20/2020	9-1-1000.txt 9-1001-2000.txt
[EXTERNAL] Red Dawn Reflux, Start 2020 0319,	5	2	3/19/2020	3/20/2020	9-1-1000.txt 9-2001-3000.txt
[EXTERNAL] Red Dawn Reflux, Start 2020 0319, 10:35 EDT	69	4	3/19/2020	3/22/2020	8-1001-1670.txt 9-1-1000.txt 9-1001-2000.txt
Red Dawn Reflux, Start 2020 0319, 10:35 EDT	11	5	3/19/2020	3/23/2020	8-1001-1670.txt 9-1001-2000.txt 9-2001-3000.txt
[EXTERNAL] Red Dawn Reflux, Start 2020 0319, 10:35 EDT	12	5	3/19/2020	3/23/2020	9-1-1000.txt 9-1001-2000.txt 9-2001-3000.txt
[EXTERNAL] Red	2	1	3/20/2020	3/20/2020	9-1-1000.txt 9-1001-2000.txt
Update & action items - NAM-APHA COVID-19 Webinar Series	8	2	3/21/2020	3/22/2020	9-1-1000.txt 9-1001-2000.txt

Webinar topic	1	1	3/22/2020	3/22/2020	9-1001-2000.txt
Red Dawn Suppression, Start Mar 23, 10:00	1	1	3/23/2020	3/23/2020	9-2001-3000.txt
Red Dawn Suppression, Start Mar	2	1	3/23/2020	3/23/2020	9-2001-3000.txt
BWIRP Files	4	1	3/23/2020	3/23/2020	9-2001-3000.txt
The Science of Social Distancing: A free webinar from NAM and APHA	4	2	3/23/2020	3/24/2020	9-2001-3000.txt
Inquiry on Interest and Availability to Participate in INR Analytic Exchange on Scientific Evidence on Origins of Novel	7	3	3/23/2020	3/25/2020	9-2001-3000.txt 9-3001-4000.txt
Red Dawn Suppression, Start Mar 23, 10:00 EDT	83	5	3/23/2020	3/27/2020	9-1001-2000.txt 9-2001-3000.txt 9-3001-4000.txt 9-4001-5000.txt 9-5001-6000.txt
FDA announcement	1	1	3/24/2020	3/24/2020	9-2001-3000.txt
*** China Data Dr. Michael Joyner***	1	1	3/25/2020	3/25/2020	9-2001-3000.txt
*** China Data   Dr. Michael Joyner**	1	1	3/25/2020	3/25/2020	9-2001-3000.txt
[EXTERNAL] ***China Data Dr. Michael Joyner***	2	1	3/25/2020	3/25/2020	9-2001-3000.txt
***China Data Dr. Michael Joyner***	2	1	3/25/2020	3/25/2020	9-2001-3000.txt
***China Data   Dr. Michael Joyner***	2	1	3/25/2020	3/25/2020	9-2001-3000.txt
Reuse of N95 Masks	5	2	3/25/2020	3/26/2020	9-3001-4000.txt
Red Dawn Pondering, Start Mar 27, 15:45	42	16	3/27/2020	4/11/2020	9-5001-6000.txt 9-6001-7000.txt
CONFIRMED: Second advisory call for COVID-19 webinar series	1	1	3/28/2020	3/28/2020	9-5001-6000.txt
[EXTERNAL] Red Dawn Pondering, Start Mar 27, 15:45	2	1	3/29/2020	3/29/2020	9-5001-6000.txt
Red Dawn Pondering, Start Mar 27,	2	1	3/29/2020	3/29/2020	9-5001-6000.txt
Masks	10	4	3/29/2020	4/1/2020	9-5001-6000.txt
updates - NAM-APHA webinar series	1	1	3/31/2020	3/31/2020	9-5001-6000.txt

Red Dawn Rooster, Start April 2, 17:00	29	6	4/2/2020	4/7/2020	9-5001-6000.txt 9-6001-7000.txt
Red Dawn Rolling, Start April 6, 15:00	35	6	4/6/2020	4/11/2020	9-6001-7000.txt
Advisory Group Call: NAM-APHA COVID-19 Webinar Series	7	87	4/6/2020	7/1/2020	10-5001-6000.txt 10-6001-7000.txt
Health, Safety & Store Updates â€” The Latest from Kroger	2	4	4/7/2020	4/10/2020	9-6001-7000.txt
Health, Safety & Store Updates - The Latest from Kroger	2	4	4/7/2020	4/10/2020	9-6001-7000.txt
NAM-APHA COVID-19 Webinar Series Update	2	1	4/9/2020	4/9/2020	9-6001-7000.txt
Red Dawn	3	32	4/12/2020	5/13/2020	10-5001-6000.txt 4-12001-13000.txt 9-6001-7000.txt
Red Dawn Breaking Debacle - How can we help those at risk?	1	1	4/13/2020	4/13/2020	9-6001-7000.txt
Red Dawn Setting, Begin 13 April 08:00	60	23	4/13/2020	5/5/2020	10-1-1000.txt 10-1001-2000.txt 10-2001-3000.txt 9-10001-11000.txt 9-13001-14000.txt 9-15001-16000.txt 9-6001-7000.txt 9-7001-8000.txt 9-8001-9000.txt 9-9001-10000.txt
Red Dawn Setting, Begin 13 April 08:00	176	24	4/13/2020	5/6/2020	10-1-1000.txt 10-1001-2000.txt 10-2001-3000.txt 10-3001-4000.txt 9-10001-11000.txt 9-11001-12000.txt 9-12001-13000.txt 9-13001-14000.txt 9-14001-15000.txt 9-15001-16000.txt 9-16001-16505.txt 9-6001-7000.txt 9-7001-8000.txt 9-8001-9000.txt 9-9001-10000.txt

Update on Health Data Security	1	1	4/14/2020	4/14/2020	9-7001-8000.txt
Red Dawn Setting, Begin 13 April	4	2	4/14/2020	4/15/2020	9-7001-8000.txt 9-8001-9000.txt
Red Dawn Setting, Begin	8	13	4/14/2020	4/26/2020	10-1-1000.txt 9-11001-12000.txt 9-12001-13000.txt 9-8001-9000.txt
talk on the phone?	7	3	4/16/2020	4/18/2020	9-7001-8000.txt 9-8001-9000.txt
Red Dawn Setting, Begin 13April	3	3	4/20/2020	4/22/2020	10-1-1000.txt
Drug repurposing screen paper	2	1	4/22/2020	4/22/2020	9-10001-11000.txt
questions from leadership group	1	1	4/22/2020	4/22/2020	9-10001-11000.txt
interesting paper	4	1	4/22/2020	4/22/2020	9-10001-11000.txt
New paper	2	1	4/23/2020	4/23/2020	9-10001-11000.txt
background for NAM-APHA advisory group call tomorrow	4	15	4/23/2020	5/7/2020	10-3001-4000.txt 9-11001-12000.txt 9-13001-14000.txt
NIAID COVID strategic plan	1	1	4/24/2020	4/24/2020	9-10001-11000.txt
2020 April 25 Daily COVID-19 LST Report (Red Dawn Setting, Begin 13April 08:00]	1	1	4/26/2020	4/26/2020	9-12001-13000.txt
Register Now! Webinar on Can old drugs take down a new coronavirus? The state of COVID-19 drug repurposing efforts	1	1	4/27/2020	4/27/2020	9-12001-13000.txt
Register Now! Webinar on Can old drugs take down a new coronavirus? The state of COVID-19 drug repurposing	2	1	4/27/2020	4/27/2020	9-12001-13000.txt
Direct observation of repeated infections with endemic coronaviruses	13	2	4/28/2020	4/29/2020	9-13001-14000.txt
apropos "warp speed" vaccine development	1	1	4/30/2020	4/30/2020	9-14001-15000.txt
Just in: Compilation of RECS	1	1	4/30/2020	4/30/2020	9-14001-15000.txt
INVITIVION: virtual U.S. China dialogue meeting on COVID-19	1	1	5/3/2020	5/3/2020	10-1-1000.txt

Paul H. Lambert recommends as speaker in the webinar: IABS webinar on COVID, MAY 27: upfdate Information, with	1	1	5/4/2020	5/4/2020	10-1001-2000.txt
lecture on COVID-19 animal models by Emmie de Wit, NIAID, on May 6 at 3:00 p.m.	2	1	5/4/2020	5/4/2020	10-1001-2000.txt
Paul H. Lambert recommends as speaker in the webinar: IABS webinar on COVID, MAY 27: upfdate Information,	2	2	5/4/2020	5/5/2020	10-1001-2000.txt
Virtual U.S. China dialogue meeting on COVID-19: planning discussion on May 7	11	7	5/4/2020	5/10/2020	10-1001-2000.txt 10-3001-4000.txt
Red Dawn Posturing, Begin May 5, 12:50 EDT	84	49	5/5/2020	6/22/2020	10-2001-3000.txt 10-3001-4000.txt 10-4001-5000.txt 10-5001-6000.txt
Paper of interest	3	1	5/6/2020	5/6/2020	10-3001-4000.txt
webinar on extreme weather and COVID-19	9	8	5/8/2020	5/15/2020	10-3001-4000.txt 10-4001-5000.txt
Re. List of Chinese participants - Virtual U.S. China dialogue meeting on COVID-19: planning discussion on May 7	1	1	5/11/2020	5/11/2020	10-3001-4000.txt
Virtual U.S. China dialogue meeting on COVID-19: ZOOM link for first call	1	1	5/11/2020	5/11/2020	10-3001-4000.txt
Virtual U.S. China dialogue meeting on COVID-19: final docs, Zoom link (and back up phone number)	4	1	5/11/2020	5/11/2020	10-3001-4000.txt
Virtual U.S. China dialogue meeting on COVID-19: final docs	1	1	5/12/2020	5/12/2020	10-3001-4000.txt
Virtual U.S. China dialogue meeting on COVID-19: Zoom link for Wednesday May 13 call 9pm et	9	3	5/12/2020	5/14/2020	10-3001-4000.txt
Red Dawn Posturing, Begin May 5, 12:50	2	2	5/13/2020	5/14/2020	10-4001-5000.txt
Red Dawn Posturing, Begin May 5,	2	2	5/13/2020	5/14/2020	10-5001-6000.txt

***CCPP19: Early safety preprint posted on medRxiv***	1	1	5/14/2020	5/14/2020	10-3001-4000.txt
[EXTERNAL] Your preprint 10.1101/2020.05.12.20099879 has posted on medRxiv	1	1	5/14/2020	5/14/2020	10-3001-4000.txt
Follow up Meeting to Discuss Results of the Virtual U.S. China dialogue meeting on COVID-19	6	5	5/14/2020	5/18/2020	10-4001-5000.txt
Nice interview with Cat Lutz	4	1	5/15/2020	5/15/2020	10-4001-5000.txt
SARS-COV-2 NHP Research Publications	1	1	5/20/2020	5/20/2020	10-4001-5000.txt
SARS-CoV-2 NHP Research Publications	3	1	5/20/2020	5/20/2020	10-4001-5000.txt
3rd Virtual U.S. China dialogue meeting on COVID-19	3	3	5/20/2020	5/22/2020	10-4001-5000.txt
background for tomorrow's NAM-APHA advisory group call	2	1	5/21/2020	5/21/2020	10-4001-5000.txt
Reaching out to Red Dawn team members	2	1	5/25/2020	5/25/2020	10-4001-5000.txt
3rd Virtual U.S. China dialogue meeting on COVID-19 Tuesday, June 9, 9-11PM ET	11	10	6/1/2020	6/10/2020	10-4001-5000.txt
ZOOM link 3rd Virtual U.S. China dialogue meeting, Tuesday, June 9, 9-11PM ET	4	6	6/4/2020	6/9/2020	10-4001-5000.txt
[SUSPICIOUS MESSAGE] Agenda & background for NAM-APHA advisory group call at 2 pm	1	1	6/5/2020	6/5/2020	10-4001-5000.txt
Agenda & background for NAM-APHA advisory group call at 2 pm	2	1	6/5/2020	6/5/2020	10-4001-5000.txt
June 10   Daily COVID-19 LST Report	2	2	6/10/2020	6/11/2020	10-5001-6000.txt
Join us for a Conversation with California's COVID-19 Testing Task Force Leaders on Friday, June 26th	1	1	6/22/2020	6/22/2020	10-5001-6000.txt
Red Dawn Posturing, Update on California Testing Task Force Webinar Friday 26 June, 4-	1	1	6/23/2020	6/23/2020	10-5001-6000.txt
Red Dawn Posturing, Update on California Testing Task Force Webinar Friday 26 June, 4-5 PM	3	3	6/23/2020	6/25/2020	10-5001-6000.txt



EDT					
Red Dawn Posturing	3	6	6/25/2020	6/30/2020	10-5001-6000.txt
Red Dawn Rhapsodizing Begin July 2, 2020	61	25	7/2/2020	7/26/2020	10-6001-7000.txt 10-7001-7245.txt
Op-Ed - Treat COVID19 as though it were airborne - until we prove that it is not	5	2	7/14/2020	7/15/2020	10-6001-7000.txt
July 20   Daily COVID-19 LST Report	2	2	7/20/2020	7/21/2020	10-6001-7000.txt
COVID-19 Conversations: K-12 School Reopening Webinar - Draft Agenda	2	3	7/21/2020	7/23/2020	10-6001-7000.txt
[EXTERNAL] Your preprint 10.1101/2020.07.29.20162917 has posted on medRxiv	2	1	7/30/2020	7/30/2020	10-7001-7245.txt
Preprint 10.1101/2020.07.29.20162917 has posted on medRxiv	1	1	7/30/2020	7/30/2020	10-7001-7245.txt

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MPottinger (b)(6)  
Ruggiero, Anthony J. EOP/NSC (b)(6)  
**Subject:** New York Mag: The Lab Leak Hypothesis  
**Date:** Mon, 4 Jan 2021 19:19:57 +0000

This looks awfully interesting. The story the New Yorker wouldn't tell...

<https://nymag.com/intelligencer/article/coronavirus-lab-escape-theory.html>

Jan 4, 2021, 6:00 A.M.

# The Lab-Leak Hypothesis

## The Lab Leak Hypothesis

For decades, scientists have been hot-wiring viruses in hopes of preventing a pandemic, not causing one. But what if ...?

By *Nicholson Baker*

I.

## Flask Monsters

**What happened was** fairly simple, I've come to believe. It was an accident. A virus spent some time in a laboratory, and eventually it got out. SARS-CoV-2, the virus that causes COVID-19, began its existence inside a bat, then it learned how to infect people in a claustrophobic mine shaft, and then it was made more infectious in one or more laboratories, perhaps as part of a scientist's well-intentioned but risky effort to create a broad-spectrum vaccine.

SARS-2 was not designed as a biological weapon. But it was, I think, designed. Many thoughtful people dismiss this notion, and they may be right. They sincerely believe that the coronavirus arose naturally, “zoonotically,” from animals, without having been previously studied, or hybridized, or sluiced through cell cultures, or otherwise worked on by trained professionals. They hold that a bat, carrying a coronavirus, infected some other creature, perhaps a pangolin, and that the pangolin may have already been sick with a different coronavirus disease, and out of the conjunction and commingling of those two diseases within the pangolin, a new disease, highly infectious to humans, evolved. Or they hypothesize that two coronaviruses recombined in a bat, and this new virus spread to other bats, and then the bats infected a person directly — in a rural setting, perhaps — and that this person caused a simmering undetected outbreak of respiratory disease, which over a period of months or years evolved to become virulent and highly transmissible but was not noticed until it appeared in Wuhan.

There is no direct evidence for these zoonotic possibilities, just as there is no direct evidence for an experimental mishap — no written confession, no incriminating notebook, no official accident report. Certainty craves detail, and detail requires an investigation. It has been a full year, 80 million people have been infected, and, surprisingly, no public investigation has taken place. We still know very little about the origins of this disease.

Nevertheless, I think it’s worth offering some historical context for our yearlong medical nightmare. We need to hear from the people who for years have contended that certain types of virus experimentation might lead to a disastrous pandemic like this one. And we need to stop hunting for new exotic diseases in the wild, shipping them back to laboratories, and hot-wiring their genomes to prove how dangerous to human life they might become.

Over the past few decades, scientists have developed ingenious methods of evolutionary acceleration and recombination, and they’ve learned how to trick viruses, coronaviruses in particular, those spiky hairballs of protein we now know so well, into moving quickly from one species of animal to another or from one type of cell culture to another. They’ve made machines that mix and mingle the viral code for bat diseases with the code for human diseases — diseases like SARS, severe acute respiratory syndrome, for example, which arose in China in 2003, and MERS, Middle East respiratory syndrome, which broke out a decade later and has to do with bats and camels. Some of the experiments — “gain of function” experiments — aimed to create new, more virulent, or more infectious strains of diseases in an effort to predict and therefore defend against threats that might conceivably arise in nature. The

term *gain of function* is itself a euphemism; the Obama White House more accurately described this work as “experiments that may be reasonably anticipated to confer attributes to influenza, MERS, or SARS viruses such that the virus would have enhanced pathogenicity and/or transmissibility in mammals via the respiratory route.” The virologists who carried out these experiments have accomplished amazing feats of genetic transmutation, no question, and there have been very few publicized accidents over the years. But there have been some.

And we were warned, repeatedly. The intentional creation of new microbes that combine virulence with heightened transmissibility “poses extraordinary risks to the public,” wrote infectious-disease experts Marc Lipsitch and Thomas Inglesby in 2014. “A rigorous and transparent risk-assessment process for this work has not yet been established.” That’s still true today. In 2012, in *Bulletin of the Atomic Scientists*, Lynn Klotz warned that there was an 80 percent chance, given how many laboratories were then handling virulent viro-varietals, that a leak of a potential pandemic pathogen would occur sometime in the next 12 years.

A lab accident — a dropped flask, a needle prick, a mouse bite, an illegibly labeled bottle — is apolitical. Proposing that something unfortunate happened during a scientific experiment in Wuhan — where COVID-19 was first diagnosed and where there are three high-security virology labs, one of which held in its freezers the most comprehensive inventory of sampled bat viruses in the world — isn’t a conspiracy theory. It’s just a theory. It merits attention, I believe, alongside other reasoned attempts to explain the source of our current catastrophe.

## II.

# “A Reasonable Chance”

From early 2020, the world was brooding over the origins of COVID-19. People were reading research papers, talking about what kinds of live animals were or were not sold at the Wuhan seafood market — wondering where the new virus had come from.

Meanwhile, things got strange all over the world. The Chinese government shut down transportation and built hospitals at high speed. There were video clips of people who’d suddenly dropped unconscious in the street. A doctor on YouTube told us how we were supposed to scrub down our produce when we

got back from the supermarket. A scientist named Shi Zhengli of the Wuhan Institute of Virology published a paper saying that the novel coronavirus was 96 percent identical to a bat virus, RaTG13, found in Yunnan province in southern China. On March 13, I wrote in my journal that there seemed to be something oddly artificial about the disease: "It's too airborne — too catching — it's something that has been selected for infectivity. That's what I suspect. No way to know so no reason to waste time thinking about it."

This was just a note to self — at the time, I hadn't interviewed scientists about SARS-2 or read their research papers. But I did know something about pathogens and laboratory accidents; I published a book last year, *Baseless*, that talks about some of them. The book is named after a Pentagon program, Project Baseless, whose goal, as of 1951, was to achieve "an Air Force-wide combat capability in biological and chemical warfare at the earliest possible date."

A vast treasure was spent by the U.S. on the amplification and aerial delivery of diseases — some well known, others obscure and stealthy. America's biological-weapons program in the '50s had A1-priority status, as high as nuclear weapons. In preparation for a total war with a numerically superior communist foe, scientists bred germs to be resistant to antibiotics and other drug therapies, and they infected lab animals with them, using a technique called "serial passaging," in order to make the germs more virulent and more catching.

And along the way, there were laboratory accidents. By 1960, hundreds of American scientists and technicians had been hospitalized, victims of the diseases they were trying to weaponize. Charles Armstrong, of the National Institutes of Health, one of the consulting founders of the American germ-warfare program, investigated Q fever three times, and all three times, scientists and staffers got sick. In the anthrax pilot plant at Camp Detrick, Maryland, in 1951, a microbiologist, attempting to perfect the "foaming process" of high-volume production, developed a fever and died. In 1964, veterinary worker Albert Nickel fell ill after being bitten by a lab animal. His wife wasn't told that he had Machupo virus, or Bolivian hemorrhagic fever. "I watched him die through a little window to his quarantine room at the Detrick infirmary," she said.

In 1977, a worldwide epidemic of influenza A began in Russia and China; it was eventually traced to a sample of an American strain of flu preserved in a laboratory freezer since 1950. In 1978, a hybrid strain of smallpox killed a medical photographer at a lab in Birmingham, England; in 2007, live foot-

and-mouth disease leaked from a faulty drainpipe at the Institute for Animal Health in Surrey. In the U.S., “more than 1,100 laboratory incidents involving bacteria, viruses and toxins that pose significant or bioterror risks to people and agriculture were reported to federal regulators during 2008 through 2012,” reported *USA Today* in an exposé published in 2014.

In 2015, the Department of Defense discovered that workers at a germ-warfare testing center in Utah had mistakenly sent close to 200 shipments of live anthrax to laboratories throughout the United States and also to Australia, Germany, Japan, South Korea, and several other countries over the past 12 years. In 2019, laboratories at Fort Detrick — where “defensive” research involves the creation of potential pathogens to defend against — were shut down for several months by the Centers for Disease Control and Prevention for “breaches of containment.” They reopened in December 2019.

High-containment laboratories have a whispered history of near misses. Scientists are people, and people have clumsy moments and poke themselves and get bitten by the enraged animals they are trying to nasally inoculate. Machines can create invisible aerosols, and cell solutions can become contaminated. Waste systems don’t always work properly. Things can go wrong in a hundred different ways.

Hold that human fallibility in your mind. And then consider the cautious words of Alina Chan, a scientist who works at the Broad Institute of MIT and Harvard. “There is a reasonable chance that what we are dealing with is the result of a lab accident,” Chan told me in July of last year. There was also, she added, a reasonable chance that the disease had evolved naturally — both were scientific possibilities. “I don’t know if we will ever find a smoking gun, especially if it was a lab accident. The stakes are so high now. It would be terrifying to be blamed for millions of cases of COVID-19 and possibly up to a million deaths by year end, if the pandemic continues to grow out of control. The Chinese government has also restricted their own scholars and scientists from looking into the origins of SARS-CoV-2. At this rate, the origin of SARS-CoV-2 may just be buried by the passage of time.”

I asked Jonathan A. King, a molecular biologist and biosafety advocate from MIT, whether he’d thought *lab accident* when he first heard about the epidemic. “Absolutely, absolutely,” King answered. Other scientists he knew were concerned as well. But scientists, he said, in general were cautious about speaking out. There were “very intense, very subtle pressures” on them not to push on issues of laboratory biohazards. Collecting lots of bat viruses, and passaging those viruses repeatedly through cell cultures, and making bat-

human viral hybrids, King believes, “generates new threats and desperately needs to be reined in.”

“All possibilities should be on the table, including a lab leak,” a scientist from the NIH, Philip Murphy — chief of the Laboratory of Molecular Immunology — wrote me recently. Nikolai Petrovsky, a professor of endocrinology at Flinders University College of Medicine in Adelaide, Australia, said in an email, “There are indeed many unexplained features of this virus that are hard if not impossible to explain based on a completely natural origin.” Richard Ebright, a molecular biologist at Rutgers University, wrote that he’d been concerned for some years about the Wuhan laboratory and about the work being done there to create “chimeric” (i.e., hybrid) SARS-related bat coronaviruses “with enhanced human infectivity.” Ebright said, “In this context, the news of a novel coronavirus in Wuhan \*\*\*screamed\*\*\* lab release.”

### III.

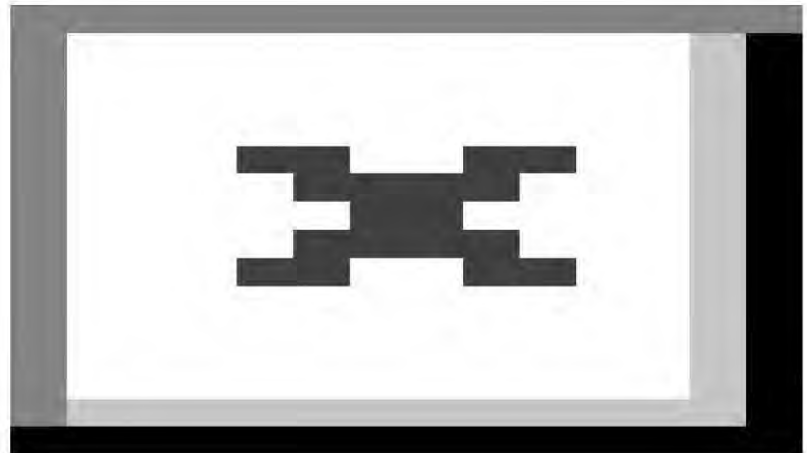
## “No Credible Evidence”

**The new disease**, as soon as it appeared, was intercepted — stolen and politicized by people with ulterior motives. The basic and extremely interesting scientific question of what happened was sucked up into an ideological sharknado.

Some Americans boycotted Chinese restaurants; others bullied and harassed Asian Americans. Steve Bannon, broadcasting from his living room, in a YouTube series called *War Room*, said that the Chinese Communist Party had made a biological weapon and intentionally released it. He called it the “CCP virus.” And his billionaire friend and backer, Miles Guo, a devoted Trump supporter, told a right-wing website that the communists’ goal was to “use the virus to infect selective people in Hong Kong, so that the Chinese Communist Party could use it as an excuse to impose martial law there and ultimately crush the Hong Kong pro-democracy movement. But it backfired terribly.”

In *The Lancet*, in February, a powerful counterstatement appeared, signed by 27 scientists. “We stand together to strongly condemn conspiracy theories suggesting that COVID-19 does not have a natural origin,” the statement said. “Scientists from multiple countries have published and analyzed genomes of the causative agent, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and they overwhelmingly conclude that this coronavirus originated in wildlife, as have so many other emerging pathogens.”

The behind-the-scenes organizer of this *Lancet* statement, Peter Daszak, is a zoologist and bat-virus sample collector and the head of a New York nonprofit called EcoHealth Alliance — a group that (as veteran science journalist Fred Guterl explained later in *Newsweek*) has channeled money from the National Institutes of Health to Shi Zhengli's laboratory in Wuhan, allowing the lab to carry on recombinant research into diseases of bats and humans. "We have a choice whether to stand up and support colleagues who are being attacked and threatened daily by conspiracy theorists or to just turn a blind eye," Daszak said in February in *Science* magazine.



**How Did It Get Out?** **1. The Tongguan Mine Shaft** in Mojiang, Yunnan, where, in 2013, fragments of RaTG13, the closest known relative of SARSCoV-2, were recovered and transported to the Wuhan Institute of Virology; **2. The Wuhan Institute of Virology**, where Shi Zhengli's team brought the RaTG13 sample, sequenced its genome, then took it out of the freezer several times in recent years; **3. The Wuhan Center for Disease Control and Prevention**, which first reported signs of the novel coronavirus in hospital patients; **4. The Huanan Seafood Wholesale Market**, an early suspected origin of the pandemic, where the first major outbreak occurred. Illustration: Map by Jason Lee

Vincent Racaniello, a professor at Columbia and a co-host of a podcast called *This Week in Virology*, said on February 9 that the idea of an accident in Wuhan was "complete bunk." The coronavirus was 96 percent similar to a



bat virus found in 2013, Racaniello said. "It's not a man-made virus. It wasn't released from a lab."

Racaniello's dismissal was seconded by a group of scientists from Ohio State, the University of Pennsylvania, and the University of North Carolina, who put out a paper in *Emerging Microbes and Infections* to quiet the "speculations, rumors, and conspiracy theories that SARS-CoV-2 is of laboratory origin." There was "currently no credible evidence" that SARS-2 leaked from a lab, these scientists said, using a somewhat different argument from Racaniello's. "Some people have alleged that the human SARS-CoV-2 was leaked directly from a laboratory in Wuhan where a bat CoV (RaTG13) was recently reported," they said. But RaTG13 could not be the source because it differed from the human SARS-2 virus by more than a thousand nucleotides. One of the paper's authors, Susan Weiss, told the Raleigh *News & Observer*, "The conspiracy theory is ridiculous."

The most influential natural-origin paper, "The Proximal Origin of SARS-CoV-2," by a group of biologists that included Kristian Andersen of Scripps Research, appeared online in a preliminary version in mid-February. "We do not believe any type of laboratory-based scenario is plausible," the scientists said. Why? Because molecular-modeling software predicted that if you wanted to optimize an existing bat virus so that it would replicate well in human cells, you would arrange things a different way than how the SARS-2 virus actually does it — even though the SARS-2 virus does an extraordinarily good job of replicating in human cells. The laboratory-based scenario was implausible, the paper said, because, although it was true that the virus could conceivably have developed its unusual genetic features in a laboratory, a stronger and "more parsimonious" explanation was that the features came about through some kind of natural mutation or recombination. "What we think," explained one of the authors, Robert F. Garry of Tulane University, on YouTube, "is that this virus is a recombinant. It probably came from a bat virus, plus perhaps one of these viruses from the pangolin." Journalists, for the most part, echoed the authoritative pronouncements of Daszak, Racaniello, Weiss, Andersen, and other prominent natural-originists. "The balance of the scientific evidence strongly supports the conclusion that the new coronavirus emerged from nature — be it the Wuhan market or somewhere else," said the Washington *Post's* "Fact Checker" column. "Dr. Fauci Again Dismisses Wuhan Lab As Source of Coronavirus," said CBS News, posting a video interview of Anthony Fauci by *National Geographic*. "If you look at the evolution of the virus in bats, and what's out there now," Fauci said, "it's very, very strongly leaning toward 'This could not have been

artificially or deliberately manipulated’ — the way the mutations have naturally evolved.”

Everyone took sides; everyone thought of the new disease as one more episode in an ongoing partisan struggle. Think of Mike Pompeo, that landmass of Cold War truculence; think of Donald Trump himself. They stood at their microphones saying, in a winking, I-know-something-you-don’t-know sort of way, that this disease escaped from a Chinese laboratory. Whatever they were saying must be wrong. It became impermissible, almost taboo, to admit that, of course, SARS-2 could have come from a lab accident. “The administration’s claim that the virus spread from a Wuhan lab has made the notion politically toxic, even among scientists who say it could have happened,” wrote science journalist Mara Hvistendahl in the Intercept.

#### IV.

## “Is It a Complete Coincidence?”

**Even so, in January and February of 2020, there were thoughtful people who were speaking up, formulating their perplexities.**

One person was Sam Hussein, who works for Consortium News.

He went to a CDC press conference at the National Press Club on February 11, 2020. By then, 42,000 people had gotten sick in China and more than a thousand had died. But there were only 13 confirmed cases in the U.S.

Halfway through the Q&A period, Hussein went to the microphone and asked the CDC’s representative, Anne Schuchat, where the virus had come from. His head was spinning, he told me later.

“Obviously the main concern is how to stop the virus,” Hussein said; nonetheless, he wanted to know more about its source. “Is it the CDC’s contention,” he asked, “that there’s absolutely no relation to the BSL-4 lab in Wuhan? It’s my understanding that this is the only place in China with a BSL-4 lab. We in the United States have, I think, two dozen or so, and there have been problems and incidents.” (A BSL-4 laboratory is a maximum-security biosafety-level-four facility, used to house research on the most dangerous known pathogens. *New York* has confirmed there are at least 11 BSL-4 facilities currently operating in the U.S.) Hussein hastened to say that he wasn’t implying that what happened in Wuhan was in any way intentional. “I’m just asking, Is it a complete coincidence that this outbreak happened in the one city in China with a BSL-4 lab?”

Schuchat thanked Husseini for his questions and comments. Everything she'd seen was quite consistent with a natural, zoonotic origin for the disease, she said.

That same month, a group of French scientists from Aix-Marseille University posted a paper describing their investigation of a small insertion in the genome of the new SARS-2 virus. The virus's spike protein contained a sequence of amino acids that formed what Etienne Decroly and colleagues called a "peculiar furin-like cleavage site" — a chemically sensitive region on the lobster claw of the spike protein that would react in the presence of an enzyme called furin, which is a type of protein found everywhere within the human body, but especially in the lungs. When the spike senses human furin, it shudders, chemically speaking, and the enzyme opens the protein, commencing the tiny morbid ballet whereby the virus burns a hole in a host cell's outer membrane and finds its way inside.

The code for this particular molecular feature — not found in SARS or any SARS-like bat viruses, but present in a slightly different form in the more lethal MERS virus — is easy to remember because it's a roar: "R-R-A-R." The letter code stands for amino acids: arginine, arginine, alanine, and arginine. Its presence, so Decroly and his colleagues observed, may heighten the "pathogenicity" — that is, the god-awfulness — of a disease.

Botao Xiao, a professor at the South China University of Technology, posted a short paper on a preprint server titled "The Possible Origins of 2019-nCoV Coronavirus." Two laboratories, the Wuhan Center for Disease Control and Prevention (WHCDC) and the Wuhan Institute of Virology, were not far from the seafood market, which was where the disease was said to have originated, Xiao wrote — in fact, the WHCDC was only a few hundred yards away from the market — whereas the horseshoe bats that hosted the disease were hundreds of miles to the south. (No bats were sold in the market, he pointed out.) It was unlikely, he wrote, that a bat would have flown to a densely populated metropolitan area of 15 million people. "The killer coronavirus probably originated from a laboratory in Wuhan," Xiao believed. He urged the relocation of "biohazardous laboratories" away from densely populated places. His article disappeared from the server.

And late in the month, a professor at National Taiwan University, Fang Chitai, gave a lecture on the coronavirus in which he described the anomalous R-R-A-R furin cleavage site. The virus was "unlikely to have four amino acids added all at once," Fang said — natural mutations were smaller and more haphazard, he argued. "From an academic point of view, it is indeed possible

that the amino acids were added to COVID-19 in the lab by humans.” When the Taiwan *News* published an article about Fang’s talk, Fang disavowed his own comments, and the video copy of the talk disappeared from the website of the Taiwan Public Health Association. “It has been taken down for a certain reason,” the association explained. “Thank you for your understanding.”

v.

## “A Serious Shortage of Appropriately Trained Technicians”

**In the spring**, I did some reading on coronavirus history. Beginning in the 1970s, dogs, cows, and pigs were diagnosed with coronavirus infections; dog shows were canceled in 1978 after 25 collies died in Louisville, Kentucky. New varieties of coronaviruses didn’t start killing humans, though, until 2003 — that’s when restaurant chefs, food handlers, and people who lived near a live-animal market got sick in Guangzhou, in southern China, where the shredded meat of a short-legged raccoonlike creature, the palm civet, was served in a regional dish called “dragon-tiger-phoenix soup.” The new disease, SARS, spread alarmingly in hospitals, and it reached 30 countries and territories. More than 800 people died; the civet-borne virus was eventually traced to horseshoe bats.

Later, smaller outbreaks of SARS in Taiwan, Singapore, and China’s National Institute of Virology in Beijing were all caused by laboratory accidents. Of the Beijing Virology Institute, the World Health Organization’s safety investigators wrote, in May 2004, that they had “serious concerns about biosafety procedures.” By one account, a SARS storage room in the Beijing lab was so crowded that the refrigerator holding live virus was moved out to the hallway. “Scientists still do not fully understand exactly where or how SARS emerged 18 months ago,” wrote *Washington Post* reporter David Brown in June 2004. “But it is clear now that the most threatening source of the deadly virus today may be places they know intimately — their own laboratories.”

**I’m just asking, Is it a complete coincidence that this outbreak happened in the one city in China with a BSL-4 lab?**

MERS arose in 2012, possibly spread by camels that had contracted the disease from bats or bat guano, then passed it to human drinkers of raw camel milk and butchers of camel meat. It was an acute sickness, with a high fatality rate, mostly confined to Saudi Arabia. Like SARS, MERS ebbed quickly — it all but disappeared outside the Middle East, except for an outbreak in 2015 at the Samsung Medical Center in South Korea, where a single case of MERS led to more than 180 infections, many involving hospital workers.

In January 2015, the brand-new BSL-4 lab in Wuhan, built by a French contractor, celebrated its opening, but full safety certification came slowly. According to State Department cables from 2018 leaked to the *Washington Post*, the new BSL-4 lab had some start-up problems, including “a serious shortage of appropriately trained technicians and investigators needed to safely operate this high-containment laboratory.” The staff had gotten some training at a BSL-4 lab in Galveston, Texas, but they were doing potentially dangerous work with SARS-like viruses, the memo said, and they needed more help from the U.S.

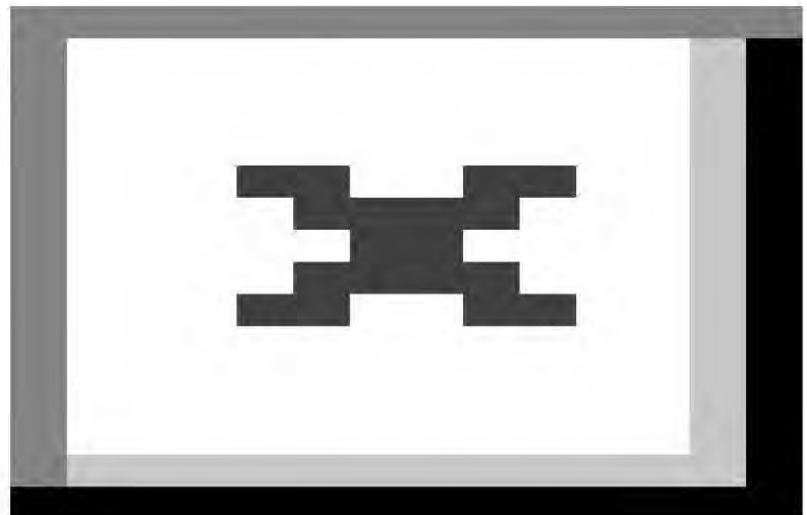
In November or December of 2019, the novel coronavirus began to spread. Chinese scientists initially named it “Wuhan seafood market pneumonia virus,” but soon that idea went away. The market, closed and decontaminated by Chinese officials on January 1, 2020, was an amplifying hub, not the source of the outbreak, according to several studies by Chinese scientists. Forty-five percent of the earliest SARS-2 patients had no link with the market.

## VI.

# Emergence

**Now let’s take a step back.** AIDS, fatal and terrifying and politically charged, brought on a new era in government-guided vaccine research, under the guidance of Anthony Fauci. A virologist at Rockefeller University, Stephen S. Morse, began giving talks on “emerging viruses” — other plagues that might be in the process of coming out of nature’s woodwork. In 1992, Richard Preston wrote a horrific account of one emergent virus, Ebola, in *The New Yorker*, which became a best-selling book in 1994; Laurie Garrett’s *The Coming Plague: Newly Emerging Diseases in a World Out of Balance* appeared that same year and was also a best seller. The idea seemed to be everywhere: We were on the verge of a wave of zoonotic, emergent plagues.

This new, useful term, *emerging*, began to glow in the research papers of some coronavirologists, who were out of the spotlight, working on common colds and livestock diseases. The term was useful because it was fluid. An emerging disease could be real and terrifying, as AIDS was — something that had just arrived on the medical scene and was confounding our efforts to combat it — or it could be a disease that hadn't arrived, and might never arrive, but could be shown in a laboratory to be waiting in the wings, just a few mutations away from a human epidemic. It was real and unreal at the same time — a quality that was helpful when applying for research grants.



**Where Did It Come From?** This chart measures the genetic similarity of known viruses to the novel coronavirus (which appears in yellow). By far the closest is the bat virus RaTG13, which appears in blue, and which was recovered in 2013 and brought to the Wuhan Institute of Virology. The first SARS, marked in red, is a much more distant relative. Graphic: Zhou, P., Yang, XL., Wang, XG. et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature* 579, 270–273 (2020)

Take, for instance, [this paper](#) from 1995: “High Recombination and Mutation Rates in Mouse Hepatitis Viruses Suggest That Coronaviruses May Be

Potentially Important Emerging Viruses.” It was written by Dr. Ralph Baric and his bench scientist, Boyd Yount, at the University of North Carolina. Baric, a gravelly voiced former swim champion, described in this early paper how his lab was able to train a coronavirus, MHV, which causes hepatitis in mice, to jump species, so that it could reliably infect BHK (baby-hamster kidney) cell cultures. They did it using serial passaging: repeatedly dosing a mixed solution of mouse cells and hamster cells with mouse-hepatitis virus, while each time decreasing the number of mouse cells and upping the concentration of hamster cells. At first, predictably, the mouse-hepatitis virus couldn’t do much with the hamster cells, which were left almost free of infection, floating in their world of fetal-calf serum. But by the end of the experiment, after dozens of passages through cell cultures, the virus had mutated: It had mastered the trick of parasitizing an unfamiliar rodent. A scourge of mice was transformed into a scourge of hamsters. And there was more: “It is clear that MHV can rapidly alter its species specificity and infect rats and primates,” Baric said. “The resulting virus variants are associated with demyelinating diseases in these alternative species.” (A demyelinating disease is a disease that damages nerve sheaths.) With steady prodding from laboratory science, along with some rhetorical exaggeration, a lowly mouse ailment was morphed into an emergent threat that might potentially cause nerve damage in primates. That is, nerve damage in us.

A few years later, in a further round of “interspecies transfer” experimentation, Baric’s scientists introduced their mouse coronavirus into flasks that held a suspension of African-green-monkey cells, human cells, and pig-testicle cells. Then, in 2002, they announced something even more impressive: They’d found a way to create a full-length infectious clone of the entire mouse-hepatitis genome. Their “infectious construct” replicated itself just like the real thing, they wrote.

Not only that, but they’d figured out how to perform their assembly seamlessly, without any signs of human handiwork. Nobody would know if the virus had been fabricated in a laboratory or grown in nature. Baric called this the “no-see’m method,” and he asserted that it had “broad and largely unappreciated molecular biology applications.” The method was named, he wrote, after a “very small biting insect that is occasionally found on North Carolina beaches.”

In 2006, Baric, Yount, and two other scientists were granted a patent for their invisible method of fabricating a full-length infectious clone using the seamless, no-see’m method. But this time, it wasn’t a clone of the mouse-hepatitis virus — it was a clone of the entire deadly human SARS virus, the one

that had emerged from Chinese bats, via civets, in 2002. The Baric Lab came to be known by some scientists as “the Wild Wild West.” In 2007, Baric said that we had entered “the golden age of coronavirus genetics.”

“I would be afraid to look in their freezers,” one virologist told me.

Baric and Shi Zhengli of the Wuhan Institute of Virology, the two top experts on the genetic interplay between bat and human coronaviruses, began collaborating in 2015.

## VII.

# “I Had Not Slept a Wink”

**Early in the** pandemic, *Scientific American* profiled Shi Zhengli, known in China as the “bat woman.” Shi trapped hundreds of bats in nets at the mouths of caves in southern China, sampled their saliva and their blood, swabbed their anuses, and gathered up their fecal pellets. Several times, she visited and sampled bats in a mine in Mojiang, in southern China, where, in 2012, six men set to work shoveling bat guano were sickened by a severe lung disease, three of them fatally. Shi’s team took the samples back to Wuhan and analyzed whatever fragments of bat virus she could find. In some cases, when she found a sequence that seemed particularly significant, she experimented with it in order to understand how it might potentially infect humans. Some of her work was funded by the National Institutes of Health and some of it by the U.S. Defense Threat Reduction Agency of the Department of Defense via Peter Daszak’s EcoHealth Alliance.

As Shi explained to *Scientific American*, late in December 2019, she heard from the director of the Wuhan Institute that there was an outbreak of a new disease in the city. Medical samples taken from hospital patients arrived at her lab for analysis. Shi determined that the new virus was related to SARS but even more closely related to a bat disease that her own team had found on a virus-hunting trip: the now-famous RaTG13. Shi was surprised that the outbreak was local, she said: “I had never expected this kind of thing to happen in Wuhan, in central China.” The bat hiding places that she’d been visiting were, after all, as far away as Orlando, Florida, is from New York City. Could this new virus, she wondered, have come from her own laboratory? She checked her records and found no exact matches. “That really took a load off my mind,” she said. “I had not slept a wink for days.”



If one of the first thoughts that goes through the head of a lab director at the Wuhan Institute of Virology is that the new coronavirus could have come from her lab, then we are obliged to entertain the scientific possibility that it could indeed have come from her lab. Right then, there should have been a comprehensive, pockets-inside-out, fully public investigation of the Virology Institute, along with the other important virus labs in Wuhan, including the one close by the seafood market, headquarters of the Wuhan CDC. There should have been interviews with scientists, interviews with biosafety teams, close parsings of laboratory notebooks, freezer and plumbing and decontamination systems checks — everything. It didn't happen. The Wuhan Institute of Virology closed down its databases of viral genomes, and the Chinese Ministry of Education sent out a directive: "Any paper that traces the origin of the virus must be strictly and tightly managed."

Shi made some WeChat posts early in 2020. "The novel 2019 coronavirus is nature punishing the human race for keeping uncivilized living habits," she wrote. "I, Shi Zhengli, swear on my life that it has nothing to do with our laboratory." She advised those who believed rumors, and gave credence to unreliable scientific papers, to "shut their stinking mouths."

#### VIII.

## “ ‘Bug to Drug’ in 24 Hours”

**It wasn't only AIDS** that changed the way the NIH funded research. The War on Terror also influenced which diseases got the most attention. In the late '90s, under Bill Clinton and then George W. Bush, biodefense specialists became interested — again — in anthrax. The Defense Threat Reduction Agency built a small anthrax factory in Nevada, using simulants, to demonstrate how easy it would be for a terrorist to build a small anthrax factory. And in the first year of the Bush presidency, the Defense Intelligence Agency wrote up plans to create a vaccine-resistant form of anthrax using state-of-the-art gene-splicery. A front-page article describing these initiatives, "U.S. Germ Warfare Research Pushes Treaty Limits," appeared in the *New York Times* on September 4, 2001, one week before 9/11. "Pentagon Says Projects Are Defense, Is Pressing Ahead," was the subtitle.

After the 9/11 attacks, and the mysterious anthrax mailings that began a week later (which said, "TAKE PENACILIN [*sic*] NOW / DEATH TO AMERICA / DEATH TO ISRAEL / ALLAH IS GREAT"), the desire for biopreparedness became all consuming. Now there were emerging biothreats from humans as well as from the evolving natural world. Fauci's anti-terror

budget went from \$53 million in 2001 to \$1.7 billion in 2003. Setting aside his work toward an AIDS vaccine, which was taking longer than he'd foreseen, Fauci said he would be going all out to defend against a suite of known Cold War agents, all of which had been bred and perfected in American weapons programs many years before — brucellosis, anthrax, tularemia, and plague, for instance. "We are making this the highest priority," Fauci said. "We are really marshaling all available resources."

## **I would be afraid to look in their freezers.**

Vaccine development had to progress much faster, Fauci believed; he wanted to set up "vaccine systems" and "vaccine platforms," which could be quickly tailored to defend against a particular emergent strain some terrorist with an advanced biochemistry degree might have thrown together in a laboratory. "Our goal within the next 20 years is 'bug to drug' in 24 hours," Fauci said. "This would specifically meet the challenge of genetically engineered bioagents." The first Project BioShield contract Fauci awarded was to VaxGen, a California pharmaceutical company, for \$878 million worth of shots of anthrax vaccine.

By 2005, so much money was going toward biothreat reduction and preparedness that more than 750 scientists sent a protest letter to the NIH. Their claim was that grants to study canonical biowar diseases — anthrax, plague, brucellosis, and tularemia, all exceptionally rare in the U.S. — had increased by a factor of 15 since 2001, whereas funds for the study of widespread "normal" diseases, of high public-health importance, had decreased.

Fauci was firm in his reply: "The United States through its leaders made the decision that this money was going to be spent on biodefense," he said. "We disagree with the notion that biodefense concerns are of 'low public-health significance.'"

In 2010, by one count, there were 249 BSL-3 laboratories and seven BSL-4 laboratories in the U.S., and more than 11,000 scientists and staffers were authorized to handle the ultralethal germs on the government's select pathogen list. And yet the sole bioterrorist in living memory who actually killed American citizens, according to the FBI — the man who sent the anthrax letters — turned out to be one of the government's own researchers. Bruce Ivins, an eccentric, suicidal laboratory scientist from Ohio who worked in vaccine development at Fort Detrick, allegedly wanted to boost the fear level so as to persuade the government to buy more of the patented, genetically

engineered anthrax VaxGen vaccine, of which he was a co-inventor. (See David Willman's fascinating biography of Ivins, *Mirage Man*.) Fauci's staff at NIH funded Ivins's vaccine laboratory and gave \$100 million to VaxGen to accelerate vaccine production. (The NIH's \$878 million contract with VaxGen, however, was quietly canceled in 2006; Ivins, who was never charged, killed himself in 2008.)

"The whole incident amounted to a snake eating its own tail," wrote Wendy Orent in an August 2008 piece titled "Our Own Worst Bioenemy" in the *Los Angeles Times*. "No ingenious biowarrior from Al Qaeda sent the lethal envelopes through the U.S. postal system. An American scientist did." What confirmed Ivins's guilt, according to the FBI, was that there was a genetic match between the anthrax used in the killings and the strain held at Fort Detrick.

## IX.

# "Weapons of Mass Disruption"

**After SARS appeared** in 2003, Ralph Baric's laboratory moved up the NIH funding ladder. SARS was a "dual use" organism — a security threat and a zoonotic threat at the same time. In 2006, Baric wrote a long, fairly creepy paper on the threat of "weaponizable" viruses. Synthetic biology had made possible new kinds of viral "weapons of mass disruption," he wrote, involving, for example, "rapid production of numerous candidate bioweapons that can be simultaneously released," a scattershot terror tactic Baric called the "‘survival of the fittest’ approach."

Baric hoped to find a SARS vaccine, but he couldn't; he kept looking for it, year after year, supported by the NIH, long after the disease itself had been contained. It wasn't really gone, Baric believed. Like other epidemics that pop up and then disappear, as he told a university audience some years later, "they don't go extinct. They are waiting to return." What do you do if you run a well-funded laboratory, an NIH "center of excellence," and your emergent virus is no longer actually making people sick? You start squeezing it and twisting it into different shapes. Making it stand on its hind legs and quack like a duck, or a bat. Or breathe like a person.

Baric's safety record is good — although there was a minor mouse-bite incident in 2016, uncovered by ProPublica — and his motives are beyond reproach: "Safe, universal, vaccine platforms are needed that can be tailored to new pathogens as they emerge, quickly tested for safety, and then strategically

used to control new disease outbreaks in human populations,” he wrote in a paper on public health. But the pioneering work he did over the past 15 years — generating tiny eager single-stranded flask monsters and pitting them against human cells, or bat cells, or gene-spliced somewhat-human cells, or monkey cells, or humanized mice — was not without risk, and it may have led others astray.

In 2006, for instance, Baric and his colleagues, hoping to come up with a “vaccine strategy” for SARS, produced noninfectious virus replicon particles (or VRPs) using the Venezuelan-equine-encephalitis virus (another American germ-warfare agent), which they fitted with various SARS spike proteins. Then, wearing Tyvek suits and two pairs of gloves each, and working in a biological safety cabinet in a BSL-3-certified laboratory, they cloned and grew recombinant versions of the original SARS virus in an incubator in a medium that held African-green-monkey cells. When they had grown enough virus, the scientists swapped out one kind of spike protein for a carefully chosen mutant, and they challenged their prototype vaccine with it in mice.

The scientists also tried their infectious SARS clones in something called an air-liquid interface, using a relatively new type of cell culture developed by Raymond Pickles of the University of North Carolina’s Cystic Fibrosis Center. Pickles had perfected a method of emulating the traits of human airway tissue by cultivating cells taken from lung-disease patients — nurturing the culture over four to six weeks in such a way that the cells differentiated and developed a crop of tiny moving hairs, or cilia, on top and goblet cells within that produced real human mucus. In fact, before infecting these HAE (human airway epithelial) cells with a virus, the lab worker must sometimes rinse off some of the accumulated mucus, as if helping the lab-grown tissue to clear its throat. So Baric was exposing and adapting his engineered viruses to an extraordinarily true-to-life environment — the juicy, sticky, hairy inner surface of our breathing apparatus.

SARS-2 seems almost perfectly calibrated to grab and ransack our breathing cells and choke the life out of them. “By the time SARS-CoV-2 was first detected in late 2019, it was already pre-adapted to human transmission,” Alina Chan and her co-authors have written, whereas SARS, when it first appeared in 2003, underwent “numerous adaptive mutations” before settling down. Perhaps viral nature hit a bull’s-eye of airborne infectivity, with almost no mutational drift, no period of accommodation and adjustment, or perhaps some lab worker somewhere, inspired by Baric’s work with human airway tissue, took a spike protein that was specially groomed to colonize and thrive deep in the ciliated, mucosal tunnels of our inner core and cloned it onto some

existing viral bat backbone. It could have happened in Wuhan, but — because anyone can now “print out” a fully infectious clone of any sequenced disease — it could also have happened at Fort Detrick, or in Texas, or in Italy, or in Rotterdam, or in Wisconsin, or in some other citadel of coronaviral inquiry. No conspiracy — just scientific ambition, and the urge to take exciting risks and make new things, and the fear of terrorism, and the fear of getting sick. Plus a whole lot of government money.

X.

## “Risky Areas for Spillover”

**Project Bioshield began** to fade by the end of the Bush administration, although the expensive high-containment laboratories, controversial preservers and incubators of past and future epidemics, remain. By 2010, some BioShield projects had dissolved into Obama’s Predict program, which paid for laboratories and staff in 60 “risky areas for spillover” around the world. Jonna Mazet, a veterinary scientist from the University of California, Davis, was in charge of Predict, which was a component of USAID’s “Emerging Pandemic Threats” program. Her far-flung teams collected samples from 164,000 animals and humans and claimed to have found “almost 1,200 potentially zoonotic viruses, among them 160 novel coronaviruses, including multiple SARS- and MERS-like coronaviruses.” The fruits of Predict’s exotic harvest were studied and circulated in laboratories worldwide, and their genetic sequences became part of GenBank, the NIH’s genome database, where any curious RNA wrangler anywhere could quickly synthesize snippets of code and test out a new disease on human cells.

Baric, Jonna Mazet, and Peter Daszak of EcoHealth worked together for years — and Daszak also routed Predict money to Shi Zhengli’s bat-surveillance team in Wuhan through his nonprofit, mingling it with NIH money and money from the U.S. Defense Threat Reduction Agency. In 2013, Mazet announced that Shi Zhengli’s virus hunters, with Predict’s support, had, for the first time, isolated and cultured a live SARS-like virus from bats and demonstrated that this virus could bind to the human ACE2, or “angiotensin-converting enzyme 2,” receptor, which Baric’s laboratory had determined to be the sine qua non of human infectivity. “This work shows that these viruses can directly infect humans and validates our assumption that we should be searching for viruses of pandemic potential before they spill over to people,” Mazet said.

Daszak, for his part, seems to have viewed his bat quests as part of an epic, quasi-religious death match. In a paper from 2008, Daszak and a co-author described Bruegel's painting *The Fall of the Rebel Angels* and compared it to the contemporary human biological condition. The fallen angels could be seen as pathogenic organisms that had descended "through an evolutionary (not spiritual) pathway that takes them to a netherworld where they can feed only on our genes, our cells, our flesh," Daszak wrote. "Will we succumb to the multitudinous horde? Are we to be cast downward into chthonic chaos represented here by the heaped up gibbering phantasmagory against which we rail and struggle?"

## XI.

# "Lab-Made?"

**There are, in fact,** some helpful points of agreement between zoonoticists — those who believe in a natural origin of the SARS-2 virus — and those who believe that it probably came from a laboratory. Both sides agree, when pressed, that a lab origin can't be conclusively ruled out and a natural origin can't be ruled out either — because nature, after all, is capable of improbable, teleological-seeming achievements. Both sides also agree, for the most part, that the spillover event that began the human outbreak probably happened only once, or a few times, quite recently, and not many times over a longer period. They agree that bat virus RaTG13 (named for the *Rinolophus affinis* bat, from Tongguan, in 2013) is the closest match to the human virus that has yet been found, and that although the two viruses are very similar, the spike protein of the bat virus lacks the features the human spike protein possesses that enable it to work efficiently with human tissue.

Zoonoticists hold that SARS-2's crucial features — the furin cleavage site and the ACE2 receptor — are the result of a recombinant event involving a bat coronavirus (perhaps RaTG13 or a virus closely related to it) and another, unknown virus. Early on, researchers proposed that it could be a snake sold at the seafood market — a Chinese cobra or a banded krait —but no: Snakes don't typically carry coronaviruses. Then there was a thought that the disease came from sick smuggled pangolins, because there existed a certain pangolin coronavirus that was, inexplicably, almost identical in its spike protein to the human coronavirus — but then, no: There turned out to be questions about the reliability of the genetic information in that diseased-pangolin data set, on top of which there were no pangolins for sale at the Wuhan market. Then a group from China's government veterinary laboratory at Harbin tried infecting beagles, pigs, chickens, ducks, ferrets, and cats with SARS-2 to see if they

could be carriers. (Cats and ferrets got sick; pigs, ducks, and most dogs did not.)

In September, some scientists at the University of Michigan, led by Yang Zhang, reported that they had created a “computational pipeline” to screen nearly a hundred possible intermediate hosts, including the Sumatran orangutan, the Western gorilla, the Olive baboon, the crab-eating macaque, and the bonobo. All these primates were “permissive” to the SARS-2 coronavirus and should undergo “further experimental investigation,” the scientists proposed.

Despite this wide-ranging effort, there is at the moment no animal host that zoonoticists can point to as the missing link. There’s also no single, agreed-upon hypothesis to explain how the disease may have traveled from the bat reservoirs of Yunnan all the way to Wuhan, seven hours by train, without leaving any sick people behind and without infecting anyone along the way.

The zoonoticists say that we shouldn’t find it troubling that virologists have been inserting and deleting furin cleavage sites and ACE2-receptor-binding domains in experimental viral spike proteins for years: The fact that virologists have been doing these things in laboratories, in advance of the pandemic, is to be taken as a sign of their prescience, not of their folly. But I keep returning to the basic, puzzling fact: This patchwork pathogen, which allegedly has evolved without human meddling, first came to notice in the only city in the world with a laboratory that was paid for years by the U.S. government to perform experiments on certain obscure and heretofore unpublicized strains of bat viruses — which bat viruses then turned out to be, out of all the organisms on the planet, the ones that are most closely related to the disease. What are the odds?

In July, I discovered a number of volunteer analysts who were doing a new kind of forensic, samizdat science, hunched over the letter code of the SARS-2 genome like scholars deciphering the cuneiform impressions in Linear B tablets. There were the anonymous authors of Project Evidence, on GitHub, who “disavow all racism and violent attacks, including those which are aimed at Asian or Chinese people,” and there was Yuri Deigin, a biotech entrepreneur from Canada, who wrote a massive, lucid paper on Medium, “Lab-Made?,” which illuminated the mysteries of the spike protein. Jonathan Latham of the Bioscience Resource Project, with his co-author Allison Wilson, wrote two important papers: one a calm, unsparing overview of laboratory accidents and rash research and the other a close look at the small outbreak of an unexplained viral pneumonia in a bat-infested copper mine in 2012. I

corresponded with Alina Chan (now the subject of a nicely turned piece in *Boston* magazine by Rowan Jacobsen) and with the pseudonymous Billy Bostickson, a tireless researcher whose Twitter photo is a cartoon of an injured experimental monkey, and Monali Rahalkar, of the Agharkar Research Institute in Pune, India, who wrote a paper with her husband, Rahul Bahulikar, that also sheds light on the story of the bat-guano-shoveling men whose virus was remarkably like SARS-2, except that it was not nearly as catching. I talked to Rossana Segreto, a molecular biologist at the University of Innsbruck, whose paper, “Is Considering a Genetic-Manipulation Origin for SARS-CoV-2 a Conspiracy Theory That Must Be Censored?,” co-authored with Yuri Deigin, was finally published in November under a milder title; it argued that SARS-2’s most notable features, the furin site and the human ACE2-binding domain, were unlikely to have arisen simultaneously and “might be the result of lab manipulation techniques such as site directed mutagenesis.” Segreto is also the person who first established that a bat-virus fragment named BtCoV/4991, identified in 2013, was 100 percent identical to the closest known cousin to SARS-CoV-2, the bat virus RaTG13, thereby proving that the virus closest to the SARS-2-pandemic virus was linked back not to a bat cave but to a mine shaft, and that this same virus had been stored and worked on in the Wuhan Institute for years. This made possible the first big investigative piece on SARS-2’s origins, in the *Times* of London, in July: “Nobody can deny the bravery of scientists who risked their lives harvesting the highly infectious virus,” the *Times* authors write. “But did their courageous detective work lead inadvertently to a global disaster?”

## XII.

# “A New, Non-Natural Risk”

**In 2011, a tall, confident Dutch scientist, Ron Fouchier, using grant money from Fauci’s group at NIH, created a mutant form of highly pathogenic avian influenza, H5N1, and passaged it ten times through ferrets in order to prove that he could “force” (his word) this potentially fatal disease to infect mammals, including humans, “via aerosols or respiratory droplets.” Fouchier said his findings indicated that these avian influenza viruses, thus forced, “pose a risk of becoming pandemic in humans.”**

This experiment was too much for some scientists: Why, out of a desire to prove that something extremely infectious could happen, would you make it happen? And why would the U.S. government feel compelled to pay for it to happen? Late in 2011, Marc Lipsitch of the Harvard School of Public Health got together with several other dismayed onlookers to ring the gong for



caution. On January 8, 2012, the *New York Times* published a scorching editorial, “An Engineered Doomsday.” “We cannot say there would be no benefits at all from studying the virus,” the *Times* said. “But the consequences, should the virus escape, are too devastating to risk.”

These gain-of-function experiments were an important part of the NIH’s approach to vaccine development, and Anthony Fauci was reluctant to stop funding them. He and Francis Collins, director of the National Institutes of Health, along with Gary Nabel, NIAID director of vaccine research, published an opinion piece in the *Washington Post* in which they contended that the ferret flu experiments, and others like them, were “a risk worth taking.” “Important information and insights can come from generating a potentially dangerous virus in the laboratory,” they wrote; the work can “help delineate the principles of virus transmission between species.” The work was safe because the viruses were stored in a high-security lab, they believed, and the work was necessary because nature was always coming up with new threats. “Nature is the worst bioterrorist,” Fauci told a reporter. “We know that through history.”

Soon afterward, there followed some distressing screwups in secure federal laboratories involving live anthrax, live smallpox, and live avian influenza. These got attention in the science press. Then Lipsitch’s activists (calling themselves the Cambridge Working Group) sent around a strong statement on the perils of research with “Potential Pandemic Pathogens,” signed by more than a hundred scientists. The work might “trigger outbreaks that would be difficult or impossible to control,” the signers said. Fauci reconsidered, and the White House in 2014 announced that there would be a “pause” in the funding of new influenza, SARS, and MERS gain-of-function research.

Baric, in North Carolina, was not happy. He had a number of gain-of-function experiments with pathogenic viruses in progress. “It took me ten seconds to realize that most of them were going to be affected,” he told NPR. Baric and a former colleague from Vanderbilt University wrote a long letter to an NIH review board expressing their “profound concerns.” “This decision will significantly inhibit our capacity to respond quickly and effectively to future outbreaks of SARS-like or MERS-like coronaviruses, which continue to circulate in bat populations and camels,” they wrote. The funding ban was itself dangerous, they argued. “Emerging coronaviruses in nature do not observe a mandated pause.”

Hoping to smooth over controversy by showing due diligence, the National Science Advisory Board for Biosecurity, founded in the BioShield era under

President Bush, paid a consulting firm, Gryphon Scientific, to write a report on gain-of-function research, which by now was simply referred to as GoF. In chapter six of this thousand-page dissertation, published in April 2016, the consultants take up the question of coronaviruses. "Increasing the transmissibility of the coronaviruses could significantly increase the chance of a global pandemic due to a laboratory accident," they wrote.

The Cambridge Working Group continued to write letters of protest and plead for restraint and sanity. Steven Salzberg, a professor of biomedical engineering at Johns Hopkins, said, "We have enough problems simply keeping up with the current flu outbreaks — and now with Ebola — without scientists creating incredibly deadly new viruses that might accidentally escape their labs." David Relman of Stanford Medical School said, "It is unethical to place so many members of the public at risk and then consult only scientists — or, even worse, just a small subset of scientists — and exclude others from the decision-making and oversight process." Richard Ebright wrote that creating and evaluating new threats very seldom increases security: "Doing so in biology — where the number of potential threats is nearly infinite, and where the asymmetry between the ease of creating threats and the difficulty of addressing threats is nearly absolute — is especially counterproductive." Lynn Klotz wrote, "Awful as a pandemic brought on by the escape of a variant H5N1 virus might be, it is SARS that now presents the greatest risk. The worry is less about recurrence of a natural SARS outbreak than of yet another escape from a laboratory researching it to help protect against a natural outbreak." Marc Lipsitch argued that gain-of-function experiments can mislead, "resulting in worse not better decisions," and that the entire gain-of-function debate as overseen by the NIH was heavily weighted in favor of scientific insiders and "distinctly unwelcoming of public participation."

Nariyoshi Shinomiya, a professor of physiology and nano-medicine at the National Defense Medical College in Japan, offered this warning: "Similar to nuclear or chemical weapons there is no going back once we get a thing in our hands."

But in the end, Baric was allowed to proceed with his experiments, and the research papers that resulted, showered with money, became a sort of *Anarchist's Cookbook* for the rest of the scientific world. In November 2015, Baric and colleagues published a collaboration paper with Shi Zhengli titled "A SARS-like Cluster of Circulating Bat Coronaviruses Shows Potential for Human Emergence." Into a human SARS virus that they had adapted so that it would work in mice, Baric and Shi et al. inserted the spike protein of a bat

virus, SHCO14, discovered by Shi in southern China. They dabbed the mice nasally with virus and waited, looking for signs of sickness: “hunching, ruffled fur.” They also infected human airway cells with the mouse-adapted bat-spike-in-a-human-virus backbone. In both mice and human airway cells, the chimeric virus caused a “robust infection.”

This proved, Baric and Shi believed, that you did not need civets or other intermediate hosts in order for bats to cause an epidemic in humans and that therefore all the SARS-like viruses circulating in bat populations “may pose a future threat.” Peter Daszak, who had used Predict funds to pay Shi for her work on the paper, was impressed by this conclusion; the findings, he said, “move this virus from a candidate emerging pathogen to a clear and present danger.”

Richard Ebright was trenchantly unenthusiastic. “The only impact of this work,” he said, “is the creation, in a lab, of a new, non-natural risk.”

Early in 2016, Baric and Shi again collaborated. Shi sent Baric a fresh bat virus spike protein, and Baric inserted it into the backbone of a human SARS virus and then used that infectious clone to attack human airway cells. “The virus readily and efficiently replicated in cultured human airway tissues, suggesting an ability to potentially jump directly to humans,” reported the UNC’s website. This time, they also used the bat-human hybrid virus to infect transgenic humanized mice that grew human ACE2 protein. The mice, young and old, lost weight and died, proving, again, that this particular bat virus was potentially “poised to emerge in human populations.” It was “an ongoing threat,” Baric wrote. But was it? Civets and camels that are exposed to a lot of bat-guano dust may be an ongoing threat and a manageable one. But the bats themselves just want to hang in their caves and not be bothered by frowning sightseers in spacesuits who want to poke Q-tips in their bottoms. This 2016 “poised for human emergence” paper was supported by eight different NIH grants. In 2015, Baric’s lab received \$8.3 million from the NIH; in 2016, it received \$10.5 million.

Gain-of-function research came roaring back under Trump and Fauci. “The National Institutes of Health will again fund research that makes viruses more dangerous,” said an article in *Nature* in December 2017. Carrie Wolinetz of the NIH’s office of science policy defended the decision. “These experiments will help us get ahead of viruses that are already out there and pose a real and present danger to human health,” she told *The Lancet*. The NIH, Wolinetz said, was committed to a leadership role with gain-of-function research internationally. “If we are pursuing this research in an active way, we will be

much better positioned to develop protection and countermeasures should something bad happen in another country.”

A reporter asked Marc Lipsitch what he thought of the resumption of NIH funding. Gain-of-function experiments “have done almost nothing to improve our preparedness for pandemics,” he said, “yet they risked creating an accidental pandemic.”

### XIII.

## “Proximity Is a Problem”

**In April**, four months into the coronavirus emergency, a deputy director at the NIH wrote an email to EcoHealth Alliance. “You are instructed to cease providing any funds to Wuhan Institute of Virology,” it said. In response, Daszak and the chief scientific officer of New England Biolabs (a company that sells seamless gene-splicing products to laboratories, among other things) got 77 Nobel Prize winners to sign a statement saying that the cancellation deprived the “nation and the world of highly regarded science that could help control one of the greatest health crises in modern history and those that may arise in the future.” Later, as a condition of further funding, the NIH wrote to say it wanted Daszak to arrange an outside inspection of the Wuhan lab and to procure from Wuhan’s scientists a sample of whatever they’d used to sequence the SARS-2 virus. Daszak was outraged (“I am not trained as a private detective”), and again he fought back. He was reluctant to give up his own secrets, too. “Conspiracy-theory outlets and politically motivated organizations have made Freedom of Information Act requests on our grants and all of our letters and emails to the NIH,” he told *Nature*. “We don’t think it’s fair that we should have to reveal everything we do.”

But Daszak has survived — even prospered. Recently, *The Lancet* made him the lead investigator in its inquiry into the origins of the pandemic, and the World Health Organization named him to its ten-person origins investigation. (“We’re still close enough to the origin to really find out more details about where it has come from,” Daszak told *Nature*.)

The NIH has also set up an ambitious new international program, called CREID, which stands for Centers for Research in Emerging Infectious Diseases, and it has put Daszak’s EcoHealth in charge of trapping animals and looking for obscure bat viruses in Singapore, Malaysia, and Thailand. Baric is one of Daszak’s partners in CREID. The virus hunting and collecting, which Richard Ebright likens to “looking for a gas leak with a lighted match,” will

continue and widen with U.S. funding. “We’re going to work in remote parts of Malaysia and Thailand to get to the front line of where the next pandemic is going to start,” Daszak told NPR.

In May, an interviewer from the People’s Pharmacy website asked Baric if he had any thoughts on whether the coronavirus began with a natural bat-to-human transfer. “Or was there something a little bit more, perhaps, insidious involved?”

“Well, of course the answers to those questions are in China,” Baric replied. “Exactly how they work in that facility is something that would be very difficult for a Westerner to know,” he said. “The main problems that the Institute of Virology has is that the outbreak occurred in close proximity to that Institute. That Institute has in essence the best collection of virologists in the world that have gone out and sought out, and isolated, and sampled bat species throughout Southeast Asia. So they have a very large collection of viruses in their laboratory. And so it’s — you know — proximity is a problem. It’s a problem.”

Over the course of the fall, and especially after the election muffled Donald Trump’s influence over the country’s public-health apparatus, that proximity problem — and the uncomfortable questions of origins it raised — began to grow somewhat more discussable. The BBC, *Le Monde*, and Italy’s RAI have all recently taken seriously the scientific possibility of a lab leak. In late October, the World Health Organization convened the first meeting of its second inquiry into the origins of the disease. The WHO’s effort is perhaps the world’s best chance to satisfy its curiosity about goings-on at the Wuhan Institute of Virology and at the Wuhan CDC’s virus lab near the Wuhan seafood market. But, as the *New York Times* has reported, the WHO’s information gathering has been hindered by Chinese secretiveness since February, when an initial investigative team sent to Beijing was told its members’ access to scientists would be restricted and that it couldn’t visit the seafood market, then considered a hub of the pandemic.

When a BBC video team tried to inspect the Yunnan mine shaft, they found the road to the mine blocked by a strategically parked truck that had “broken down” shortly before they arrived. Reporter John Sudworth asked Daszak, one of the ten members of the second WHO investigative team, whether he would push for access to the Wuhan Institute of Virology. “That’s not my job to do that,” Daszak replied.

In November, David Relman, the Stanford microbiologist, one of the most thoughtful of the voices warning against gain-of-function research, published a paper in *Proceedings of the National Academy of Sciences* on the urgent need to unravel the origins of COVID-19. “If SARS-CoV-2 escaped from a lab to cause the pandemic,” he wrote, “it will become critical to understand the chain of events and prevent this from happening again.” Conflicts of interest by researchers and administrators will need to be addressed, Relman wrote; to reach the truth, the investigation must be transparent, international, and, as much as possible, unpolitical. “A more complete understanding of the origins of COVID-19 clearly serves the interests of every person in every country on this planet.”

“The world is sitting on a precedent-setting decision right now,” wrote Alina Chan on December 8. “It is unclear if SARS2 is 100 percent natural or emerged due to lab/research activities. If we walk away from this, demonstrating that we cannot effectively investigate its origins, it will pave the way for future COVIDS.”

Just before this issue of *New York* went to press, I reached Ralph Baric by phone and asked him where he now believed SARS-2 came from. (Anthony Fauci, Shi Zhengli, and Peter Daszak didn’t respond to emails, and Kristian Andersen said he was busy with other things.) Baric said he still thought the virus came from bats in southern China, perhaps directly, or possibly via an intermediate host, although the smuggled pangolins, in his view, were a red herring. The disease evolved in humans over time without being noticed, he suspected, becoming gradually more infectious, and eventually a person carried it to Wuhan “and the pandemic took off.” Then he said, “Can you rule out a laboratory escape? The answer in this case is probably not.”

#### XIV.

## Transmission

**So how did we actually get this disease?**

Here’s what I think happened. In April 2012, in a copper mine in Mojiang, China, three men were given an awful job — they were told to shovel bat guano out of a mine shaft. They went to work and shoveled guano for seven hours a day in the confined, insufficiently ventilated space of the mine shaft, and by the end of the week, they were sick with a viral pneumonia of unknown etiology. Three more, younger shovelers were hired to replace the ones who were out sick.

The viral load in their lungs was so huge, because of all the guano dust, that their lungs became a kind of accelerated laboratory passaging experiment, as Jonathan Latham and Allison Wilson have written, forcing the virus to switch its allegiance from bats to humans. SARS experts were consulted, and the disease was judged to be SARS-like but not SARS. It was something new. (Shi Zhengli told *Scientific American* that the guano shovelers had died of a fungal disease, but, as Monali Rahalkar pointed out, they were treated with antivirals, and their symptoms were consistent with viral pneumonia with attendant secondary fungal infections.)

Although it was a severe disease, and in the end three of the shovelers died, there was no resultant epidemic. It was actually a case of industrial overexposure to an infectious substance — what we might call a massive OSHA violation. The bat disease that the men encountered wasn't necessarily all that dangerous except in an environment of immunosuppressive overload.

Peter Daszak and Shi Zhengli were interested, of course, because this unidentified coronavirus disease involved bats and people. Of the fragmentary bits of virus Shi retrieved from the mine shaft, one was SARS-like, and Shi sequenced it and called it BtCoV/4991 and published a paper about it. Several times — in 2016 and 2018 and 2019 — this most interesting sample, a portion of what we now know as RaTG13, was taken out of the freezers in Shi's lab and worked on in undisclosed ways. (Peter Daszak claims that these samples have disintegrated and can't be validated or studied.) Samples of the nameless human disease also traveled back to the Wuhan Institute of Virology — few specifics about these valuable specimens have been released by Chinese sources, however.

This is the period in the story that demands a very close investigation, when chimeric assemblages may have been created and serially passaged, using BtCoV/4991, a.k.a. RaTG13, and other bat viruses, perhaps along with forms of the human virus. It's when Shi and Baric both published papers that were about what happened when you hot-swapped mutant spike proteins between bat viruses and human viruses.

The link, via the renamed sample BtCoV/4991, to the copper mine is of exceptional importance because of the one huge difference between the unnamed guano shovelers' virus and the SARS-2 virus that is now ravaging, for example, California: transmissibility. Airborne human-to-human transmissibility — the kind of thing that gain-of-functioneers like Ron Fouchier and Ralph Baric were aiming at, in order to demonstrate what Baric called "lurking threats" — is COVID-19's crucial distinguishing feature. If six

men had gotten extremely sick with COVID-19 back in 2012 in southern China, doctors and nurses in the hospital where they lay dying would likely have gotten sick as well. There might have been hundreds or thousands of cases. Instead, only the shovelers themselves, who had breathed a heavy concentration of guano dust for days, got it.

The existence of bat virus RaTG13 is therefore not necessarily evidence of a natural bat origin. In fact, it seems to me to imply the opposite: New functional components may have been overlaid onto or inserted into the RaTG13 genome, new Tinkertoy intermolecular manipulations, especially to its spike protein, which have the effect of making it unprecedentedly infectious in human airways.

This is where the uniquely peculiar furin insert and/or the human-tuned ACE2-receptor-binding domain may come in — although it's also possible that either of these elements could have evolved as part of some multistep zoonotic process. But in the climate of gonzo laboratory experimentation, at a time when all sorts of tweaked variants and amped-up substitutions were being tested on cell cultures and in the lungs of humanized mice and other experimental animals, isn't it possible that somebody in Wuhan took the virus that had been isolated from human samples, or the RaTG13 bat virus sequence, or both (or other viruses from that same mine shaft that Shi Zhengli has recently mentioned in passing), and used them to create a challenge disease for vaccine research — a chopped-and-channeled version of RaTG13 or the miners' virus that included elements that would make it thrive and even rampage in people? And then what if, during an experiment one afternoon, this new, virulent, human-infecting, furin-ready virus got out?

For more than 15 years, coronavirologists strove to prove that the threat of SARS was ever present and must be defended against, and they proved it by showing how they could doctor the viruses they stored in order to force them to jump species and go directly from bats to humans. More and more bat viruses came in from the field teams, and they were sequenced and synthesized and "rewired," to use a term that Baric likes. In this international potluck supper of genetic cookery, hundreds of new variant diseases were invented and stored. And then one day, perhaps, somebody messed up. It's at least a reasonable, "parsimonious" explanation of what might have happened.

This may be the great scientific meta-experiment of the 21st century. Could a world full of scientists do all kinds of reckless recombinant things with viral diseases for many years and successfully avoid a serious outbreak? The



hypothesis was that, yes, it was doable. The risk was worth taking. There would be no pandemic.

I hope the vaccine works.

*\*This article appears in the January 4, 2021, issue of New York Magazine*

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**From:** "Stilwell, David R" (b)(6)@state.gov>  
**To:** Feith, David (b)(6)@state.gov>  
**Subject:** Fwd: New York Mag: The Lab Leak Hypothesis  
**Date:** Tue, 5 Jan 2021 14:40:36 +0000

I predicted what he would say before reading his note. Now we hit him with the Alina Chan story. We need someone like her to counter the English Lit major's criticism. Ironic that he critiques Baker's non-scientific background.

(b)(5)

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**From:** (b)(6) (b)(6)@state.gov>  
**Sent:** Tuesday, January 5, 2021 9:33 AM  
**To:** Feith, David; Ford, Christopher A  
**Cc:** Stilwell, David R  
**Subject:** RE: New York Mag: The Lab Leak Hypothesis

It's a good read, though Angela Rasmussen (Georgetown virologist) shredded it rather savagely yesterday and thinks he misunderstands a lot of the science he's trying to describe.

(b)(5)

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**From:** Feith, David (b)(6)@state.gov>  
**Sent:** Monday, January 4, 2021 2:22 PM  
**To:** Ford, Christopher A (b)(6)@state.gov>; (b)(6) (b)(6)@state.gov>  
**Cc:** Stilwell, David R (b)(6)@state.gov>  
**Subject:** FW: New York Mag: The Lab Leak Hypothesis

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**From:** Feith, David (b)(6)@state.gov>  
**Sent:** Monday, January 4, 2021 2:20 PM  
**To:** EAP-FO-Principals-DL <EAP-FO-Principals-DL@state.gov>; DL NSC Asia (DL.Asia@whmo.mil)  
(b)(6); MPottinger (b)(6) Ruggiero, Anthony J. EOP/NSC  
(b)(6)  
**Subject:** New York Mag: The Lab Leak Hypothesis

This looks awfully interesting. The story the New Yorker wouldn't tell...

<https://nymag.com/intelligencer/article/coronavirus-lab-escape-theory.html>

Feb 9, 2021, 6:00 AM

# The Lab-Leak Hypothesis

## The Lab Leak Hypothesis

For decades, scientists have been hot-wiring viruses in hopes of preventing a pandemic, not causing one. But what if ...?

By *Nicholson Baker*

I.

### Flask Monsters

**What happened was** fairly simple, I've come to believe. It was an accident. A virus spent some time in a laboratory, and eventually it got out. SARS-CoV-2, the virus that causes COVID-19, began its existence inside a bat, then it learned how to infect people in a claustrophobic mine shaft, and then it was made more infectious in one or more laboratories, perhaps as part of a scientist's well-intentioned but risky effort to create a broad-spectrum vaccine. SARS-2 was not designed as a biological weapon. But it was, I think, designed. Many thoughtful people dismiss this notion, and they may be right. They sincerely believe that the coronavirus arose naturally, "zoonotically," from animals, without having been previously studied, or hybridized, or sluiced through cell cultures, or otherwise worked on by trained professionals. They hold that a bat, carrying a coronavirus, infected some other creature, perhaps a pangolin, and that the pangolin may have already been sick with a different coronavirus disease, and out of the conjunction and commingling of those two diseases within the pangolin, a new disease, highly infectious to humans, evolved. Or they hypothesize that two coronaviruses recombined in a bat, and this new virus spread to other bats, and then the bats infected a person directly — in a rural setting, perhaps — and that this person caused a simmering undetected outbreak of respiratory disease, which over a period of

months or years evolved to become virulent and highly transmissible but was not noticed until it appeared in Wuhan.

There is no direct evidence for these zoonotic possibilities, just as there is no direct evidence for an experimental mishap — no written confession, no incriminating notebook, no official accident report. Certainty craves detail, and detail requires an investigation. It has been a full year, 80 million people have been infected, and, surprisingly, no public investigation has taken place. We still know very little about the origins of this disease.

Nevertheless, I think it's worth offering some historical context for our yearlong medical nightmare. We need to hear from the people who for years have contended that certain types of virus experimentation might lead to a disastrous pandemic like this one. And we need to stop hunting for new exotic diseases in the wild, shipping them back to laboratories, and hot-wiring their genomes to prove how dangerous to human life they might become.

Over the past few decades, scientists have developed ingenious methods of evolutionary acceleration and recombination, and they've learned how to trick viruses, coronaviruses in particular, those spiky hairballs of protein we now know so well, into moving quickly from one species of animal to another or from one type of cell culture to another. They've made machines that mix and mingle the viral code for bat diseases with the code for human diseases — diseases like SARS, severe acute respiratory syndrome, for example, which arose in China in 2003, and MERS, Middle East respiratory syndrome, which broke out a decade later and has to do with bats and camels. Some of the experiments — “gain of function” experiments — aimed to create new, more virulent, or more infectious strains of diseases in an effort to predict and therefore defend against threats that might conceivably arise in nature. The term *gain of function* is itself a euphemism; the Obama White House more accurately described this work as “experiments that may be reasonably anticipated to confer attributes to influenza, MERS, or SARS viruses such that the virus would have enhanced pathogenicity and/or transmissibility in mammals via the respiratory route.” The virologists who carried out these experiments have accomplished amazing feats of genetic transmutation, no question, and there have been very few publicized accidents over the years. But there have been some.

And we were warned, repeatedly. The intentional creation of new microbes that combine virulence with heightened transmissibility “poses extraordinary risks to the public,” wrote infectious-disease experts Marc Lipsitch and Thomas Inglesby in 2014. “A rigorous and transparent risk-assessment

process for this work has not yet been established.” That’s still true today. In 2012, in *Bulletin of the Atomic Scientists*, Lynn Klotz warned that there was an 80 percent chance, given how many laboratories were then handling virulent viro-varietals, that a leak of a potential pandemic pathogen would occur sometime in the next 12 years.

A lab accident — a dropped flask, a needle prick, a mouse bite, an illegibly labeled bottle — is apolitical. Proposing that something unfortunate happened during a scientific experiment in Wuhan — where COVID-19 was first diagnosed and where there are three high-security virology labs, one of which held in its freezers the most comprehensive inventory of sampled bat viruses in the world — isn’t a conspiracy theory. It’s just a theory. It merits attention, I believe, alongside other reasoned attempts to explain the source of our current catastrophe.

## II.

# “A Reasonable Chance”

From early 2020, the world was brooding over the origins of COVID-19. People were reading research papers, talking about what kinds of live animals were or were not sold at the Wuhan seafood market — wondering where the new virus had come from.

Meanwhile, things got strange all over the world. The Chinese government shut down transportation and built hospitals at high speed. There were video clips of people who’d suddenly dropped unconscious in the street. A doctor on YouTube told us how we were supposed to scrub down our produce when we got back from the supermarket. A scientist named Shi Zhengli of the Wuhan Institute of Virology published [a paper](#) saying that the novel coronavirus was 96 percent identical to a bat virus, RaTG13, found in Yunnan province in southern China. On March 13, I wrote in my journal that there seemed to be something oddly artificial about the disease: “It’s too airborne — too catching — it’s something that has been selected for infectivity. That’s what I suspect. No way to know so no reason to waste time thinking about it.”

This was just a note to self — at the time, I hadn’t interviewed scientists about SARS-2 or read their research papers. But I did know something about pathogens and laboratory accidents; I published a book last year, *Baseless*, that talks about some of them. The book is named after a Pentagon program, Project Baseless, whose goal, as of 1951, was to achieve “an Air Force-wide

combat capability in biological and chemical warfare at the earliest possible date.”

A vast treasure was spent by the U.S. on the amplification and aerial delivery of diseases — some well known, others obscure and stealthy. America’s biological-weapons program in the ’50s had A1-priority status, as high as nuclear weapons. In preparation for a total war with a numerically superior communist foe, scientists bred germs to be resistant to antibiotics and other drug therapies, and they infected lab animals with them, using a technique called “serial passaging,” in order to make the germs more virulent and more catching.

And along the way, there were laboratory accidents. By 1960, hundreds of American scientists and technicians had been hospitalized, victims of the diseases they were trying to weaponize. Charles Armstrong, of the National Institutes of Health, one of the consulting founders of the American germ-warfare program, investigated Q fever three times, and all three times, scientists and staffers got sick. In the anthrax pilot plant at Camp Detrick, Maryland, in 1951, a microbiologist, attempting to perfect the “foaming process” of high-volume production, developed a fever and died. In 1964, veterinary worker Albert Nickel fell ill after being bitten by a lab animal. His wife wasn’t told that he had Machupo virus, or Bolivian hemorrhagic fever. “I watched him die through a little window to his quarantine room at the Detrick infirmary,” she said.

In 1977, a worldwide epidemic of influenza A began in Russia and China; it was eventually traced to a sample of an American strain of flu preserved in a laboratory freezer since 1950. In 1978, a hybrid strain of smallpox killed a medical photographer at a lab in Birmingham, England; in 2007, live foot-and-mouth disease leaked from a faulty drainpipe at the Institute for Animal Health in Surrey. In the U.S., “more than 1,100 laboratory incidents involving bacteria, viruses and toxins that pose significant or bioterror risks to people and agriculture were reported to federal regulators during 2008 through 2012,” reported *USA Today* in an exposé published in 2014.

In 2015, the Department of Defense discovered that workers at a germ-warfare testing center in Utah had mistakenly sent close to 200 shipments of live anthrax to laboratories throughout the United States and also to Australia, Germany, Japan, South Korea, and several other countries over the past 12 years. In 2019, laboratories at Fort Detrick — where “defensive” research involves the creation of potential pathogens to defend against — were shut down for several months by the Centers for Disease Control and Prevention for “breaches of containment.” They reopened in December 2019.

High-containment laboratories have a whispered history of near misses. Scientists are people, and people have clumsy moments and poke themselves and get bitten by the enraged animals they are trying to nasally inoculate. Machines can create invisible aerosols, and cell solutions can become contaminated. Waste systems don't always work properly. Things can go wrong in a hundred different ways.

Hold that human fallibility in your mind. And then consider the cautious words of Alina Chan, a scientist who works at the Broad Institute of MIT and Harvard. "There is a reasonable chance that what we are dealing with is the result of a lab accident," Chan told me in July of last year. There was also, she added, a reasonable chance that the disease had evolved naturally — both were scientific possibilities. "I don't know if we will ever find a smoking gun, especially if it was a lab accident. The stakes are so high now. It would be terrifying to be blamed for millions of cases of COVID-19 and possibly up to a million deaths by year end, if the pandemic continues to grow out of control. The Chinese government has also restricted their own scholars and scientists from looking into the origins of SARS-CoV-2. At this rate, the origin of SARS-CoV-2 may just be buried by the passage of time."

I asked Jonathan A. King, a molecular biologist and biosafety advocate from MIT, whether he'd thought *lab accident* when he first heard about the epidemic. "Absolutely, absolutely," King answered. Other scientists he knew were concerned as well. But scientists, he said, in general were cautious about speaking out. There were "very intense, very subtle pressures" on them not to push on issues of laboratory biohazards. Collecting lots of bat viruses, and passaging those viruses repeatedly through cell cultures, and making bat-human viral hybrids, King believes, "generates new threats and desperately needs to be reined in."

"All possibilities should be on the table, including a lab leak," a scientist from the NIH, Philip Murphy — chief of the Laboratory of Molecular Immunology — wrote me recently. Nikolai Petrovsky, a professor of endocrinology at Flinders University College of Medicine in Adelaide, Australia, said in an email, "There are indeed many unexplained features of this virus that are hard if not impossible to explain based on a completely natural origin." Richard Ebright, a molecular biologist at Rutgers University, wrote that he'd been concerned for some years about the Wuhan laboratory and about the work being done there to create "chimeric" (i.e., hybrid) SARS-related bat coronaviruses "with enhanced human infectivity." Ebright said, "In this context, the news of a novel coronavirus in Wuhan \*\*\*screamed\*\*\* lab release."

## III.

## “No Credible Evidence”

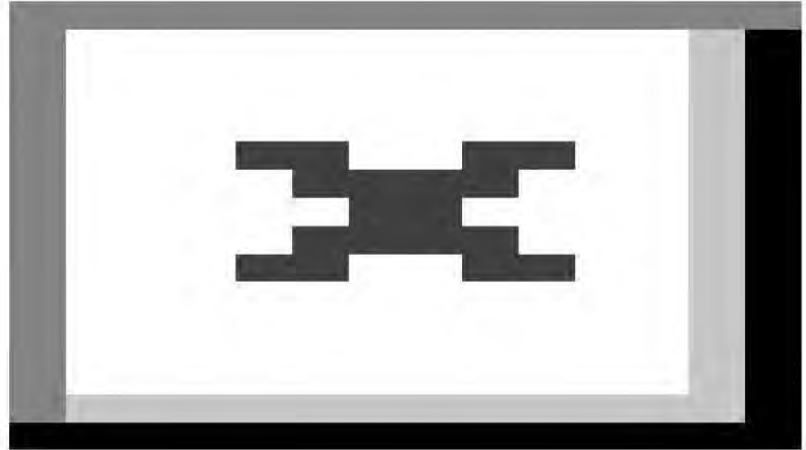
**The new disease**, as soon as it appeared, was intercepted — stolen and politicized by people with ulterior motives. The basic and extremely interesting scientific question of what happened was sucked up into an ideological sharknado.

Some Americans boycotted Chinese restaurants; others bullied and harassed Asian Americans. Steve Bannon, broadcasting from his living room, in a YouTube series called *War Room*, said that the Chinese Communist Party had made a biological weapon and intentionally released it. He called it the “CCP virus.” And his billionaire friend and backer, Miles Guo, a devoted Trump supporter, told a right-wing website that the communists’ goal was to “use the virus to infect selective people in Hong Kong, so that the Chinese Communist Party could use it as an excuse to impose martial law there and ultimately crush the Hong Kong pro-democracy movement. But it backfired terribly.”

In *The Lancet*, in February, a powerful counterstatement appeared, signed by 27 scientists. “We stand together to strongly condemn conspiracy theories suggesting that COVID-19 does not have a natural origin,” the statement said. “Scientists from multiple countries have published and analyzed genomes of the causative agent, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and they overwhelmingly conclude that this coronavirus originated in wildlife, as have so many other emerging pathogens.”

The behind-the-scenes organizer of this *Lancet* statement, Peter Daszak, is a zoologist and bat-virus sample collector and the head of a New York nonprofit called EcoHealth Alliance — a group that (as veteran science journalist Fred Guterl explained later in *Newsweek*) has channeled money from the National Institutes of Health to Shi Zhengli’s laboratory in Wuhan, allowing the lab to carry on recombinant research into diseases of bats and humans. “We have a choice whether to stand up and support colleagues who are being attacked and threatened daily by conspiracy theorists or to just turn a blind eye,” Daszak said in February in *Science* magazine.





**How Did It Get Out? 1. The Tongguan Mine Shaft** in Mojiang, Yunnan, where, in 2013, fragments of RaTG13, the closest known relative of SARSCoV-2, were recovered and transported to the Wuhan Institute of Virology; **2. The Wuhan Institute of Virology**, where Shi Zhengli's team brought the RaTG13 sample, sequenced its genome, then took it out of the freezer several times in recent years; **3. The Wuhan Center for Disease Control and Prevention**, which first reported signs of the novel coronavirus in hospital patients; **4. The Huanan Seafood Wholesale Market**, an early suspected origin of the pandemic, where the first major outbreak occurred. Illustration: Map by Jason Lee

Vincent Racaniello, a professor at Columbia and a co-host of a podcast called *This Week in Virology*, said on February 9 that the idea of an accident in Wuhan was “complete bunk.” The coronavirus was 96 percent similar to a bat virus found in 2013, Racaniello said. “It’s not a man-made virus. It wasn’t released from a lab.”

Racaniello’s dismissal was seconded by a group of scientists from Ohio State, the University of Pennsylvania, and the University of North Carolina, who put out a paper in *Emerging Microbes and Infections* to quiet the “speculations, rumors, and conspiracy theories that SARS-CoV-2 is of laboratory origin.” There was “currently no credible evidence” that SARS-2 leaked from a lab, these scientists said, using a somewhat different argument from Racaniello’s. “Some people have alleged that the human SARS-CoV-2 was leaked directly from a laboratory in Wuhan where a bat CoV (RaTG13) was recently

reported,” they said. But RaTG13 could not be the source because it differed from the human SARS-2 virus by more than a thousand nucleotides. One of the paper’s authors, Susan Weiss, told the Raleigh *News & Observer*, “The conspiracy theory is ridiculous.”

The most influential natural-origin paper, “The Proximal Origin of SARS-CoV-2,” by a group of biologists that included Kristian Andersen of Scripps Research, appeared online in a preliminary version in mid-February. “We do not believe any type of laboratory-based scenario is plausible,” the scientists said. Why? Because molecular-modeling software predicted that if you wanted to optimize an existing bat virus so that it would replicate well in human cells, you would arrange things a different way than how the SARS-2 virus actually does it — even though the SARS-2 virus does an extraordinarily good job of replicating in human cells. The laboratory-based scenario was implausible, the paper said, because, although it was true that the virus could conceivably have developed its unusual genetic features in a laboratory, a stronger and “more parsimonious” explanation was that the features came about through some kind of natural mutation or recombination. “What we think,” explained one of the authors, Robert F. Garry of Tulane University, on YouTube, “is that this virus is a recombinant. It probably came from a bat virus, plus perhaps one of these viruses from the pangolin.” Journalists, for the most part, echoed the authoritative pronouncements of Daszak, Racaniello, Weiss, Andersen, and other prominent natural-originists. “The balance of the scientific evidence strongly supports the conclusion that the new coronavirus emerged from nature — be it the Wuhan market or somewhere else,” said the Washington *Post*’s “Fact Checker” column. “Dr. Fauci Again Dismisses Wuhan Lab As Source of Coronavirus,” said CBS News, posting a video interview of Anthony Fauci by *National Geographic*. “If you look at the evolution of the virus in bats, and what’s out there now,” Fauci said, “it’s very, very strongly leaning toward ‘This could not have been artificially or deliberately manipulated’ — the way the mutations have naturally evolved.”

Everyone took sides; everyone thought of the new disease as one more episode in an ongoing partisan struggle. Think of Mike Pompeo, that landmass of Cold War truculence; think of Donald Trump himself. They stood at their microphones saying, in a winking, I-know-something-you-don’t-know sort of way, that this disease escaped from a Chinese laboratory. Whatever they were saying must be wrong. It became impermissible, almost taboo, to admit that, of course, SARS-2 could have come from a lab accident. “The administration’s claim that the virus spread from a Wuhan lab has made the notion politically

toxic, even among scientists who say it could have happened," wrote science journalist Mara Hvistendahl in the Intercept.

#### IV.

## “Is It a Complete Coincidence?”

**Even so, in January and February of 2020, there were thoughtful people who were speaking up, formulating their perplexities.**

One person was Sam Hussein, who works for Consortium News. He went to a CDC press conference at the National Press Club on February 11, 2020. By then, 42,000 people had gotten sick in China and more than a thousand had died. But there were only 13 confirmed cases in the U.S. Halfway through the Q&A period, Hussein went to the microphone and asked the CDC's representative, Anne Schuchat, where the virus had come from. His head was spinning, he told me later.

“Obviously the main concern is how to stop the virus,” Hussein said; nonetheless, he wanted to know more about its source. “Is it the CDC's contention,” he asked, “that there's absolutely no relation to the BSL-4 lab in Wuhan? It's my understanding that this is the only place in China with a BSL-4 lab. We in the United States have, I think, two dozen or so, and there have been problems and incidents.” (A BSL-4 laboratory is a maximum-security biosafety-level-four facility, used to house research on the most dangerous known pathogens. *New York* has confirmed there are at least 11 BSL-4 facilities currently operating in the U.S.) Hussein hastened to say that he wasn't implying that what happened in Wuhan was in any way intentional. “I'm just asking, Is it a complete coincidence that this outbreak happened in the one city in China with a BSL-4 lab?”

Schuchat thanked Hussein for his questions and comments. Everything she'd seen was quite consistent with a natural, zoonotic origin for the disease, she said.

That same month, a group of French scientists from Aix-Marseille University posted a paper describing their investigation of a small insertion in the genome of the new SARS-2 virus. The virus's spike protein contained a sequence of amino acids that formed what Etienne Decroly and colleagues called a “peculiar furin-like cleavage site” — a chemically sensitive region on the lobster claw of the spike protein that would react in the presence of an enzyme called furin, which is a type of protein found everywhere within the

human body, but especially in the lungs. When the spike senses human furin, it shudders, chemically speaking, and the enzyme opens the protein, commencing the tiny morbid ballet whereby the virus burns a hole in a host cell's outer membrane and finds its way inside.

The code for this particular molecular feature — not found in SARS or any SARS-like bat viruses, but present in a slightly different form in the more lethal MERS virus — is easy to remember because it's a roar: "R-R-A-R." The letter code stands for amino acids: arginine, arginine, alanine, and arginine. Its presence, so Decroly and his colleagues observed, may heighten the "pathogenicity" — that is, the god-awfulness — of a disease.

Botao Xiao, a professor at the South China University of Technology, posted a short paper on a preprint server titled "The Possible Origins of 2019-nCoV Coronavirus." Two laboratories, the Wuhan Center for Disease Control and Prevention (WHCDC) and the Wuhan Institute of Virology, were not far from the seafood market, which was where the disease was said to have originated, Xiao wrote — in fact, the WHCDC was only a few hundred yards away from the market — whereas the horseshoe bats that hosted the disease were hundreds of miles to the south. (No bats were sold in the market, he pointed out.) It was unlikely, he wrote, that a bat would have flown to a densely populated metropolitan area of 15 million people. "The killer coronavirus probably originated from a laboratory in Wuhan," Xiao believed. He urged the relocation of "biohazardous laboratories" away from densely populated places. His article disappeared from the server.

And late in the month, a professor at National Taiwan University, Fang Chitai, gave a lecture on the coronavirus in which he described the anomalous R-R-A-R furin cleavage site. The virus was "unlikely to have four amino acids added all at once," Fang said — natural mutations were smaller and more haphazard, he argued. "From an academic point of view, it is indeed possible that the amino acids were added to COVID-19 in the lab by humans." When the *Taiwan News* published an article about Fang's talk, Fang disavowed his own comments, and the video copy of the talk disappeared from the website of the Taiwan Public Health Association. "It has been taken down for a certain reason," the association explained. "Thank you for your understanding."

# “A Serious Shortage of Appropriately Trained Technicians”

**In the spring**, I did some reading on coronavirus history. Beginning in the 1970s, dogs, cows, and pigs were diagnosed with coronavirus infections; dog shows were canceled in 1978 after 25 collies died in Louisville, Kentucky. New varieties of coronaviruses didn't start killing humans, though, until 2003 — that's when restaurant chefs, food handlers, and people who lived near a live-animal market got sick in Guangzhou, in southern China, where the shredded meat of a short-legged raccoonlike creature, the palm civet, was served in a regional dish called “dragon-tiger-phoenix soup.” The new disease, SARS, spread alarmingly in hospitals, and it reached 30 countries and territories. More than 800 people died; the civet-borne virus was eventually traced to horseshoe bats.

Later, smaller outbreaks of SARS in Taiwan, Singapore, and China's National Institute of Virology in Beijing were all caused by laboratory accidents. Of the Beijing Virology Institute, the World Health Organization's safety investigators wrote, in May 2004, that they had “serious concerns about biosafety procedures.” By one account, a SARS storage room in the Beijing lab was so crowded that the refrigerator holding live virus was moved out to the hallway. “Scientists still do not fully understand exactly where or how SARS emerged 18 months ago,” wrote *Washington Post* reporter David Brown in June 2004. “But it is clear now that the most threatening source of the deadly virus today may be places they know intimately — their own laboratories.”

**I'm just asking, Is it a complete coincidence that this outbreak happened in the one city in China with a BSL-4 lab?**

MERS arose in 2012, possibly spread by camels that had contracted the disease from bats or bat guano, then passed it to human drinkers of raw camel milk and butchers of camel meat. It was an acute sickness, with a high fatality rate, mostly confined to Saudi Arabia. Like SARS, MERS ebbed quickly — it all but disappeared outside the Middle East, except for an outbreak in 2015 at the Samsung Medical Center in South Korea, where a single case of MERS led to more than 180 infections, many involving hospital workers.

In January 2015, the brand-new BSL-4 lab in Wuhan, built by a French contractor, celebrated its opening, but full safety certification came slowly. According to State Department cables from 2018 leaked to the *Washington Post*, the new BSL-4 lab had some start-up problems, including “a serious shortage of appropriately trained technicians and investigators needed to safely operate this high-containment laboratory.” The staff had gotten some training at a BSL-4 lab in Galveston, Texas, but they were doing potentially dangerous work with SARS-like viruses, the memo said, and they needed more help from the U.S.

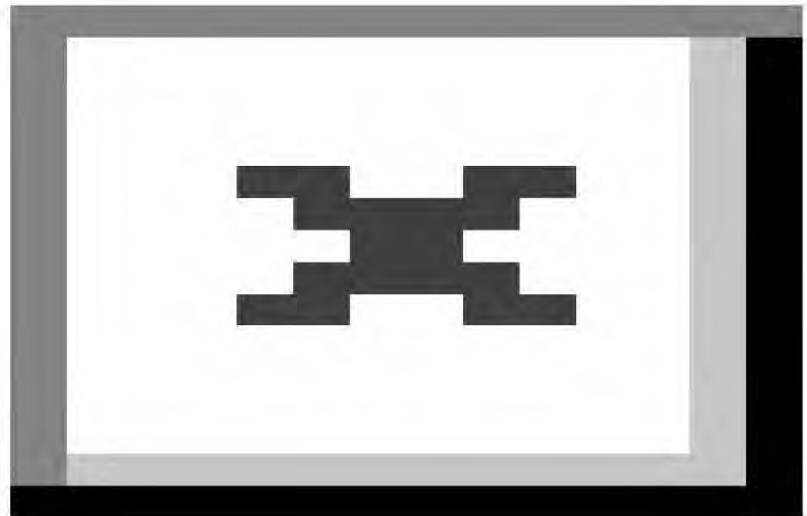
In November or December of 2019, the novel coronavirus began to spread. Chinese scientists initially named it “Wuhan seafood market pneumonia virus,” but soon that idea went away. The market, closed and decontaminated by Chinese officials on January 1, 2020, was an amplifying hub, not the source of the outbreak, according to several studies by Chinese scientists. Forty-five percent of the earliest SARS-2 patients had no link with the market.

## VI.

# Emergence

**Now let’s take a step back.** AIDS, fatal and terrifying and politically charged, brought on a new era in government-guided vaccine research, under the guidance of Anthony Fauci. A virologist at Rockefeller University, Stephen S. Morse, began giving talks on “emerging viruses” — other plagues that might be in the process of coming out of nature’s woodwork. In 1992, Richard Preston wrote a horrific account of one emergent virus, Ebola, in *The New Yorker*, which became a best-selling book in 1994; Laurie Garrett’s *The Coming Plague: Newly Emerging Diseases in a World Out of Balance* appeared that same year and was also a best seller. The idea seemed to be everywhere: We were on the verge of a wave of zoonotic, emergent plagues.

This new, useful term, *emerging*, began to glow in the research papers of some coronavirologists, who were out of the spotlight, working on common colds and livestock diseases. The term was useful because it was fluid. An emerging disease could be real and terrifying, as AIDS was — something that had just arrived on the medical scene and was confounding our efforts to combat it — or it could be a disease that hadn’t arrived, and might never arrive, but could be shown in a laboratory to be waiting in the wings, just a few mutations away from a human epidemic. It was real and unreal at the same time — a quality that was helpful when applying for research grants.



**Where Did It Come From?** This chart measures the genetic similarity of known viruses to the novel coronavirus (which appears in yellow). By far the closest is the bat virus RaTG13, which appears in blue, and which was recovered in 2013 and brought to the Wuhan Institute of Virology. The first SARS, marked in red, is a much more distant relative. Graphic: Zhou, P., Yang, XL, Wang, XG, et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature* 579, 270–273 (2020)

Take, for instance, [this paper](#) from 1995: “High Recombination and Mutation Rates in Mouse Hepatitis Viruses Suggest That Coronaviruses May Be Potentially Important Emerging Viruses.” It was written by Dr. Ralph Baric and his bench scientist, Boyd Yount, at the University of North Carolina. Baric, a gravelly voiced former swim champion, described in this early paper how his lab was able to train a coronavirus, MHV, which causes hepatitis in mice, to jump species, so that it could reliably infect BHK (baby-hamster kidney) cell cultures. They did it using serial passaging: repeatedly dosing a mixed solution of mouse cells and hamster cells with mouse-hepatitis virus, while each time decreasing the number of mouse cells and upping the concentration of hamster cells. At first, predictably, the mouse-hepatitis virus couldn’t do much with the hamster cells, which were left almost free of infection, floating in

their world of fetal-calf serum. But by the end of the experiment, after dozens of passages through cell cultures, the virus had mutated: It had mastered the trick of parasitizing an unfamiliar rodent. A scourge of mice was transformed into a scourge of hamsters. And there was more: "It is clear that MHV can rapidly alter its species specificity and infect rats and primates," Baric said. "The resulting virus variants are associated with demyelinating diseases in these alternative species." (A demyelinating disease is a disease that damages nerve sheaths.) With steady prodding from laboratory science, along with some rhetorical exaggeration, a lowly mouse ailment was morphed into an emergent threat that might potentially cause nerve damage in primates. That is, nerve damage in us.

A few years later, in a further round of "interspecies transfer" experimentation, Baric's scientists introduced their mouse coronavirus into flasks that held a suspension of African-green-monkey cells, human cells, and pig-testicle cells. Then, in 2002, they announced something even more impressive: They'd found a way to create a full-length infectious clone of the entire mouse-hepatitis genome. Their "infectious construct" replicated itself just like the real thing, they wrote.

Not only that, but they'd figured out how to perform their assembly seamlessly, without any signs of human handiwork. Nobody would know if the virus had been fabricated in a laboratory or grown in nature. Baric called this the "no-see'm method," and he asserted that it had "broad and largely unappreciated molecular biology applications." The method was named, he wrote, after a "very small biting insect that is occasionally found on North Carolina beaches."

In 2006, Baric, Yount, and two other scientists were granted a patent for their invisible method of fabricating a full-length infectious clone using the seamless, no-see'm method. But this time, it wasn't a clone of the mouse-hepatitis virus — it was a clone of the entire deadly human SARS virus, the one that had emerged from Chinese bats, via civets, in 2002. The Baric Lab came to be known by some scientists as "the Wild Wild West." In 2007, Baric said that we had entered "the golden age of coronavirus genetics."

"I would be afraid to look in their freezers," one virologist told me.

Baric and Shi Zhengli of the Wuhan Institute of Virology, the two top experts on the genetic interplay between bat and human coronaviruses, began collaborating in 2015.



## VII.

## “I Had Not Slept a Wink”

**Early in the** pandemic, *Scientific American* profiled Shi Zhengli, known in China as the “bat woman.” Shi trapped hundreds of bats in nets at the mouths of caves in southern China, sampled their saliva and their blood, swabbed their anuses, and gathered up their fecal pellets. Several times, she visited and sampled bats in a mine in Mojiang, in southern China, where, in 2012, six men set to work shoveling bat guano were sickened by a severe lung disease, three of them fatally. Shi’s team took the samples back to Wuhan and analyzed whatever fragments of bat virus she could find. In some cases, when she found a sequence that seemed particularly significant, she experimented with it in order to understand how it might potentially infect humans. Some of her work was funded by the National Institutes of Health and some of it by the U.S. Defense Threat Reduction Agency of the Department of Defense via Peter Daszak’s EcoHealth Alliance.

As Shi explained to *Scientific American*, late in December 2019, she heard from the director of the Wuhan Institute that there was an outbreak of a new disease in the city. Medical samples taken from hospital patients arrived at her lab for analysis. Shi determined that the new virus was related to SARS but even more closely related to a bat disease that her own team had found on a virus-hunting trip: the now-famous RaTG13. Shi was surprised that the outbreak was local, she said: “I had never expected this kind of thing to happen in Wuhan, in central China.” The bat hiding places that she’d been visiting were, after all, as far away as Orlando, Florida, is from New York City. Could this new virus, she wondered, have come from her own laboratory? She checked her records and found no exact matches. “That really took a load off my mind,” she said. “I had not slept a wink for days.”

If one of the first thoughts that goes through the head of a lab director at the Wuhan Institute of Virology is that the new coronavirus could have come from her lab, then we are obliged to entertain the scientific possibility that it could indeed have come from her lab. Right then, there should have been a comprehensive, pockets-inside-out, fully public investigation of the Virology Institute, along with the other important virus labs in Wuhan, including the one close by the seafood market, headquarters of the Wuhan CDC. There should have been interviews with scientists, interviews with biosafety teams, close parsings of laboratory notebooks, freezer and plumbing and decontamination systems checks — everything. It didn’t happen. The Wuhan

Institute of Virology closed down its databases of viral genomes, and the Chinese Ministry of Education sent out a directive: "Any paper that traces the origin of the virus must be strictly and tightly managed."

Shi made some WeChat posts early in 2020. "The novel 2019 coronavirus is nature punishing the human race for keeping uncivilized living habits," she wrote. "I, Shi Zhengli, swear on my life that it has nothing to do with our laboratory." She advised those who believed rumors, and gave credence to unreliable scientific papers, to "shut their stinking mouths."

#### VIII.

## “ ‘Bug to Drug’ in 24 Hours”

**It wasn't only AIDS** that changed the way the NIH funded research. The War on Terror also influenced which diseases got the most attention. In the late '90s, under Bill Clinton and then George W. Bush, biodefense specialists became interested — again — in anthrax. The Defense Threat Reduction Agency built a small anthrax factory in Nevada, using simulants, to demonstrate how easy it would be for a terrorist to build a small anthrax factory. And in the first year of the Bush presidency, the Defense Intelligence Agency wrote up plans to create a vaccine-resistant form of anthrax using state-of-the-art gene-splicery. A front-page article describing these initiatives, "U.S. Germ Warfare Research Pushes Treaty Limits," appeared in the *New York Times* on September 4, 2001, one week before 9/11. "Pentagon Says Projects Are Defense, Is Pressing Ahead," was the subtitle.

After the 9/11 attacks, and the mysterious anthrax mailings that began a week later (which said, "TAKE PENACILIN [*sic*] NOW / DEATH TO AMERICA / DEATH TO ISRAEL / ALLAH IS GREAT"), the desire for biopreparedness became all consuming. Now there were emerging biothreats from humans as well as from the evolving natural world. Fauci's anti-terror budget went from \$53 million in 2001 to \$1.7 billion in 2003. Setting aside his work toward an AIDS vaccine, which was taking longer than he'd foreseen, Fauci said he would be going all out to defend against a suite of known Cold War agents, all of which had been bred and perfected in American weapons programs many years before — brucellosis, anthrax, tularemia, and plague, for instance. "We are making this the highest priority," Fauci said. "We are really marshaling all available resources."

**I would be afraid to look in their freezers.**

Vaccine development had to progress much faster, Fauci believed; he wanted to set up “vaccine systems” and “vaccine platforms,” which could be quickly tailored to defend against a particular emergent strain some terrorist with an advanced biochemistry degree might have thrown together in a laboratory. “Our goal within the next 20 years is ‘bug to drug’ in 24 hours,” Fauci said. “This would specifically meet the challenge of genetically engineered bioagents.” The first Project BioShield contract Fauci awarded was to VaxGen, a California pharmaceutical company, for \$878 million worth of shots of anthrax vaccine.

By 2005, so much money was going toward bioterror reduction and preparedness that more than 750 scientists sent a protest letter to the NIH. Their claim was that grants to study canonical biowar diseases — anthrax, plague, brucellosis, and tularemia, all exceptionally rare in the U.S. — had increased by a factor of 15 since 2001, whereas funds for the study of widespread “normal” diseases, of high public-health importance, had decreased.

Fauci was firm in his reply: “The United States through its leaders made the decision that this money was going to be spent on biodefense,” he said. “We disagree with the notion that biodefense concerns are of ‘low public-health significance.’”

In 2010, by one count, there were 249 BSL-3 laboratories and seven BSL-4 laboratories in the U.S., and more than 11,000 scientists and staffers were authorized to handle the ultra-lethal germs on the government’s select pathogen list. And yet the sole bioterrorist in living memory who actually killed American citizens, according to the FBI — the man who sent the anthrax letters — turned out to be one of the government’s own researchers. Bruce Ivins, an eccentric, suicidal laboratory scientist from Ohio who worked in vaccine development at Fort Detrick, allegedly wanted to boost the fear level so as to persuade the government to buy more of the patented, genetically engineered anthrax VaxGen vaccine, of which he was a co-inventor. (See David Willman’s fascinating biography of Ivins, *Mirage Man*.) Fauci’s staff at NIH funded Ivins’s vaccine laboratory and gave \$100 million to VaxGen to accelerate vaccine production. (The NIH’s \$878 million contract with VaxGen, however, was quietly canceled in 2006; Ivins, who was never charged, killed himself in 2008.)

“The whole incident amounted to a snake eating its own tail,” wrote Wendy Orent in an August 2008 piece titled “Our Own Worst Bioenemy” in the Los Angeles *Times*. “No ingenious biowarrior from Al Qaeda sent the lethal

envelopes through the U.S. postal system. An American scientist did.” What confirmed Ivins’s guilt, according to the FBI, was that there was a genetic match between the anthrax used in the killings and the strain held at Fort Detrick.

IX.

## “Weapons of Mass Disruption”

**After SARS appeared** in 2003, Ralph Baric’s laboratory moved up the NIH funding ladder. SARS was a “dual use” organism — a security threat and a zoonotic threat at the same time. In 2006, Baric wrote a long, fairly creepy paper on the threat of “weaponizable” viruses. Synthetic biology had made possible new kinds of viral “weapons of mass disruption,” he wrote, involving, for example, “rapid production of numerous candidate bioweapons that can be simultaneously released,” a scattershot terror tactic Baric called the “‘survival of the fittest’ approach.”

Baric hoped to find a SARS vaccine, but he couldn’t; he kept looking for it, year after year, supported by the NIH, long after the disease itself had been contained. It wasn’t really gone, Baric believed. Like other epidemics that pop up and then disappear, as he told a university audience some years later, “they don’t go extinct. They are waiting to return.” What do you do if you run a well-funded laboratory, an NIH “center of excellence,” and your emergent virus is no longer actually making people sick? You start squeezing it and twisting it into different shapes. Making it stand on its hind legs and quack like a duck, or a bat. Or breathe like a person.

Baric’s safety record is good — although there was a minor mouse-bite incident in 2016, uncovered by ProPublica — and his motives are beyond reproach: “Safe, universal, vaccine platforms are needed that can be tailored to new pathogens as they emerge, quickly tested for safety, and then strategically used to control new disease outbreaks in human populations,” he wrote in a paper on public health. But the pioneering work he did over the past 15 years — generating tiny eager single-stranded flask monsters and pitting them against human cells, or bat cells, or gene-spliced somewhat-human cells, or monkey cells, or humanized mice — was not without risk, and it may have led others astray.

In 2006, for instance, Baric and his colleagues, hoping to come up with a “vaccine strategy” for SARS, produced noninfectious virus replicon particles (or VRPs) using the Venezuelan-equine-encephalitis virus (another American

germ-warfare agent), which they fitted with various SARS spike proteins. Then, wearing Tyvek suits and two pairs of gloves each, and working in a biological safety cabinet in a BSL-3-certified laboratory, they cloned and grew recombinant versions of the original SARS virus in an incubator in a medium that held African-green-monkey cells. When they had grown enough virus, the scientists swapped out one kind of spike protein for a carefully chosen mutant, and they challenged their prototype vaccine with it in mice.

The scientists also tried their infectious SARS clones in something called an air-liquid interface, using a relatively new type of cell culture developed by Raymond Pickles of the University of North Carolina's Cystic Fibrosis Center. Pickles had perfected a method of emulating the traits of human airway tissue by cultivating cells taken from lung-disease patients — nurturing the culture over four to six weeks in such a way that the cells differentiated and developed a crop of tiny moving hairs, or cilia, on top and goblet cells within that produced real human mucus. In fact, before infecting these HAE (human airway epithelial) cells with a virus, the lab worker must sometimes rinse off some of the accumulated mucus, as if helping the lab-grown tissue to clear its throat. So Baric was exposing and adapting his engineered viruses to an extraordinarily true-to-life environment — the juicy, sticky, hairy inner surface of our breathing apparatus.

SARS-2 seems almost perfectly calibrated to grab and ransack our breathing cells and choke the life out of them. “By the time SARS-CoV-2 was first detected in late 2019, it was already pre-adapted to human transmission,” Alina Chan and her co-authors have written, whereas SARS, when it first appeared in 2003, underwent “numerous adaptive mutations” before settling down. Perhaps viral nature hit a bull’s-eye of airborne infectivity, with almost no mutational drift, no period of accommodation and adjustment, or perhaps some lab worker somewhere, inspired by Baric’s work with human airway tissue, took a spike protein that was specially groomed to colonize and thrive deep in the ciliated, mucosal tunnels of our inner core and cloned it onto some existing viral bat backbone. It could have happened in Wuhan, but — because anyone can now “print out” a fully infectious clone of any sequenced disease — it could also have happened at Fort Detrick, or in Texas, or in Italy, or in Rotterdam, or in Wisconsin, or in some other citadel of coronaviral inquiry. No conspiracy — just scientific ambition, and the urge to take exciting risks and make new things, and the fear of terrorism, and the fear of getting sick. Plus a whole lot of government money.

## “Risky Areas for Spillover”

**Project Bioshield** began to fade by the end of the Bush administration, although the expensive high-containment laboratories, controversial preservers and incubators of past and future epidemics, remain. By 2010, some BioShield projects had dissolved into Obama’s Predict program, which paid for laboratories and staff in 60 “risky areas for spillover” around the world. Jonna Mazet, a veterinary scientist from the University of California, Davis, was in charge of Predict, which was a component of USAID’s “Emerging Pandemic Threats” program. Her far-flung teams collected samples from 164,000 animals and humans and claimed to have found “almost 1,200 potentially zoonotic viruses, among them 160 novel coronaviruses, including multiple SARS- and MERS-like coronaviruses.” The fruits of Predict’s exotic harvest were studied and circulated in laboratories worldwide, and their genetic sequences became part of GenBank, the NIH’s genome database, where any curious RNA wrangler anywhere could quickly synthesize snippets of code and test out a new disease on human cells.

Baric, Jonna Mazet, and Peter Daszak of EcoHealth worked together for years — and Daszak also routed Predict money to Shi Zhengli’s bat-surveillance team in Wuhan through his nonprofit, mingling it with NIH money and money from the U.S. Defense Threat Reduction Agency. In 2013, Mazet announced that Shi Zhengli’s virus hunters, with Predict’s support, had, for the first time, isolated and cultured a live SARS-like virus from bats and demonstrated that this virus could bind to the human ACE2, or “angiotensin-converting enzyme 2,” receptor, which Baric’s laboratory had determined to be the sine qua non of human infectivity. “This work shows that these viruses can directly infect humans and validates our assumption that we should be searching for viruses of pandemic potential before they spill over to people,” Mazet said.

Daszak, for his part, seems to have viewed his bat quests as part of an epic, quasi-religious death match. In a paper from 2008, Daszak and a co-author described Bruegel’s painting *The Fall of the Rebel Angels* and compared it to the contemporary human biological condition. The fallen angels could be seen as pathogenic organisms that had descended “through an evolutionary (not spiritual) pathway that takes them to a netherworld where they can feed only on our genes, our cells, our flesh,” Daszak wrote. “Will we succumb to the multitudinous horde? Are we to be cast downward into chthonic chaos represented here by the heaped up gibbering phantasmagory against which we rail and struggle?”

## XI.

## “Lab-Made?”

**There are, in fact,** some helpful points of agreement between zoonoticists — those who believe in a natural origin of the SARS-2 virus — and those who believe that it probably came from a laboratory. Both sides agree, when pressed, that a lab origin can’t be conclusively ruled out and a natural origin can’t be ruled out either — because nature, after all, is capable of improbable, teleological-seeming achievements. Both sides also agree, for the most part, that the spillover event that began the human outbreak probably happened only once, or a few times, quite recently, and not many times over a longer period. They agree that bat virus RaTG13 (named for the *Rinolophus affinis* bat, from Tongguan, in 2013) is the closest match to the human virus that has yet been found, and that although the two viruses are very similar, the spike protein of the bat virus lacks the features the human spike protein possesses that enable it to work efficiently with human tissue.

Zoonoticists hold that SARS-2’s crucial features — the furin cleavage site and the ACE2 receptor — are the result of a recombinant event involving a bat coronavirus (perhaps RaTG13 or a virus closely related to it) and another, unknown virus. Early on, researchers proposed that it could be a snake sold at the seafood market — a Chinese cobra or a banded krait —but no: Snakes don’t typically carry coronaviruses. Then there was a thought that the disease came from sick smuggled pangolins, because there existed a certain pangolin coronavirus that was, inexplicably, almost identical in its spike protein to the human coronavirus — but then, no: There turned out to be questions about the reliability of the genetic information in that diseased-pangolin data set, on top of which there were no pangolins for sale at the Wuhan market. Then a group from China’s government veterinary laboratory at Harbin tried infecting beagles, pigs, chickens, ducks, ferrets, and cats with SARS-2 to see if they could be carriers. (Cats and ferrets got sick; pigs, ducks, and most dogs did not.)

In September, some scientists at the University of Michigan, led by Yang Zhang, reported that they had created a “computational pipeline” to screen nearly a hundred possible intermediate hosts, including the Sumatran orangutan, the Western gorilla, the Olive baboon, the crab-eating macaque, and the bonobo. All these primates were “permissive” to the SARS-2 coronavirus and should undergo “further experimental investigation,” the scientists proposed.

Despite this wide-ranging effort, there is at the moment no animal host that zoonoticists can point to as the missing link. There's also no single, agreed-upon hypothesis to explain how the disease may have traveled from the bat reservoirs of Yunnan all the way to Wuhan, seven hours by train, without leaving any sick people behind and without infecting anyone along the way.

The zoonoticists say that we shouldn't find it troubling that virologists have been inserting and deleting furin cleavage sites and ACE2-receptor-binding domains in experimental viral spike proteins for years: The fact that virologists have been doing these things in laboratories, in advance of the pandemic, is to be taken as a sign of their prescience, not of their folly. But I keep returning to the basic, puzzling fact: This patchwork pathogen, which allegedly has evolved without human meddling, first came to notice in the only city in the world with a laboratory that was paid for years by the U.S. government to perform experiments on certain obscure and heretofore unpublicized strains of bat viruses — which bat viruses then turned out to be, out of all the organisms on the planet, the ones that are most closely related to the disease. What are the odds?

In July, I discovered a number of volunteer analysts who were doing a new kind of forensic, samizdat science, hunched over the letter code of the SARS-2 genome like scholars deciphering the cuneiform impressions in Linear B tablets. There were the anonymous authors of Project Evidence, on GitHub, who “disavow all racism and violent attacks, including those which are aimed at Asian or Chinese people,” and there was Yuri Deigin, a biotech entrepreneur from Canada, who wrote a massive, lucid paper on Medium, “Lab-Made?,” which illumined the mysteries of the spike protein. Jonathan Latham of the Bioscience Resource Project, with his co-author Allison Wilson, wrote two important papers: one a calm, unsparing overview of laboratory accidents and rash research and the other a close look at the small outbreak of an unexplained viral pneumonia in a bat-infested copper mine in 2012. I corresponded with Alina Chan (now the subject of a nicely turned piece in *Boston* magazine by Rowan Jacobsen) and with the pseudonymous Billy Bostickson, a tireless researcher whose Twitter photo is a cartoon of an injured experimental monkey, and Monali Rahalkar, of the Agharkar Research Institute in Pune, India, who wrote a paper with her husband, Rahul Bahulikar, that also sheds light on the story of the bat-guano-shoveling men whose virus was remarkably like SARS-2, except that it was not nearly as catching. I talked to Rossana Segreto, a molecular biologist at the University of Innsbruck, whose paper, “Is Considering a Genetic-Manipulation Origin for SARS-CoV-2 a Conspiracy Theory That Must Be Censored?,” co-authored with Yuri Deigin, was finally published in November under a milder title; it argued



that SARS-2's most notable features, the furin site and the human ACE2-binding domain, were unlikely to have arisen simultaneously and "might be the result of lab manipulation techniques such as site directed mutagenesis." Segreto is also the person who first established that a bat-virus fragment named BtCoV/4991, identified in 2013, was 100 percent identical to the closest known cousin to SARS-CoV-2, the bat virus RaTG13, thereby proving that the virus closest to the SARS-2-pandemic virus was linked back not to a bat cave but to a mine shaft, and that this same virus had been stored and worked on in the Wuhan Institute for years. This made possible the first big investigative piece on SARS-2's origins, in the *Times* of London, in July: "Nobody can deny the bravery of scientists who risked their lives harvesting the highly infectious virus," the *Times* authors write. "But did their courageous detective work lead inadvertently to a global disaster?"

## XII.

# "A New, Non-Natural Risk"

**In 2011, a tall**, confident Dutch scientist, Ron Fouchier, using grant money from Fauci's group at NIH, created a mutant form of highly pathogenic avian influenza, H5N1, and passaged it ten times through ferrets in order to prove that he could "force" (his word) this potentially fatal disease to infect mammals, including humans, "via aerosols or respiratory droplets." Fouchier said his findings indicated that these avian influenza viruses, thus forced, "pose a risk of becoming pandemic in humans."

This experiment was too much for some scientists: Why, out of a desire to prove that something extremely infectious could happen, would you make it happen? And why would the U.S. government feel compelled to pay for it to happen? Late in 2011, Marc Lipsitch of the Harvard School of Public Health got together with several other dismayed onlookers to ring the gong for caution. On January 8, 2012, the *New York Times* published a scorching editorial, "An Engineered Doomsday." "We cannot say there would be no benefits at all from studying the virus," the *Times* said. "But the consequences, should the virus escape, are too devastating to risk."

These gain-of-function experiments were an important part of the NIH's approach to vaccine development, and Anthony Fauci was reluctant to stop funding them. He and Francis Collins, director of the National Institutes of Health, along with Gary Nabel, NIAID director of vaccine research, published an opinion piece in the *Washington Post* in which they contended that the ferret flu experiments, and others like them, were "a risk worth taking."

“Important information and insights can come from generating a potentially dangerous virus in the laboratory,” they wrote; the work can “help delineate the principles of virus transmission between species.” The work was safe because the viruses were stored in a high-security lab, they believed, and the work was necessary because nature was always coming up with new threats. “Nature is the worst bioterrorist,” Fauci told a reporter. “We know that through history.”

Soon afterward, there followed some distressing screwups in secure federal laboratories involving live anthrax, live smallpox, and live avian influenza. These got attention in the science press. Then Lipsitch’s activists (calling themselves the Cambridge Working Group) sent around a strong statement on the perils of research with “Potential Pandemic Pathogens,” signed by more than a hundred scientists. The work might “trigger outbreaks that would be difficult or impossible to control,” the signers said. Fauci reconsidered, and the White House in 2014 announced that there would be a “pause” in the funding of new influenza, SARS, and MERS gain-of-function research.

Baric, in North Carolina, was not happy. He had a number of gain-of-function experiments with pathogenic viruses in progress. “It took me ten seconds to realize that most of them were going to be affected,” he told NPR. Baric and a former colleague from Vanderbilt University wrote a long letter to an NIH review board expressing their “profound concerns.” “This decision will significantly inhibit our capacity to respond quickly and effectively to future outbreaks of SARS-like or MERS-like coronaviruses, which continue to circulate in bat populations and camels,” they wrote. The funding ban was itself dangerous, they argued. “Emerging coronaviruses in nature do not observe a mandated pause.”

Hoping to smooth over controversy by showing due diligence, the National Science Advisory Board for Biosecurity, founded in the BioShield era under President Bush, paid a consulting firm, Gryphon Scientific, to write a report on gain-of-function research, which by now was simply referred to as GoF. In chapter six of this thousand-page dissertation, published in April 2016, the consultants take up the question of coronaviruses. “Increasing the transmissibility of the coronaviruses could significantly increase the chance of a global pandemic due to a laboratory accident,” they wrote.

The Cambridge Working Group continued to write letters of protest and plead for restraint and sanity. Steven Salzberg, a professor of biomedical engineering at Johns Hopkins, said, “We have enough problems simply keeping up with the current flu outbreaks — and now with Ebola — without

scientists creating incredibly deadly new viruses that might accidentally escape their labs.” David Relman of Stanford Medical School said, “It is unethical to place so many members of the public at risk and then consult only scientists — or, even worse, just a small subset of scientists — and exclude others from the decision-making and oversight process.” Richard Ebright wrote that creating and evaluating new threats very seldom increases security: “Doing so in biology — where the number of potential threats is nearly infinite, and where the asymmetry between the ease of creating threats and the difficulty of addressing threats is nearly absolute — is especially counterproductive.” Lynn Klotz wrote, “Awful as a pandemic brought on by the escape of a variant H5N1 virus might be, it is SARS that now presents the greatest risk. The worry is less about recurrence of a natural SARS outbreak than of yet another escape from a laboratory researching it to help protect against a natural outbreak.” Marc Lipsitch argued that gain-of-function experiments can mislead, “resulting in worse not better decisions,” and that the entire gain-of-function debate as overseen by the NIH was heavily weighted in favor of scientific insiders and “distinctly unwelcoming of public participation.”

Nariyoshi Shinomiya, a professor of physiology and nano-medicine at the National Defense Medical College in Japan, offered this warning: “Similar to nuclear or chemical weapons there is no going back once we get a thing in our hands.”

But in the end, Baric was allowed to proceed with his experiments, and the research papers that resulted, showered with money, became a sort of *Anarchist’s Cookbook* for the rest of the scientific world. In November 2015, Baric and colleagues published a collaboration paper with Shi Zhengli titled “A SARS-like Cluster of Circulating Bat Coronaviruses Shows Potential for Human Emergence.” Into a human SARS virus that they had adapted so that it would work in mice, Baric and Shi et al. inserted the spike protein of a bat virus, SHC014, discovered by Shi in southern China. They dabbed the mice nasally with virus and waited, looking for signs of sickness: “hunching, ruffled fur.” They also infected human airway cells with the mouse-adapted bat-spike-in-a-human-virus backbone. In both mice and human airway cells, the chimeric virus caused a “robust infection.”

This proved, Baric and Shi believed, that you did not need civets or other intermediate hosts in order for bats to cause an epidemic in humans and that therefore all the SARS-like viruses circulating in bat populations “may pose a future threat.” Peter Daszak, who had used Predict funds to pay Shi for her work on the paper, was impressed by this conclusion; the findings, he said,

“move this virus from a candidate emerging pathogen to a clear and present danger.”

Richard Ebricht was trenchantly unenthusiastic. “The only impact of this work,” he said, “is the creation, in a lab, of a new, non-natural risk.”

Early in 2016, Baric and Shi again collaborated. Shi sent Baric a fresh bat virus spike protein, and Baric inserted it into the backbone of a human SARS virus and then used that infectious clone to attack human airway cells. “The virus readily and efficiently replicated in cultured human airway tissues, suggesting an ability to potentially jump directly to humans,” reported the UNC’s website. This time, they also used the bat-human hybrid virus to infect transgenic humanized mice that grew human ACE2 protein. The mice, young and old, lost weight and died, proving, again, that this particular bat virus was potentially “poised to emerge in human populations.” It was “an ongoing threat,” Baric wrote. But was it? Civets and camels that are exposed to a lot of bat-guano dust may be an ongoing threat and a manageable one. But the bats themselves just want to hang in their caves and not be bothered by frowning sightseers in spacesuits who want to poke Q-tips in their bottoms. This 2016 “poised for human emergence” paper was supported by eight different NIH grants. In 2015, Baric’s lab received \$8.3 million from the NIH; in 2016, it received \$10.5 million.

Gain-of-function research came roaring back under Trump and Fauci. “The National Institutes of Health will again fund research that makes viruses more dangerous,” said an article in *Nature* in December 2017. Carrie Wolinetz of the NIH’s office of science policy defended the decision. “These experiments will help us get ahead of viruses that are already out there and pose a real and present danger to human health,” she told *The Lancet*. The NIH, Wolinetz said, was committed to a leadership role with gain-of-function research internationally. “If we are pursuing this research in an active way, we will be much better positioned to develop protection and countermeasures should something bad happen in another country.”

A reporter asked Marc Lipsitch what he thought of the resumption of NIH funding. Gain-of-function experiments “have done almost nothing to improve our preparedness for pandemics,” he said, “yet they risked creating an accidental pandemic.”

## “Proximity Is a Problem”

**In April**, four months into the coronavirus emergency, a deputy director at the NIH wrote an email to EcoHealth Alliance. “You are instructed to cease providing any funds to Wuhan Institute of Virology,” it said. In response, Daszak and the chief scientific officer of New England Biolabs (a company that sells seamless gene-splicing products to laboratories, among other things) got 77 Nobel Prize winners to sign a statement saying that the cancellation deprived the “nation and the world of highly regarded science that could help control one of the greatest health crises in modern history and those that may arise in the future.” Later, as a condition of further funding, the NIH wrote to say it wanted Daszak to arrange an outside inspection of the Wuhan lab and to procure from Wuhan’s scientists a sample of whatever they’d used to sequence the SARS-2 virus. Daszak was outraged (“I am not trained as a private detective”), and again he fought back. He was reluctant to give up his own secrets, too. “Conspiracy-theory outlets and politically motivated organizations have made Freedom of Information Act requests on our grants and all of our letters and emails to the NIH,” he told *Nature*. “We don’t think it’s fair that we should have to reveal everything we do.”

But Daszak has survived — even prospered. Recently, *The Lancet* made him the lead investigator in its inquiry into the origins of the pandemic, and the World Health Organization named him to its ten-person origins investigation. (“We’re still close enough to the origin to really find out more details about where it has come from,” Daszak told *Nature*.)

The NIH has also set up an ambitious new international program, called CREID, which stands for Centers for Research in Emerging Infectious Diseases, and it has put Daszak’s EcoHealth in charge of trapping animals and looking for obscure bat viruses in Singapore, Malaysia, and Thailand. Baric is one of Daszak’s partners in CREID. The virus hunting and collecting, which Richard Ebricht likens to “looking for a gas leak with a lighted match,” will continue and widen with U.S. funding. “We’re going to work in remote parts of Malaysia and Thailand to get to the front line of where the next pandemic is going to start,” Daszak told NPR.

In May, an interviewer from the People’s Pharmacy website asked Baric if he had any thoughts on whether the coronavirus began with a natural bat-to-human transfer. “Or was there something a little bit more, perhaps, insidious involved?”

“Well, of course the answers to those questions are in China,” Baric replied. “Exactly how they work in that facility is something that would be very difficult for a Westerner to know,” he said. “The main problems that the Institute of Virology has is that the outbreak occurred in close proximity to that Institute. That Institute has in essence the best collection of virologists in the world that have gone out and sought out, and isolated, and sampled bat species throughout Southeast Asia. So they have a very large collection of viruses in their laboratory. And so it’s — you know — proximity is a problem. It’s a problem.”

Over the course of the fall, and especially after the election muffled Donald Trump’s influence over the country’s public-health apparatus, that proximity problem — and the uncomfortable questions of origins it raised — began to grow somewhat more discussable. The BBC, *Le Monde*, and Italy’s RAI have all recently taken seriously the scientific possibility of a lab leak. In late October, the World Health Organization convened the first meeting of its second inquiry into the origins of the disease. The WHO’s effort is perhaps the world’s best chance to satisfy its curiosity about goings-on at the Wuhan Institute of Virology and at the Wuhan CDC’s virus lab near the Wuhan seafood market. But, as the *New York Times* has reported, the WHO’s information gathering has been hindered by Chinese secretiveness since February, when an initial investigative team sent to Beijing was told its members’ access to scientists would be restricted and that it couldn’t visit the seafood market, then considered a hub of the pandemic.

When a BBC video team tried to inspect the Yunnan mine shaft, they found the road to the mine blocked by a strategically parked truck that had “broken down” shortly before they arrived. Reporter John Sudworth asked Daszak, one of the ten members of the second WHO investigative team, whether he would push for access to the Wuhan Institute of Virology. “That’s not my job to do that,” Daszak replied.

In November, David Relman, the Stanford microbiologist, one of the most thoughtful of the voices warning against gain-of-function research, published a paper in *Proceedings of the National Academy of Sciences* on the urgent need to unravel the origins of COVID-19. “If SARS-CoV-2 escaped from a lab to cause the pandemic,” he wrote, “it will become critical to understand the chain of events and prevent this from happening again.” Conflicts of interest by researchers and administrators will need to be addressed, Relman wrote; to reach the truth, the investigation must be transparent, international, and, as much as possible, unpolitical. “A more complete understanding of the

origins of COVID-19 clearly serves the interests of every person in every country on this planet.”

“The world is sitting on a precedent-setting decision right now,” wrote Alina Chan on December 8. “It is unclear if SARS2 is 100 percent natural or emerged due to lab/research activities. If we walk away from this, demonstrating that we cannot effectively investigate its origins, it will pave the way for future COVIDS.”

Just before this issue of *New York* went to press, I reached Ralph Baric by phone and asked him where he now believed SARS-2 came from. (Anthony Fauci, Shi Zhengli, and Peter Daszak didn’t respond to emails, and Kristian Andersen said he was busy with other things.) Baric said he still thought the virus came from bats in southern China, perhaps directly, or possibly via an intermediate host, although the smuggled pangolins, in his view, were a red herring. The disease evolved in humans over time without being noticed, he suspected, becoming gradually more infectious, and eventually a person carried it to Wuhan “and the pandemic took off.” Then he said, “Can you rule out a laboratory escape? The answer in this case is probably not.”

#### XIV.

## Transmission

**So how did** we actually get this disease?

Here’s what I think happened. In April 2012, in a copper mine in Mojiang, China, three men were given an awful job — they were told to shovel bat guano out of a mine shaft. They went to work and shoveled guano for seven hours a day in the confined, insufficiently ventilated space of the mine shaft, and by the end of the week, they were sick with a viral pneumonia of unknown etiology. Three more, younger shovelers were hired to replace the ones who were out sick.

The viral load in their lungs was so huge, because of all the guano dust, that their lungs became a kind of accelerated laboratory passaging experiment, as Jonathan Latham and Allison Wilson have written, forcing the virus to switch its allegiance from bats to humans. SARS experts were consulted, and the disease was judged to be SARS-like but not SARS. It was something new. (Shi Zhengli told *Scientific American* that the guano shovelers had died of a fungal disease, but, as Monali Rahalkar pointed out, they were treated with antivirals,

and their symptoms were consistent with viral pneumonia with attendant secondary fungal infections.)

Although it was a severe disease, and in the end three of the shovelers died, there was no resultant epidemic. It was actually a case of industrial overexposure to an infectious substance — what we might call a massive OSHA violation. The bat disease that the men encountered wasn't necessarily all that dangerous except in an environment of immunosuppressive overload.

Peter Daszak and Shi Zhengli were interested, of course, because this unidentified coronavirus disease involved bats and people. Of the fragmentary bits of virus Shi retrieved from the mine shaft, one was SARS-like, and Shi sequenced it and called it BtCoV/4991 and published a paper about it. Several times — in 2016 and 2018 and 2019 — this most interesting sample, a portion of what we now know as RaTG13, was taken out of the freezers in Shi's lab and worked on in undisclosed ways. (Peter Daszak claims that these samples have disintegrated and can't be validated or studied.) Samples of the nameless human disease also traveled back to the Wuhan Institute of Virology — few specifics about these valuable specimens have been released by Chinese sources, however.

This is the period in the story that demands a very close investigation, when chimeric assemblages may have been created and serially passaged, using BtCoV/4991, a.k.a. RaTG13, and other bat viruses, perhaps along with forms of the human virus. It's when Shi and Baric both published papers that were about what happened when you hot-swapped mutant spike proteins between bat viruses and human viruses.

The link, via the renamed sample BtCoV/4991, to the copper mine is of exceptional importance because of the one huge difference between the unnamed guano shovelers' virus and the SARS-2 virus that is now ravaging, for example, California: transmissibility. Airborne human-to-human transmissibility — the kind of thing that gain-of-functioneers like Ron Fouchier and Ralph Baric were aiming at, in order to demonstrate what Baric called "lurking threats" — is COVID-19's crucial distinguishing feature. If six men had gotten extremely sick with COVID-19 back in 2012 in southern China, doctors and nurses in the hospital where they lay dying would likely have gotten sick as well. There might have been hundreds or thousands of cases. Instead, only the shovelers themselves, who had breathed a heavy concentration of guano dust for days, got it.



The existence of bat virus RaTG13 is therefore not necessarily evidence of a natural bat origin. In fact, it seems to me to imply the opposite: New functional components may have been overlaid onto or inserted into the RaTG13 genome, new Tinkertoy intermolecular manipulations, especially to its spike protein, which have the effect of making it unprecedentedly infectious in human airways.

This is where the uniquely peculiar furin insert and/or the human-tuned ACE2-receptor-binding domain may come in — although it's also possible that either of these elements could have evolved as part of some multistep zoonotic process. But in the climate of gonzo laboratory experimentation, at a time when all sorts of tweaked variants and amped-up substitutions were being tested on cell cultures and in the lungs of humanized mice and other experimental animals, isn't it possible that somebody in Wuhan took the virus that had been isolated from human samples, or the RaTG13 bat virus sequence, or both (or other viruses from that same mine shaft that Shi Zhengli has recently mentioned in passing), and used them to create a challenge disease for vaccine research — a chopped-and-channeled version of RaTG13 or the miners' virus that included elements that would make it thrive and even rampage in people? And then what if, during an experiment one afternoon, this new, virulent, human-infecting, furin-ready virus got out?

For more than 15 years, coronavirologists strove to prove that the threat of SARS was ever present and must be defended against, and they proved it by showing how they could doctor the viruses they stored in order to force them to jump species and go directly from bats to humans. More and more bat viruses came in from the field teams, and they were sequenced and synthesized and "rewired," to use a term that Baric likes. In this international potluck supper of genetic cookery, hundreds of new variant diseases were invented and stored. And then one day, perhaps, somebody messed up. It's at least a reasonable, "parsimonious" explanation of what might have happened.

This may be the great scientific meta-experiment of the 21st century. Could a world full of scientists do all kinds of reckless recombinant things with viral diseases for many years and successfully avoid a serious outbreak? The hypothesis was that, yes, it was doable. The risk was worth taking. There would be no pandemic.

I hope the vaccine works.

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**Date:** Mon, 11 Jan 2021 15:52:41 +0000

Fysa, I'll also follow up with another email.

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INVESTIGATIONS JAN. 4, 2021

# The Lab-Leak Hypothesis For decades, scientists have been hot-wiring viruses in hopes of preventing a pandemic, not causing one. But what if ...?

*By Nicholson Baker*

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Illustration: Illustration by Robert Beatty for New York Magazine

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## I.

# Flask Monsters

**What happened was** fairly simple, I've come to believe. It was an accident. A virus spent some time in a laboratory, and eventually it got out. SARS-CoV-2, the virus that causes COVID-19, began its existence inside a bat, then it learned how to infect people in a claustrophobic mine shaft, and then it was made more infectious in one or more laboratories, perhaps as part of a scientist's well-intentioned but risky effort to create a broad-spectrum vaccine. SARS-2 was not designed as a biological weapon. But it was, I think, designed. Many thoughtful people dismiss this notion, and they may be right. They sincerely believe that the coronavirus arose naturally, "zoonotically," from animals, without having been previously studied, or hybridized, or sluiced through cell cultures, or otherwise worked on by trained professionals. They hold that a bat, carrying a coronavirus, infected some other creature, perhaps a pangolin, and that the pangolin may have already been sick with a different coronavirus disease, and out of the conjunction and commingling of those two diseases within the pangolin, a new disease, highly infectious to humans, evolved. Or they hypothesize that two coronaviruses recombined in a bat, and this new virus spread to other bats, and then the bats infected a person directly — in a rural setting, perhaps — and that this person caused a simmering undetected outbreak of respiratory disease, which over a period of months or years evolved to become virulent and highly transmissible but was not noticed until it appeared in Wuhan.

There is no direct evidence for these zoonotic possibilities, just as there is no direct evidence for an experimental mishap — no written confession, no incriminating notebook, no official accident report. Certainty craves detail, and detail requires an investigation. It has been a full year, 80 million people

have been infected, and, surprisingly, no public investigation has taken place. We still know very little about the origins of this disease.

Nevertheless, I think it's worth offering some historical context for our yearlong medical nightmare. We need to hear from the people who for years have contended that certain types of virus experimentation might lead to a disastrous pandemic like this one. And we need to stop hunting for new exotic diseases in the wild, shipping them back to laboratories, and hot-wiring their genomes to prove how dangerous to human life they might become.

Over the past few decades, scientists have developed ingenious methods of evolutionary acceleration and recombination, and they've learned how to trick viruses, coronaviruses in particular, those spiky hairballs of protein we now know so well, into moving quickly from one species of animal to another or from one type of cell culture to another. They've made machines that mix and mingle the viral code for bat diseases with the code for human diseases — diseases like SARS, severe acute respiratory syndrome, for example, which arose in China in 2003, and MERS, Middle East respiratory syndrome, which broke out a decade later and has to do with bats and camels. Some of the experiments — “gain of function” experiments — aimed to create new, more virulent, or more infectious strains of diseases in an effort to predict and therefore defend against threats that might conceivably arise in nature. The term *gain of function* is itself a euphemism; the Obama White House more accurately described this work as “experiments that may be reasonably anticipated to confer attributes to influenza, MERS, or SARS viruses such that the virus would have enhanced pathogenicity and/or transmissibility in mammals via the respiratory route.” The virologists who carried out these experiments have accomplished amazing feats of genetic transmutation, no question, and there have been very few publicized accidents over the years. But there have been some.

And we were warned, repeatedly. The intentional creation of new microbes that combine virulence with heightened transmissibility “poses extraordinary risks to the public,” wrote infectious-disease experts Marc Lipsitch and Thomas Inglesby in 2014. “A rigorous and transparent risk-assessment process for this work has not yet been established.” That’s still true today. In 2012, in *Bulletin of the Atomic Scientists*, Lynn Klotz warned that there was an 80 percent chance, given how many laboratories were then handling virulent viro-varietals, that a leak of a potential pandemic pathogen would occur sometime in the next 12 years.

A lab accident — a dropped flask, a needle prick, a mouse bite, an illegibly labeled bottle — is apolitical. Proposing that something unfortunate happened during a scientific experiment in Wuhan — where COVID-19 was first diagnosed and where there are three high-security virology labs, one of which held in its freezers the most comprehensive inventory of sampled bat viruses in the world — isn’t a conspiracy theory. It’s just a theory. It merits attention, I believe, alongside other reasoned attempts to explain the source of our current catastrophe.

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## II.

# “A Reasonable Chance”

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Seeking Ebola strains in Sierra Leone’s wild-animal population for USAID’s Predict project in 2018. Photo: Simon Townsley

From early 2020, the world was brooding over the origins of COVID-19. People were reading research papers, talking about what kinds of live animals were or were not sold at the Wuhan seafood market — wondering where the new virus had come from.

Meanwhile, things got strange all over the world. The Chinese government shut down transportation and built hospitals at high speed. There were video clips of people who'd suddenly dropped unconscious in the street. A doctor on YouTube told us how we were supposed to scrub down our produce when we got back from the supermarket. A scientist named Shi Zhengli of the Wuhan Institute of Virology published a paper saying that the novel coronavirus was 96 percent identical to a bat virus, RaTG13, found in Yunnan province in southern China. On March 13, I wrote in my journal that there seemed to be something oddly artificial about the disease: "It's too airborne — too catching — it's something that has been selected for infectivity. That's what I suspect. No way to know so no reason to waste time thinking about it."

This was just a note to self — at the time, I hadn't interviewed scientists about SARS-2 or read their research papers. But I did know something about pathogens and laboratory accidents; I published a book last year, *Baseless*, that talks about some of them. The book is named after a Pentagon program, Project Baseless, whose goal, as of 1951, was to achieve "an Air Force-wide combat capability in biological and chemical warfare at the earliest possible date."

A vast treasure was spent by the U.S. on the amplification and aerial delivery of diseases — some well known, others obscure and stealthy. America's biological-weapons program in the '50s had A1-priority status, as high as nuclear weapons. In preparation for a total war with a numerically superior communist foe, scientists bred germs to be resistant to antibiotics and other drug therapies, and they infected lab animals with them, using a technique called "serial passaging," in order to make the germs more virulent and more catching.

And along the way, there were laboratory accidents. By 1960, hundreds of American scientists and technicians had been hospitalized, victims of the diseases they were trying to weaponize. Charles Armstrong, of the National



Institutes of Health, one of the consulting founders of the American germ-warfare program, investigated Q fever three times, and all three times, scientists and staffers got sick. In the anthrax pilot plant at Camp Detrick, Maryland, in 1951, a microbiologist, attempting to perfect the “foaming process” of high-volume production, developed a fever and died. In 1964, veterinary worker Albert Nickel fell ill after being bitten by a lab animal. His wife wasn’t told that he had Machupo virus, or Bolivian hemorrhagic fever. “I watched him die through a little window to his quarantine room at the Detrick infirmary,” she said.

In 1977, a worldwide epidemic of influenza A began in Russia and China; it was eventually traced to a sample of an American strain of flu preserved in a laboratory freezer since 1950. In 1978, a hybrid strain of smallpox killed a medical photographer at a lab in Birmingham, England; in 2007, live foot-and-mouth disease leaked from a faulty drainpipe at the Institute for Animal Health in Surrey. In the U.S., “more than 1,100 laboratory incidents involving bacteria, viruses and toxins that pose significant or bioterror risks to people and agriculture were reported to federal regulators during 2008 through 2012,” reported *USA Today* in an exposé published in 2014.

In 2015, the Department of Defense discovered that workers at a germ-warfare testing center in Utah had mistakenly sent close to 200 shipments of live anthrax to laboratories throughout the United States and also to Australia, Germany, Japan, South Korea, and several other countries over the past 12 years. In 2019, laboratories at Fort Detrick — where “defensive” research involves the creation of potential pathogens to defend against — were shut down for several months by the Centers for Disease Control and Prevention for “breaches of containment.” They reopened in December 2019.

High-containment laboratories have a whispered history of near misses. Scientists are people, and people have clumsy moments and poke themselves and get bitten by the enraged animals they are trying to nasally inoculate. Machines can create invisible aerosols, and cell solutions can become

contaminated. Waste systems don't always work properly. Things can go wrong in a hundred different ways.

Hold that human fallibility in your mind. And then consider the cautious words of Alina Chan, a scientist who works at the Broad Institute of MIT and Harvard. "There is a reasonable chance that what we are dealing with is the result of a lab accident," Chan told me in July of last year. There was also, she added, a reasonable chance that the disease had evolved naturally — both were scientific possibilities. "I don't know if we will ever find a smoking gun, especially if it was a lab accident. The stakes are so high now. It would be terrifying to be blamed for millions of cases of COVID-19 and possibly up to a million deaths by year end, if the pandemic continues to grow out of control. The Chinese government has also restricted their own scholars and scientists from looking into the origins of SARS-CoV-2. At this rate, the origin of SARS-CoV-2 may just be buried by the passage of time."

I asked Jonathan A. King, a molecular biologist and biosafety advocate from MIT, whether he'd thought *lab accident* when he first heard about the epidemic. "Absolutely, absolutely," King answered. Other scientists he knew were concerned as well. But scientists, he said, in general were cautious about speaking out. There were "very intense, very subtle pressures" on them not to push on issues of laboratory biohazards. Collecting lots of bat viruses, and passaging those viruses repeatedly through cell cultures, and making bat-human viral hybrids, King believes, "generates new threats and desperately needs to be reined in."

"All possibilities should be on the table, including a lab leak," a scientist from the NIH, Philip Murphy — chief of the Laboratory of Molecular Immunology — wrote me recently. Nikolai Petrovsky, a professor of endocrinology at Flinders University College of Medicine in Adelaide, Australia, said in an email, "There are indeed many unexplained features of this virus that are hard if not impossible to explain based on a completely natural origin." Richard

Ebright, a molecular biologist at Rutgers University, wrote that he'd been concerned for some years about the Wuhan laboratory and about the work being done there to create "chimeric" (i.e., hybrid) SARS-related bat coronaviruses "with enhanced human infectivity." Ebright said, "In this context, the news of a novel coronavirus in Wuhan \*\*\*screamed\*\*\* lab release."

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### III.

## "No Credible Evidence"

**The new disease**, as soon as it appeared, was intercepted — stolen and politicized by people with ulterior motives. The basic and extremely interesting scientific question of what happened was sucked up into an ideological sharknado.

Some Americans boycotted Chinese restaurants; others bullied and harassed Asian Americans. Steve Bannon, broadcasting from his living room, in a YouTube series called *War Room*, said that the Chinese Communist Party had made a biological weapon and intentionally released it. He called it the "CCP virus." And his billionaire friend and backer, Miles Guo, a devoted Trump supporter, told a right-wing website that the communists' goal was to "use the virus to infect selective people in Hong Kong, so that the Chinese Communist Party could use it as an excuse to impose martial law there and ultimately crush the Hong Kong pro-democracy movement. But it backfired terribly."

In *The Lancet*, in February, a powerful counterstatement appeared, signed by 27 scientists. "We stand together to strongly condemn conspiracy theories suggesting that COVID-19 does not have a natural origin," the statement said. "Scientists from multiple countries have published and analyzed genomes of the causative agent, severe acute respiratory syndrome coronavirus 2 (SARS-

CoV-2), and they overwhelmingly conclude that this coronavirus originated in wildlife, as have so many other emerging pathogens.”

The behind-the-scenes organizer of this *Lancet* statement, Peter Daszak, is a zoologist and bat-virus sample collector and the head of a New York nonprofit called EcoHealth Alliance — a group that (as veteran science journalist Fred Gutler explained later in *Newsweek*) has channeled money from the National Institutes of Health to Shi Zhengli’s laboratory in Wuhan, allowing the lab to carry on recombinant research into diseases of bats and humans. “We have a choice whether to stand up and support colleagues who are being attacked and threatened daily by conspiracy theorists or to just turn a blind eye,” Daszak said in February in *Science* magazine.

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**How Did It Get Out? 1. The Tongguan Mine Shaft** in Mojiang, Yunnan, where, in 2013, fragments of RaTG13, the closest known relative of SARSCoV-2, were recovered and transported to the Wuhan Institute of Virology; **2. The Wuhan Institute of Virology**, where Shi Zhengli’s team brought the RaTG13 sample, sequenced its genome, then took it out of the freezer several times in recent years; **3. The Wuhan Center for Disease Control and Prevention**, which first reported signs of the novel coronavirus in hospital patients; **4. The Huanan Seafood Wholesale Market**, an early suspected origin of the pandemic, where the first major outbreak occurred. Illustration: Map by Jason Lee

Vincent Racaniello, a professor at Columbia and a co-host of a podcast called *This Week in Virology*, said on February 9 that the idea of an accident in Wuhan was “complete bunk.” The coronavirus was 96 percent similar to a bat virus found in 2013, Racaniello said. “It’s not a man-made virus. It wasn’t released from a lab.”

Racaniello’s dismissal was seconded by a group of scientists from Ohio State, the University of Pennsylvania, and the University of North Carolina, who put out a paper in *Emerging Microbes and Infections* to quiet the “speculations, rumors, and conspiracy theories that SARS-CoV-2 is of laboratory origin.” There was “currently no credible evidence” that SARS-2 leaked from a lab, these scientists said, using a somewhat different argument from Racaniello’s.

“Some people have alleged that the human SARS-CoV-2 was leaked directly from a laboratory in Wuhan where a bat CoV (RaTG13) was recently reported,” they said. But RaTG13 could not be the source because it differed from the human SARS-2 virus by more than a thousand nucleotides. One of the paper’s authors, Susan Weiss, told the *Raleigh News & Observer*, “The conspiracy theory is ridiculous.”

The most influential natural-origin paper, “The Proximal Origin of SARS-CoV-2,” by a group of biologists that included Kristian Andersen of Scripps Research, appeared online in a preliminary version in mid-February.

“We do not believe any type of laboratory-based scenario is plausible,” the scientists said. Why? Because molecular-modeling software predicted that if you wanted to optimize an existing bat virus so that it would replicate well in human cells, you would arrange things a different way than how the SARS-2 virus actually does it — even though the SARS-2 virus does an extraordinarily good job of replicating in human cells. The laboratory-based scenario was implausible, the paper said, because, although it was true that the virus could conceivably have developed its unusual genetic features in a laboratory, a stronger and “more parsimonious” explanation was that the features came about through some kind of natural mutation or recombination. “What we think,” explained one of the authors, Robert F. Garry of Tulane University, on YouTube, “is that this virus is a recombinant. It probably came from a bat virus, plus perhaps one of these viruses from the pangolin.” Journalists, for the most part, echoed the authoritative pronouncements of Daszak, Racaniello, Weiss, Andersen, and other prominent natural-originists. “The balance of the scientific evidence strongly supports the conclusion that the new coronavirus emerged from nature — be it the Wuhan market or somewhere else,” said the *Washington Post*’s “Fact Checker” column. “Dr. Fauci Again Dismisses Wuhan Lab As Source of Coronavirus,” said CBS News, posting a video interview of Anthony Fauci by *National Geographic*. “If you look at the evolution of the virus in bats, and what’s out there now,” Fauci said, “it’s very, very strongly leaning toward ‘This could not have been

artificially or deliberately manipulated’ — the way the mutations have naturally evolved.”

Everyone took sides; everyone thought of the new disease as one more episode in an ongoing partisan struggle. Think of Mike Pompeo, that landmass of Cold War truculence; think of Donald Trump himself. They stood at their microphones saying, in a winking, I-know-something-you-don’t-know sort of way, that this disease escaped from a Chinese laboratory. Whatever they were saying must be wrong. It became impermissible, almost taboo, to admit that, of course, SARS-2 could have come from a lab accident. “The administration’s claim that the virus spread from a Wuhan lab has made the notion politically toxic, even among scientists who say it could have happened,” wrote science journalist Mara Hvistendahl in the Intercept.

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#### IV.

## “Is It a Complete Coincidence?”

**Even so, in** January and February of 2020, there were thoughtful people who were speaking up, formulating their perplexities.

One person was Sam Hussein, an independent journalist. He went to a CDC press conference at the National Press Club on February 11, 2020. By then, 42,000 people had gotten sick in China and more than a thousand had died. But there were only 13 confirmed cases in the U.S. Halfway through the Q&A period, Hussein went to the microphone and asked the CDC’s representative, Anne Schuchat, where the virus had come from. His head was spinning, he told me later.

“Obviously the main concern is how to stop the virus,” Hussein said; nonetheless, he wanted to know more about its source. “Is it the CDC’s

contention,” he asked, “that there’s absolutely no relation to the BSL-4 lab in Wuhan? It’s my understanding that this is the only place in China with a BSL-4 lab. We in the United States have, I think, two dozen or so, and there have been problems and incidents.” (A BSL-4 laboratory is a maximum-security biosafety-level-four facility, used to house research on the most dangerous known pathogens. *New York* has confirmed there are at least 11 BSL-4 facilities currently operating in the U.S.) Hussein hastened to say that he wasn’t implying that what happened in Wuhan was in any way intentional. “I’m just asking, Is it a complete coincidence that this outbreak happened in the one city in China with a BSL-4 lab?”

Schuchat thanked Hussein for his questions and comments. Everything she’d seen was quite consistent with a natural, zoonotic origin for the disease, she said.

That same month, a group of French scientists from Aix-Marseille University posted a paper describing their investigation of a small insertion in the genome of the new SARS-2 virus. The virus’s spike protein contained a sequence of amino acids that formed what Etienne Decroly and colleagues called a “peculiar furin-like cleavage site” — a chemically sensitive region on the lobster claw of the spike protein that would react in the presence of an enzyme called furin, which is a type of protein found everywhere within the human body, but especially in the lungs. When the spike senses human furin, it shudders, chemically speaking, and the enzyme opens the protein, commencing the tiny morbid ballet whereby the virus burns a hole in a host cell’s outer membrane and finds its way inside.

The code for this particular molecular feature — not found in SARS or any SARS-like bat viruses, but present in a slightly different form in the more lethal MERS virus — is easy to remember because it’s a roar: “R-R-A-R.” The letter code stands for amino acids: arginine, arginine, alanine, and arginine.

Its presence, so Decroly and his colleagues observed, may heighten the “pathogenicity” — that is, the god-awfulness — of a disease.

Botao Xiao, a professor at the South China University of Technology, posted a short paper on a preprint server titled “The Possible Origins of 2019-nCoV Coronavirus.” Two laboratories, the Wuhan Center for Disease Control and Prevention (WHCDC) and the Wuhan Institute of Virology, were not far from the seafood market, which was where the disease was said to have originated, Xiao wrote — in fact, the WHCDC was only a few hundred yards away from the market — whereas the horseshoe bats that hosted the disease were hundreds of miles to the south. (No bats were sold in the market, he pointed out.) It was unlikely, he wrote, that a bat would have flown to a densely populated metropolitan area of 15 million people. “The killer coronavirus probably originated from a laboratory in Wuhan,” Xiao believed. He urged the relocation of “biohazardous laboratories” away from densely populated places. His article disappeared from the server.

And late in the month, a professor at National Taiwan University, Fang Chitai, gave a lecture on the coronavirus in which he described the anomalous R-R-A-R furin cleavage site. The virus was “unlikely to have four amino acids added all at once,” Fang said — natural mutations were smaller and more haphazard, he argued. “From an academic point of view, it is indeed possible that the amino acids were added to COVID-19 in the lab by humans.” When the *Taiwan News* published an article about Fang’s talk, Fang disavowed his own comments, and the video copy of the talk disappeared from the website of the Taiwan Public Health Association. “It has been taken down for a certain reason,” the association explained. “Thank you for your understanding.”



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## “A Serious Shortage of Appropriately Trained Technicians”

**In the spring**, I did some reading on coronavirus history. Beginning in the 1970s, dogs, cows, and pigs were diagnosed with coronavirus infections; dog shows were canceled in 1978 after 25 collies died in Louisville, Kentucky. New varieties of coronaviruses didn't start killing humans, though, until 2003 — that's when restaurant chefs, food handlers, and people who lived near a live-animal market got sick in Guangzhou, in southern China, where the shredded meat of a short-legged raccoonlike creature, the palm civet, was served in a regional dish called “dragon-tiger-phoenix soup.” The new disease, SARS, spread alarmingly in hospitals, and it reached 30 countries and territories. More than 800 people died; the civet-borne virus was eventually traced to horseshoe bats.

Later, smaller outbreaks of SARS in Taiwan, Singapore, and China's National Institute of Virology in Beijing were all caused by laboratory accidents. Of the Beijing Virology Institute, the World Health Organization's safety investigators wrote, in May 2004, that they had “serious concerns about biosafety procedures.” By one account, a SARS storage room in the Beijing lab was so crowded that the refrigerator holding live virus was moved out to the hallway. “Scientists still do not fully understand exactly where or how SARS emerged 18 months ago,” wrote *Washington Post* reporter David Brown in June 2004. “But it is clear now that the most threatening source of the deadly virus today may be places they know intimately — their own laboratories.”

**“I'm just asking, Is it a complete coincidence that this outbreak happened in the one city in China with a BSL-4 lab?”**

MERS arose in 2012, possibly spread by camels that had contracted the disease from bats or bat guano, then passed it to human drinkers of raw camel milk and butchers of camel meat. It was an acute sickness, with a high fatality rate, mostly confined to Saudi Arabia. Like SARS, MERS ebbed quickly — it all but disappeared outside the Middle East, except for an outbreak in 2015 at the Samsung Medical Center in South Korea, where a single case of MERS led to more than 180 infections, many involving hospital workers.

In January 2015, the brand-new BSL-4 lab in Wuhan, built by a French contractor, celebrated its opening, but full safety certification came slowly. According to State Department cables from 2018 leaked to the *Washington Post*, the new BSL-4 lab had some start-up problems, including “a serious shortage of appropriately trained technicians and investigators needed to safely operate this high-containment laboratory.” The staff had gotten some training at a BSL-4 lab in Galveston, Texas, but they were doing potentially dangerous work with SARS-like viruses, the memo said, and they needed more help from the U.S.

In November or December of 2019, the novel coronavirus began to spread. Chinese scientists initially named it “Wuhan seafood market pneumonia virus,” but soon that idea went away. The market, closed and decontaminated by Chinese officials on January 1, 2020, was an amplifying hub, not the source of the outbreak, according to several studies by Chinese scientists. Forty-five percent of the earliest SARS-2 patients had no link with the market.

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## VI.

# Emergence

**Now let’s take a step back.** AIDS, fatal and terrifying and politically charged, brought on a new era in government-guided vaccine research, under

the guidance of Anthony Fauci. A virologist at Rockefeller University, Stephen S. Morse, began giving talks on “emerging viruses” — other plagues that might be in the process of coming out of nature’s woodwork. In 1992, Richard Preston wrote a horrific account of one emergent virus, Ebola, in *The New Yorker*, which became a best-selling book in 1994; Laurie Garrett’s *The Coming Plague: Newly Emerging Diseases in a World Out of Balance* appeared that same year and was also a best seller. The idea seemed to be everywhere: We were on the verge of a wave of zoonotic, emergent plagues.

This new, useful term, *emerging*, began to glow in the research papers of some coronavirologists, who were out of the spotlight, working on common colds and livestock diseases. The term was useful because it was fluid. An emerging disease could be real and terrifying, as AIDS was — something that had just arrived on the medical scene and was confounding our efforts to combat it — or it could be a disease that hadn’t arrived, and might never arrive, but could be shown in a laboratory to be waiting in the wings, just a few mutations away from a human epidemic. It was real and unreal at the same time — a quality that was helpful when applying for research grants.

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**Where Did It Come From?** This chart measures the genetic similarity of known viruses to the novel coronavirus (which appears in yellow). By far the closest is the bat virus RaTG13, which appears in blue, and which was recovered in 2013 and brought to the Wuhan Institute of Virology. The first SARS, marked in red, is a much more distant relative. Graphic: Zhou, P., Yang, XL., Wang, XG, et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature* 579, 270–273 (2020)

Take, for instance, this paper from 1995: “High Recombination and Mutation Rates in Mouse Hepatitis Viruses Suggest That Coronaviruses May Be Potentially Important Emerging Viruses.” It was written by Dr. Ralph Baric and his bench scientist, Boyd Yount, at the University of North Carolina. Baric, a gravelly voiced former swim champion, described in this early paper how his lab was able to train a coronavirus, MHV, which causes hepatitis in mice, to jump species, so that it could reliably infect BHK (baby-hamster kidney) cell

cultures. They did it using serial passaging: repeatedly dosing a mixed solution of mouse cells and hamster cells with mouse-hepatitis virus, while each time decreasing the number of mouse cells and upping the concentration of hamster cells. At first, predictably, the mouse-hepatitis virus couldn't do much with the hamster cells, which were left almost free of infection, floating in their world of fetal-calf serum. But by the end of the experiment, after dozens of passages through cell cultures, the virus had mutated: It had mastered the trick of parasitizing an unfamiliar rodent. A scourge of mice was transformed into a scourge of hamsters. And there was more: "It is clear that MHV can rapidly alter its species specificity and infect rats and primates," Baric said. "The resulting virus variants are associated with demyelinating diseases in these alternative species." (A demyelinating disease is a disease that damages nerve sheaths.) With steady prodding from laboratory science, along with some rhetorical exaggeration, a lowly mouse ailment was morphed into an emergent threat that might potentially cause nerve damage in primates. That is, nerve damage in us.

A few years later, in a further round of "interspecies transfer" experimentation, Baric's scientists introduced their mouse coronavirus into flasks that held a suspension of African-green-monkey cells, human cells, and pig-testicle cells. Then, in 2002, they announced something even more impressive: They'd found a way to create a full-length infectious clone of the entire mouse-hepatitis genome. Their "infectious construct" replicated itself just like the real thing, they wrote.

Not only that, but they'd figured out how to perform their assembly seamlessly, without any signs of human handiwork. Nobody would know if the virus had been fabricated in a laboratory or grown in nature. Baric called this the "no-see'm method," and he asserted that it had "broad and largely unappreciated molecular biology applications." The method was named, he wrote, after a "very small biting insect that is occasionally found on North Carolina beaches."

In 2006, Baric, Yount, and two other scientists were granted a patent for their invisible method of fabricating a full-length infectious clone using the seamless, no-see'm method. But this time, it wasn't a clone of the mouse-hepatitis virus — it was a clone of the entire deadly human SARS virus, the one that had emerged from Chinese bats, via civets, in 2002. The Baric Lab came to be known by some scientists as “the Wild Wild West.” In 2007, Baric said that we had entered “the golden age of coronavirus genetics.”

“I would be afraid to look in their freezers,” one virologist told me.

Baric and Shi Zhengli of the Wuhan Institute of Virology, the two top experts on the genetic interplay between bat and human coronaviruses, began collaborating in 2015.

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## VII.

# “I Had Not Slept a Wink”

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Virologist Shi Zhengli at the Wuhan Institute of Virology in 2017. Photo: Feature China / Barcroft Studios / Future Publishing / Getty Images

**Early in the** pandemic, *Scientific American* profiled Shi Zhengli, known in China as the “bat woman.” Shi trapped hundreds of bats in nets at the mouths of caves in southern China, sampled their saliva and their blood, swabbed their anuses, and gathered up their fecal pellets. Several times, she visited and sampled bats in a mine in Mojiang, in southern China, where, in 2012, six men set to work shoveling bat guano were sickened by a severe lung disease, three of them fatally. Shi’s team took the samples back to Wuhan and analyzed whatever fragments of bat virus she could find. In some cases, when she found

a sequence that seemed particularly significant, she experimented with it in order to understand how it might potentially infect humans. Some of her work was funded by the National Institutes of Health and some of it by the U.S. Defense Threat Reduction Agency of the Department of Defense via Peter Daszak's EcoHealth Alliance.

As Shi explained to *Scientific American*, late in December 2019, she heard from the director of the Wuhan Institute that there was an outbreak of a new disease in the city. Medical samples taken from hospital patients arrived at her lab for analysis. Shi determined that the new virus was related to SARS but even more closely related to a bat disease that her own team had found on a virus-hunting trip: the now-famous RaTG13. Shi was surprised that the outbreak was local, she said: "I had never expected this kind of thing to happen in Wuhan, in central China." The bat hiding places that she'd been visiting were, after all, as far away as Orlando, Florida, is from New York City. Could this new virus, she wondered, have come from her own laboratory? She checked her records and found no exact matches. "That really took a load off my mind," she said. "I had not slept a wink for days."

If one of the first thoughts that goes through the head of a lab director at the Wuhan Institute of Virology is that the new coronavirus could have come from her lab, then we are obliged to entertain the scientific possibility that it could indeed have come from her lab. Right then, there should have been a comprehensive, pockets-inside-out, fully public investigation of the Virology Institute, along with the other important virus labs in Wuhan, including the one close by the seafood market, headquarters of the Wuhan CDC. There should have been interviews with scientists, interviews with biosafety teams, close parsings of laboratory notebooks, freezer and plumbing and decontamination systems checks — everything. It didn't happen. The Wuhan Institute of Virology closed down its databases of viral genomes, and the Chinese Ministry of Education sent out a directive: "Any paper that traces the origin of the virus must be strictly and tightly managed."

Shi made some WeChat posts early in 2020. “The novel 2019 coronavirus is nature punishing the human race for keeping uncivilized living habits,” she wrote. “I, Shi Zhengli, swear on my life that it has nothing to do with our laboratory.” She advised those who believed rumors, and gave credence to unreliable scientific papers, to “shut their stinking mouths.”

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VIII.

## “ ‘Bug to Drug’ in 24 Hours”

**It wasn’t only AIDS** that changed the way the NIH funded research. The War on Terror also influenced which diseases got the most attention. In the late ’90s, under Bill Clinton and then George W. Bush, biodefense specialists became interested — again — in anthrax. The Defense Threat Reduction Agency built a small anthrax factory in Nevada, using simulants, to demonstrate how easy it would be for a terrorist to build a small anthrax factory. And in the first year of the Bush presidency, the Defense Intelligence Agency wrote up plans to create a vaccine-resistant form of anthrax using state-of-the-art gene-splicery. A front-page article describing these initiatives, “U.S. Germ Warfare Research Pushes Treaty Limits,” appeared in the *New York Times* on September 4, 2001, one week before 9/11. “Pentagon Says Projects Are Defense, Is Pressing Ahead,” was the subtitle.

After the 9/11 attacks, and the mysterious anthrax mailings that began a week later (which said, “TAKE PENACILIN [*sic*] NOW / DEATH TO AMERICA / DEATH TO ISRAEL / ALLAH IS GREAT”), the desire for biopreparedness became all consuming. Now there were emerging biothreats from humans as well as from the evolving natural world. Fauci’s anti-terror budget went from \$53 million in 2001 to \$1.7 billion in 2003. Setting aside his work toward an AIDS vaccine, which was taking longer than he’d foreseen,

Fauci said he would be going all out to defend against a suite of known Cold War agents, all of which had been bred and perfected in American weapons programs many years before — brucellosis, anthrax, tularemia, and plague, for instance. “We are making this the highest priority,” Fauci said. “We are really marshaling all available resources.”

## **“I would be afraid to look in their freezers.”**

Vaccine development had to progress much faster, Fauci believed; he wanted to set up “vaccine systems” and “vaccine platforms,” which could be quickly tailored to defend against a particular emergent strain some terrorist with an advanced biochemistry degree might have thrown together in a laboratory. “Our goal within the next 20 years is ‘bug to drug’ in 24 hours,” Fauci said. “This would specifically meet the challenge of genetically engineered bioagents.” The first Project BioShield contract Fauci awarded was to VaxGen, a California pharmaceutical company, for \$878 million worth of shots of anthrax vaccine.

By 2005, so much money was going toward biothreat reduction and preparedness that more than 750 scientists sent a protest letter to the NIH. Their claim was that grants to study canonical biowar diseases — anthrax, plague, brucellosis, and tularemia, all exceptionally rare in the U.S. — had increased by a factor of 15 since 2001, whereas funds for the study of widespread “normal” diseases, of high public-health importance, had decreased.

Fauci was firm in his reply: “The United States through its leaders made the decision that this money was going to be spent on biodefense,” he said. “We disagree with the notion that biodefense concerns are of ‘low public-health significance.’”



In 2010, by one count, there were 249 BSL-3 laboratories and seven BSL-4 laboratories in the U.S., and more than 11,000 scientists and staffers were authorized to handle the ultralethal germs on the government's select pathogen list. And yet the sole bioterrorist in living memory who actually killed American citizens, according to the FBI — the man who sent the anthrax letters — turned out to be one of the government's own researchers. Bruce Ivins, an eccentric, suicidal laboratory scientist from Ohio who worked in vaccine development at Fort Detrick, allegedly wanted to boost the fear level so as to persuade the government to buy more of the patented, genetically engineered anthrax VaxGen vaccine, of which he was a co-inventor. (See David Willman's fascinating biography of Ivins, *Mirage Man*.) Fauci's staff at NIH funded Ivins's vaccine laboratory and gave \$100 million to VaxGen to accelerate vaccine production. (The NIH's \$878 million contract with VaxGen, however, was quietly canceled in 2006; Ivins, who was never charged, killed himself in 2008.)

"The whole incident amounted to a snake eating its own tail," wrote Wendy Orent in an August 2008 piece titled "Our Own Worst Bioenemy" in the *Los Angeles Times*. "No ingenious biowarrior from Al Qaeda sent the lethal envelopes through the U.S. postal system. An American scientist did." What confirmed Ivins's guilt, according to the FBI, was that there was a genetic match between the anthrax used in the killings and the strain held at Fort Detrick.

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IX.

## "Weapons of Mass Disruption"

**After SARS appeared** in 2003, Ralph Baric's laboratory moved up the NIH funding ladder. SARS was a "dual use" organism — a security threat and a

zoonotic threat at the same time. In 2006, Baric wrote a long, fairly creepy paper on the threat of “weaponizable” viruses. Synthetic biology had made possible new kinds of viral “weapons of mass disruption,” he wrote, involving, for example, “rapid production of numerous candidate bioweapons that can be simultaneously released,” a scattershot terror tactic Baric called the “‘survival of the fittest’ approach.”

Baric hoped to find a SARS vaccine, but he couldn’t; he kept looking for it, year after year, supported by the NIH, long after the disease itself had been contained. It wasn’t really gone, Baric believed. Like other epidemics that pop up and then disappear, as he told a university audience some years later, “they don’t go extinct. They are waiting to return.” What do you do if you run a well-funded laboratory, an NIH “center of excellence,” and your emergent virus is no longer actually making people sick? You start squeezing it and twisting it into different shapes. Making it stand on its hind legs and quack like a duck, or a bat. Or breathe like a person.

Baric’s safety record is good — although there was a minor mouse-bite incident in 2016, uncovered by ProPublica — and his motives are beyond reproach: “Safe, universal, vaccine platforms are needed that can be tailored to new pathogens as they emerge, quickly tested for safety, and then strategically used to control new disease outbreaks in human populations,” he wrote in a paper on public health. But the pioneering work he did over the past 15 years — generating tiny eager single-stranded flask monsters and pitting them against human cells, or bat cells, or gene-spliced somewhat-human cells, or monkey cells, or humanized mice — was not without risk, and it may have led others astray.

In 2006, for instance, Baric and his colleagues, hoping to come up with a “vaccine strategy” for SARS, produced noninfectious virus replicon particles (or VRPs) using the Venezuelan-equine-encephalitis virus (another American germ-warfare agent), which they fitted with various SARS spike proteins.

Then, wearing Tyvek suits and two pairs of gloves each, and working in a biological safety cabinet in a BSL-3-certified laboratory, they cloned and grew recombinant versions of the original SARS virus in an incubator in a medium that held African-green-monkey cells. When they had grown enough virus, the scientists swapped out one kind of spike protein for a carefully chosen mutant, and they challenged their prototype vaccine with it in mice.

The scientists also tried their infectious SARS clones in something called an air-liquid interface, using a relatively new type of cell culture developed by Raymond Pickles of the University of North Carolina's Cystic Fibrosis Center. Pickles had perfected a method of emulating the traits of human airway tissue by cultivating cells taken from lung-disease patients — nurturing the culture over four to six weeks in such a way that the cells differentiated and developed a crop of tiny moving hairs, or cilia, on top and goblet cells within that produced real human mucus. In fact, before infecting these HAE (human airway epithelial) cells with a virus, the lab worker must sometimes rinse off some of the accumulated mucus, as if helping the lab-grown tissue to clear its throat. So Baric was exposing and adapting his engineered viruses to an extraordinarily true-to-life environment — the juicy, sticky, hairy inner surface of our breathing apparatus.

SARS-2 seems almost perfectly calibrated to grab and ransack our breathing cells and choke the life out of them. “By the time SARS-CoV-2 was first detected in late 2019, it was already pre-adapted to human transmission,” Alina Chan and her co-authors have written, whereas SARS, when it first appeared in 2003, underwent “numerous adaptive mutations” before settling down. Perhaps viral nature hit a bull's-eye of airborne infectivity, with almost no mutational drift, no period of accommodation and adjustment, or perhaps some lab worker somewhere, inspired by Baric's work with human airway tissue, took a spike protein that was specially groomed to colonize and thrive deep in the ciliated, mucosal tunnels of our inner core and cloned it onto some existing viral bat backbone. It could have happened in Wuhan, but — because

anyone can now “print out” a fully infectious clone of any sequenced disease — it could also have happened at Fort Detrick, or in Texas, or in Italy, or in Rotterdam, or in Wisconsin, or in some other citadel of coronaviral inquiry. No conspiracy — just scientific ambition, and the urge to take exciting risks and make new things, and the fear of terrorism, and the fear of getting sick. Plus a whole lot of government money.

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X.

## “Risky Areas for Spillover”

**Project Bioshield** began to fade by the end of the Bush administration, although the expensive high-containment laboratories, controversial preservers and incubators of past and future epidemics, remain. By 2010, some BioShield projects had dissolved into Obama’s Predict program, which paid for laboratories and staff in 60 “risky areas for spillover” around the world. Jonna Mazet, a veterinary scientist from the University of California, Davis, was in charge of Predict, which was a component of USAID’s “Emerging Pandemic Threats” program. Her far-flung teams collected samples from 164,000 animals and humans and claimed to have found “almost 1,200 potentially zoonotic viruses, among them 160 novel coronaviruses, including multiple SARS- and MERS-like coronaviruses.” The fruits of Predict’s exotic harvest were studied and circulated in laboratories worldwide, and their genetic sequences became part of GenBank, the NIH’s genome database, where any curious RNA wrangler anywhere could quickly synthesize snippets of code and test out a new disease on human cells.

Baric, Jonna Mazet, and Peter Daszak of EcoHealth worked together for years — and Daszak also routed Predict money to Shi Zhengli’s bat-surveillance team in Wuhan through his nonprofit, mingling it with NIH money and

money from the U.S. Defense Threat Reduction Agency. In 2013, Mazet announced that Shi Zhengli's virus hunters, with Predict's support, had, for the first time, isolated and cultured a live SARS-like virus from bats and demonstrated that this virus could bind to the human ACE2, or "angiotensin-converting enzyme 2," receptor, which Baric's laboratory had determined to be the sine qua non of human infectivity. "This work shows that these viruses can directly infect humans and validates our assumption that we should be searching for viruses of pandemic potential before they spill over to people," Mazet said.

Daszak, for his part, seems to have viewed his bat quests as part of an epic, quasi-religious death match. In a paper from 2008, Daszak and a co-author described Bruegel's painting *The Fall of the Rebel Angels* and compared it to the contemporary human biological condition. The fallen angels could be seen as pathogenic organisms that had descended "through an evolutionary (not spiritual) pathway that takes them to a netherworld where they can feed only on our genes, our cells, our flesh," Daszak wrote. "Will we succumb to the multitudinous horde? Are we to be cast downward into chthonic chaos represented here by the heaped up gibbering phantasmagory against which we rail and struggle?"

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## XI.

# "Lab-Made?"

**There are, in fact,** some helpful points of agreement between zoonoticists — those who believe in a natural origin of the SARS-2 virus — and those who believe that it probably came from a laboratory. Both sides agree, when pressed, that a lab origin can't be conclusively ruled out and a natural origin can't be ruled out either — because nature, after all, is capable of improbable,

teleological-seeming achievements. Both sides also agree, for the most part, that the spillover event that began the human outbreak probably happened only once, or a few times, quite recently, and not many times over a longer period. They agree that bat virus RaTG13 (named for the *Rinolophus affinus* bat, from Tongguan, in 2013) is the closest match to the human virus that has yet been found, and that although the two viruses are very similar, the spike protein of the bat virus lacks the features the human spike protein possesses that enable it to work efficiently with human tissue.

Zoonoticists hold that SARS-2's crucial features — the furin cleavage site and the ACE2 receptor — are the result of a recombinant event involving a bat coronavirus (perhaps RaTG13 or a virus closely related to it) and another, unknown virus. Early on, researchers proposed that it could be a snake sold at the seafood market — a Chinese cobra or a banded krait —but no: Snakes don't typically carry coronaviruses. Then there was a thought that the disease came from sick smuggled pangolins, because there existed a certain pangolin coronavirus that was, inexplicably, almost identical in its spike protein to the human coronavirus — but then, no: There turned out to be questions about the reliability of the genetic information in that diseased-pangolin data set, on top of which there were no pangolins for sale at the Wuhan market. Then a group from China's government veterinary laboratory at Harbin tried infecting beagles, pigs, chickens, ducks, ferrets, and cats with SARS-2 to see if they could be carriers. (Cats and ferrets got sick; pigs, ducks, and most dogs did not.)

In September, some scientists at the University of Michigan, led by Yang Zhang, reported that they had created a "computational pipeline" to screen nearly a hundred possible intermediate hosts, including the Sumatran orangutan, the Western gorilla, the Olive baboon, the crab-eating macaque, and the bonobo. All these primates were "permissive" to the SARS-2 coronavirus and should undergo "further experimental investigation," the scientists proposed.

Despite this wide-ranging effort, there is at the moment no animal host that zoonoticists can point to as the missing link. There's also no single, agreed-upon hypothesis to explain how the disease may have traveled from the bat reservoirs of Yunnan all the way to Wuhan, seven hours by train, without leaving any sick people behind and without infecting anyone along the way.

The zoonoticists say that we shouldn't find it troubling that virologists have been inserting and deleting furin cleavage sites and ACE2-receptor-binding domains in experimental viral spike proteins for years: The fact that virologists have been doing these things in laboratories, in advance of the pandemic, is to be taken as a sign of their prescience, not of their folly. But I keep returning to the basic, puzzling fact: This patchwork pathogen, which allegedly has evolved without human meddling, first came to notice in the only city in the world with a laboratory that was paid for years by the U.S. government to perform experiments on certain obscure and heretofore unpublicized strains of bat viruses — which bat viruses then turned out to be, out of all the organisms on the planet, the ones that are most closely related to the disease. What are the odds?

In July, I discovered a number of volunteer analysts who were doing a new kind of forensic, samizdat science, hunched over the letter code of the SARS-2 genome like scholars deciphering the cuneiform impressions in Linear B tablets. There were the anonymous authors of Project Evidence, on GitHub, who “disavow all racism and violent attacks, including those which are aimed at Asian or Chinese people,” and there was Yuri Deigin, a biotech entrepreneur from Canada, who wrote a massive, lucid paper on Medium, “Lab-Made?,” which illuminated the mysteries of the spike protein. Jonathan Latham of the Bioscience Resource Project, with his co-author Allison Wilson, wrote two important papers: one a calm, unsparing overview of laboratory accidents and rash research and the other a close look at the small outbreak of an unexplained viral pneumonia in a bat-infested copper mine in 2012. I corresponded with Alina Chan (now the subject of a nicely turned piece in

*Boston* magazine by Rowan Jacobsen) and with the pseudonymous Billy Bostickson, a tireless researcher whose Twitter photo is a cartoon of an injured experimental monkey, and Monali Rahalkar, of the Agharkar Research Institute in Pune, India, who wrote a paper with her husband, Rahul Bahulikar, that also sheds light on the story of the bat-guano-shoveling men whose virus was remarkably like SARS-2, except that it was not nearly as catching. I talked to Rossana Segreto, a molecular biologist at the University of Innsbruck, whose paper, “Is Considering a Genetic-Manipulation Origin for SARS-CoV-2 a Conspiracy Theory That Must Be Censored?,” co-authored with Yuri Deigin, was finally published in November under a milder title; it argued that SARS-2’s most notable features, the furin site and the human ACE2-binding domain, were unlikely to have arisen simultaneously and “might be the result of lab manipulation techniques such as site directed mutagenesis.” Segreto is also the person who first established that a bat-virus fragment named BtCoV/4991, identified in 2013, was 100 percent identical to the closest known cousin to SARS-CoV-2, the bat virus RaTG13, thereby proving that the virus closest to the SARS-2-pandemic virus was linked back not to a bat cave but to a mine shaft, and that this same virus had been stored and worked on in the Wuhan Institute for years. This made possible the first big investigative piece on SARS-2’s origins, in the *Times* of London, in July: “Nobody can deny the bravery of scientists who risked their lives harvesting the highly infectious virus,” the *Times* authors write. “But did their courageous detective work lead inadvertently to a global disaster?”

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## XII.

# “A New, Non-Natural Risk”

**In 2011, a tall,** confident Dutch scientist, Ron Fouchier, using grant money from Fauci’s group at NIH, created a mutant form of highly pathogenic avian



influenza, H5N1, and passaged it ten times through ferrets in order to prove that he could “force” (his word) this potentially fatal disease to infect mammals, including humans, “via aerosols or respiratory droplets.” Fouchier said his findings indicated that these avian influenza viruses, thus forced, “pose a risk of becoming pandemic in humans.”

This experiment was too much for some scientists: Why, out of a desire to prove that something extremely infectious could happen, would you make it happen? And why would the U.S. government feel compelled to pay for it to happen? Late in 2011, Marc Lipsitch of the Harvard School of Public Health got together with several other dismayed onlookers to ring the gong for caution. On January 8, 2012, the *New York Times* published a scorching editorial, “An Engineered Doomsday.” “We cannot say there would be no benefits at all from studying the virus,” the *Times* said. “But the consequences, should the virus escape, are too devastating to risk.”

These gain-of-function experiments were an important part of the NIH’s approach to vaccine development, and Anthony Fauci was reluctant to stop funding them. He and Francis Collins, director of the National Institutes of Health, along with Gary Nabel, NIAID director of vaccine research, published an opinion piece in the *Washington Post* in which they contended that the ferret flu experiments, and others like them, were “a risk worth taking.” “Important information and insights can come from generating a potentially dangerous virus in the laboratory,” they wrote; the work can “help delineate the principles of virus transmission between species.” The work was safe because the viruses were stored in a high-security lab, they believed, and the work was necessary because nature was always coming up with new threats. “Nature is the worst bioterrorist,” Fauci told a reporter. “We know that through history.”

Soon afterward, there followed some distressing screwups in secure federal laboratories involving live anthrax, live smallpox, and live avian influenza.

These got attention in the science press. Then Lipsitch's activists (calling themselves the Cambridge Working Group) sent around a strong statement on the perils of research with "Potential Pandemic Pathogens," signed by more than a hundred scientists. The work might "trigger outbreaks that would be difficult or impossible to control," the signers said. Fauci reconsidered, and the White House in 2014 announced that there would be a "pause" in the funding of new influenza, SARS, and MERS gain-of-function research.

Baric, in North Carolina, was not happy. He had a number of gain-of-function experiments with pathogenic viruses in progress. "It took me ten seconds to realize that most of them were going to be affected," he told NPR. Baric and a former colleague from Vanderbilt University wrote a long letter to an NIH review board expressing their "profound concerns." "This decision will significantly inhibit our capacity to respond quickly and effectively to future outbreaks of SARS-like or MERS-like coronaviruses, which continue to circulate in bat populations and camels," they wrote. The funding ban was itself dangerous, they argued. "Emerging coronaviruses in nature do not observe a mandated pause."

Hoping to smooth over controversy by showing due diligence, the National Science Advisory Board for Biosecurity, founded in the BioShield era under President Bush, paid a consulting firm, Gryphon Scientific, to write a report on gain-of-function research, which by now was simply referred to as GoF. In chapter six of this thousand-page dissertation, published in April 2016, the consultants take up the question of coronaviruses. "Increasing the transmissibility of the coronaviruses could significantly increase the chance of a global pandemic due to a laboratory accident," they wrote.

The Cambridge Working Group continued to write letters of protest and plead for restraint and sanity. Steven Salzberg, a professor of biomedical engineering at Johns Hopkins, said, "We have enough problems simply keeping up with the current flu outbreaks — and now with Ebola — without

scientists creating incredibly deadly new viruses that might accidentally escape their labs.” David Relman of Stanford Medical School said, “It is unethical to place so many members of the public at risk and then consult only scientists — or, even worse, just a small subset of scientists — and exclude others from the decision-making and oversight process.” Richard Ebright wrote that creating and evaluating new threats very seldom increases security: “Doing so in biology — where the number of potential threats is nearly infinite, and where the asymmetry between the ease of creating threats and the difficulty of addressing threats is nearly absolute — is especially counterproductive.” Lynn Klotz wrote, “Awful as a pandemic brought on by the escape of a variant H5N1 virus might be, it is SARS that now presents the greatest risk. The worry is less about recurrence of a natural SARS outbreak than of yet another escape from a laboratory researching it to help protect against a natural outbreak.” Marc Lipsitch argued that gain-of-function experiments can mislead, “resulting in worse not better decisions,” and that the entire gain-of-function debate as overseen by the NIH was heavily weighted in favor of scientific insiders and “distinctly unwelcoming of public participation.”

Nariyoshi Shinomiya, a professor of physiology and nano-medicine at the National Defense Medical College in Japan, offered this warning: “Similar to nuclear or chemical weapons there is no going back once we get a thing in our hands.”

But in the end, Baric was allowed to proceed with his experiments, and the research papers that resulted, showered with money, became a sort of *Anarchist’s Cookbook* for the rest of the scientific world. In November 2015, Baric and colleagues published a collaboration paper with Shi Zhengli titled “A SARS-like Cluster of Circulating Bat Coronaviruses Shows Potential for Human Emergence.” Into a human SARS virus that they had adapted so that it would work in mice, Baric and Shi et al. inserted the spike protein of a bat virus, SHC014, discovered by Shi in southern China. They dabbled the mice

nasally with virus and waited, looking for signs of sickness: “hunching, ruffled fur.” They also infected human airway cells with the mouse-adapted bat-spike-in-a-human-virus backbone. In both mice and human airway cells, the chimeric virus caused a “robust infection.”

This proved, Baric and Shi believed, that you did not need civets or other intermediate hosts in order for bats to cause an epidemic in humans and that therefore all the SARS-like viruses circulating in bat populations “may pose a future threat.” Peter Daszak, who had used Predict funds to pay Shi for her work on the paper, was impressed by this conclusion; the findings, he said, “move this virus from a candidate emerging pathogen to a clear and present danger.”

Richard Ebright was trenchantly unenthusiastic. “The only impact of this work,” he said, “is the creation, in a lab, of a new, non-natural risk.”

Early in 2016, Baric and Shi again collaborated. Shi sent Baric a fresh bat virus spike protein, and Baric inserted it into the backbone of a human SARS virus and then used that infectious clone to attack human airway cells. “The virus readily and efficiently replicated in cultured human airway tissues, suggesting an ability to potentially jump directly to humans,” reported the UNC’s website. This time, they also used the bat-human hybrid virus to infect transgenic humanized mice that grew human ACE2 protein. The mice, young and old, lost weight and died, proving, again, that this particular bat virus was potentially “poised to emerge in human populations.” It was “an ongoing threat,” Baric wrote. But was it? Civets and camels that are exposed to a lot of bat-guano dust may be an ongoing threat and a manageable one. But the bats themselves just want to hang in their caves and not be bothered by frowning sightseers in spacesuits who want to poke Q-tips in their bottoms. This 2016 “poised for human emergence” paper was supported by eight different NIH grants. In 2015, Baric’s lab received \$8.3 million from the NIH; in 2016, it received \$10.5 million.

Gain-of-function research came roaring back under Trump and Fauci. “The National Institutes of Health will again fund research that makes viruses more dangerous,” said an article in *Nature* in December 2017. Carrie Wolinetz of the NIH’s office of science policy defended the decision. “These experiments will help us get ahead of viruses that are already out there and pose a real and present danger to human health,” she told *The Lancet*. The NIH, Wolinetz said, was committed to a leadership role with gain-of-function research internationally. “If we are pursuing this research in an active way, we will be much better positioned to develop protection and countermeasures should something bad happen in another country.”

A reporter asked Marc Lipsitch what he thought of the resumption of NIH funding. Gain-of-function experiments “have done almost nothing to improve our preparedness for pandemics,” he said, “yet they risked creating an accidental pandemic.”

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### XIII.

## “Proximity Is a Problem”

**In April**, four months into the coronavirus emergency, a deputy director at the NIH wrote an email to EcoHealth Alliance. “You are instructed to cease providing any funds to Wuhan Institute of Virology,” it said. In response, Daszak and the chief scientific officer of New England Biolabs (a company that sells seamless gene-splicing products to laboratories, among other things) got 77 Nobel Prize winners to sign a statement saying that the cancellation deprived the “nation and the world of highly regarded science that could help control one of the greatest health crises in modern history and those that may arise in the future.” Later, as a condition of further funding, the NIH wrote to say it wanted Daszak to arrange an outside inspection of the Wuhan lab and to

procure from Wuhan's scientists a sample of whatever they'd used to sequence the SARS-2 virus. Daszak was outraged ("I am not trained as a private detective"), and again he fought back. He was reluctant to give up his own secrets, too. "Conspiracy-theory outlets and politically motivated organizations have made Freedom of Information Act requests on our grants and all of our letters and emails to the NIH," he told *Nature*. "We don't think it's fair that we should have to reveal everything we do."

But Daszak has survived — even prospered. Recently, *The Lancet* made him the lead investigator in its inquiry into the origins of the pandemic, and the World Health Organization named him to its ten-person origins investigation. ("We're still close enough to the origin to really find out more details about where it has come from," Daszak told *Nature*.)

The NIH has also set up an ambitious new international program, called CREID, which stands for Centers for Research in Emerging Infectious Diseases, and it has put Daszak's EcoHealth in charge of trapping animals and looking for obscure bat viruses in Singapore, Malaysia, and Thailand. Baric is one of Daszak's partners in CREID. The virus hunting and collecting, which Richard Ebright likens to "looking for a gas leak with a lighted match," will continue and widen with U.S. funding. "We're going to work in remote parts of Malaysia and Thailand to get to the front line of where the next pandemic is going to start," Daszak told NPR.

In May, an interviewer from the People's Pharmacy website asked Baric if he had any thoughts on whether the coronavirus began with a natural bat-to-human transfer. "Or was there something a little bit more, perhaps, insidious involved?"

"Well, of course the answers to those questions are in China," Baric replied. "Exactly how they work in that facility is something that would be very difficult for a Westerner to know," he said. "The main problems that the Institute of Virology has is that the outbreak occurred in close proximity to

that Institute. That Institute has in essence the best collection of virologists in the world that have gone out and sought out, and isolated, and sampled bat species throughout Southeast Asia. So they have a very large collection of viruses in their laboratory. And so it's — you know — proximity is a problem. It's a problem."

Over the course of the fall, and especially after the election muffled Donald Trump's influence over the country's public-health apparatus, that proximity problem — and the uncomfortable questions of origins it raised — began to grow somewhat more discussable. The BBC, *Le Monde*, and Italy's RAI have all recently taken seriously the scientific possibility of a lab leak. In late October, the World Health Organization convened the first meeting of its second inquiry into the origins of the disease. The WHO's effort is perhaps the world's best chance to satisfy its curiosity about goings-on at the Wuhan Institute of Virology and at the Wuhan CDC's virus lab near the Wuhan seafood market. But, as the *New York Times* has reported, the WHO's information gathering has been hindered by Chinese secretiveness since February, when an initial investigative team sent to Beijing was told its members' access to scientists would be restricted and that it couldn't visit the seafood market, then considered a hub of the pandemic.

When a BBC video team tried to inspect the Yunnan mine shaft, they found the road to the mine blocked by a strategically parked truck that had "broken down" shortly before they arrived. Reporter John Sudworth asked Daszak, one of the ten members of the second WHO investigative team, whether he would push for access to the Wuhan Institute of Virology. "That's not my job to do that," Daszak replied.

In November, David Relman, the Stanford microbiologist, one of the most thoughtful of the voices warning against gain-of-function research, published a paper in *Proceedings of the National Academy of Sciences* on the urgent need to unravel the origins of COVID-19. "If SARS-CoV-2 escaped from a lab

to cause the pandemic,” he wrote, “it will become critical to understand the chain of events and prevent this from happening again.” Conflicts of interest by researchers and administrators will need to be addressed, Relman wrote; to reach the truth, the investigation must be transparent, international, and, as much as possible, unpolitical. “A more complete understanding of the origins of COVID-19 clearly serves the interests of every person in every country on this planet.”

“The world is sitting on a precedent-setting decision right now,” wrote Alina Chan on December 8. “It is unclear if SARS2 is 100 percent natural or emerged due to lab/research activities. If we walk away from this, demonstrating that we cannot effectively investigate its origins, it will pave the way for future COVIDS.”

Just before this issue of *New York* went to press, I reached Ralph Baric by phone and asked him where he now believed SARS-2 came from. (Anthony Fauci, Shi Zhengli, and Peter Daszak didn’t respond to emails, and Kristian Andersen said he was busy with other things.) Baric said he still thought the virus came from bats in southern China, perhaps directly, or possibly via an intermediate host, although the smuggled pangolins, in his view, were a red herring. The disease evolved in humans over time without being noticed, he suspected, becoming gradually more infectious, and eventually a person carried it to Wuhan “and the pandemic took off.” Then he said, “Can you rule out a laboratory escape? The answer in this case is probably not.”

---

#### XIV.

## Transmission

**So how did** we actually get this disease?



Here's what I think happened. In April 2012, in a copper mine in Mojiang, China, three men were given an awful job — they were told to shovel bat guano out of a mine shaft. They went to work and shoveled guano for seven hours a day in the confined, insufficiently ventilated space of the mine shaft, and by the end of the week, they were sick with a viral pneumonia of unknown etiology. Three more, younger shovelers were hired to replace the ones who were out sick.

The viral load in their lungs was so huge, because of all the guano dust, that their lungs became a kind of accelerated laboratory passaging experiment, as Jonathan Latham and Allison Wilson have written, forcing the virus to switch its allegiance from bats to humans. SARS experts were consulted, and the disease was judged to be SARS-like but not SARS. It was something new. (Shi Zhengli told *Scientific American* that the guano shovelers had died of a fungal disease, but, as Monali Rahalkar pointed out, they were treated with antivirals, and their symptoms were consistent with viral pneumonia with attendant secondary fungal infections.)

Although it was a severe disease, and in the end three of the shovelers died, there was no resultant epidemic. It was actually a case of industrial overexposure to an infectious substance — what we might call a massive OSHA violation. The bat disease that the men encountered wasn't necessarily all that dangerous except in an environment of immunosuppressive overload.

Peter Daszak and Shi Zhengli were interested, of course, because this unidentified coronavirus disease involved bats and people. Of the fragmentary bits of virus Shi retrieved from the mine shaft, one was SARS-like, and Shi sequenced it and called it BtCoV/4991 and published a paper about it. Several times — in 2016 and 2018 and 2019 — this most interesting sample, a portion of what we now know as RaTG13, was taken out of the freezers in Shi's lab and worked on in undisclosed ways. (Peter Daszak claims that these samples have disintegrated and can't be validated or studied.) Samples of the nameless

human disease also traveled back to the Wuhan Institute of Virology — few specifics about these valuable specimens have been released by Chinese sources, however.

This is the period in the story that demands a very close investigation, when chimeric assemblages may have been created and serially passaged, using BtCoV/4991, a.k.a. RaTG13, and other bat viruses, perhaps along with forms of the human virus. It's when Shi and Baric both published papers that were about what happened when you hot-swapped mutant spike proteins between bat viruses and human viruses.

The link, via the renamed sample BtCoV/4991, to the copper mine is of exceptional importance because of the one huge difference between the unnamed guano shovelers' virus and the SARS-2 virus that is now ravaging, for example, California: transmissibility. Airborne human-to-human transmissibility — the kind of thing that gain-of-functioneers like Ron Fouchier and Ralph Baric were aiming at, in order to demonstrate what Baric called "lurking threats" — is COVID-19's crucial distinguishing feature. If six men had gotten extremely sick with COVID-19 back in 2012 in southern China, doctors and nurses in the hospital where they lay dying would likely have gotten sick as well. There might have been hundreds or thousands of cases. Instead, only the shovelers themselves, who had breathed a heavy concentration of guano dust for days, got it.

The existence of bat virus RaTG13 is therefore not necessarily evidence of a natural bat origin. In fact, it seems to me to imply the opposite: New functional components may have been overlaid onto or inserted into the RaTG13 genome, new Tinkertoy intermolecular manipulations, especially to its spike protein, which have the effect of making it unprecedentedly infectious in human airways.

This is where the uniquely peculiar furin insert and/or the human-tuned ACE2-receptor-binding domain may come in — although it's also possible that

either of these elements could have evolved as part of some multistep zoonotic process. But in the climate of gonzo laboratory experimentation, at a time when all sorts of tweaked variants and amped-up substitutions were being tested on cell cultures and in the lungs of humanized mice and other experimental animals, isn't it possible that somebody in Wuhan took the virus that had been isolated from human samples, or the RaTG13 bat virus sequence, or both (or other viruses from that same mine shaft that Shi Zhengli has recently mentioned in passing), and used them to create a challenge disease for vaccine research — a chopped-and-channeled version of RaTG13 or the miners' virus that included elements that would make it thrive and even rampage in people? And then what if, during an experiment one afternoon, this new, virulent, human-infecting, furin-ready virus got out?

For more than 15 years, coronavirologists strove to prove that the threat of SARS was ever present and must be defended against, and they proved it by showing how they could doctor the viruses they stored in order to force them to jump species and go directly from bats to humans. More and more bat viruses came in from the field teams, and they were sequenced and synthesized and "rewired," to use a term that Baric likes. In this international potluck supper of genetic cookery, hundreds of new variant diseases were invented and stored. And then one day, perhaps, somebody messed up. It's at least a reasonable, "parsimonious" explanation of what might have happened.

This may be the great scientific meta-experiment of the 21st century. Could a world full of scientists do all kinds of reckless recombinant things with viral diseases for many years and successfully avoid a serious outbreak? The hypothesis was that, yes, it was doable. The risk was worth taking. There would be no pandemic.

I hope the vaccine works.

*\*This article appears in the January 4, 2021, issue of New York Magazine.*  
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**250** COMMENTS



# Congress Affirms Biden's Victory, Trump Admits Defeat: Live Updates

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29 MINS AGO CONTESTED ELECTION

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## Congress Affirms Biden's Victory, Trump Admits Defeat: Live Updates

By INTELLIGENCER STAFF

Trump and his allies' fantasy of overturning the election is dead, and the president has finally acknowledged his defeat.

1/6/2021 POLITICS

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## Mob of Trump Supporters Seize U.S. Capitol in Stunning Attack on Democracy

By JUSTIN MILLER

Four people died in the assault, including one woman shot to death by police, authorities said.

1/6/2021 CAPITOL RIOT

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## Visualizing a Riot: Where the Attacks on the Capitol Played Out

By DEANE MADSEN AND CHRISTOPHER BONANOS

How the insurrection approached and moved throughout the federal building.

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### 1. Pence Should Invoke 25th Amendment to Remove Trump From Office Immediately

By PAUL CAMPOS

### 2. Mob of Trump Supporters Seize U.S. Capitol in Stunning Attack on Democracy

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### 3. Pence, Not Trump, Gave Order to Activate National Guard: Report

By MATT STIEB

### 4. Watch Giuliani Demand 'Trial by Combat' to Settle the Election

By CHARLOTTE KLEIN

## 5. Congress Affirms Biden's Victory, Trump Admits Defeat: Live Updates

By INTELLIGENCER STAFF

1/6/2021 CAPITOL RIOT

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## What the MAGA Mob at the Capitol Had to Say for Itself

By SHAWN MCCREESH

"This is what Trump wanted," said one supporter outside the overrun building.

1/6/2021 INTELLIGENCER CHATS

✕]

## How Pence Could Remove Trump From Office Without a Vote in Congress

By PAUL CAMPOS AND MATT STIEB

The Cabinet is reportedly considering an invocation of the 25th Amendment, allowing the removal of Trump with just days left in his presidency.

1/6/2021 CAPITOL RIOT

✕]

## Pence, Not Trump, Gave Order to Activate National Guard: Report

By MATT STIEB

Such an order is normally given by the commander-in-chief. Trump said today he "loves" his violent supporters who stormed the Capitol Building.

1/6/2021 GEORGIA SENATE RUNOFFS

✕]

## As Trump Thugs Attack Congress, Senate Flips to Democrats

By ED KILGORE

Georgia voters took away the Republican Party's remaining source of power in Washington and ensure that Trump leaves office as a serial loser.

1/6/2021 CAPITOL RIOT

✕]

## Photos: A Day of Anarchy at the Capitol

*By* INTELLIGENCER STAFF

Jaw-dropping scenes unfolded in Washington after a Trump-supporting mob chased Congress out of the building.

1/6/2021 **PRESIDENT TRUMP**

[x\]](#)

## This Is What Trumpism Without Trump Looks Like

*By* SARAH JONES

Trump mobilized a white-supremacist tradition that he cannot control.

1/6/2021 **THE NATIONAL INTEREST**

[x\]](#)

## Every Trump Loyalist Is Complicit in the President's Incitement of Sedition

*By* JONATHAN CHAIT

All his legal and political measures had been exhausted.

1/6/2021 **IMPEACHMENT**

[x\]](#)

## Impeach and Remove Trump Now

*By* ERIC LEVITZ

The president just incited a violent insurrection. He can't be allowed to remain in power another day.

1/6/2021 **GEORGIA**

[x\]](#)

## Democrats Sweep Senate Runoffs: Georgia Election Updates

*By* INTELLIGENCER STAFF

The races have been called for Warnock and Ossoff, and the Senate will be controlled by Democrats.

1/6/2021 **POLITICS**

[x\]](#)

## Pence Should Invoke 25th Amendment to Remove Trump From Office Immediately

*By* PAUL CAMPOS

The president is flirting with declaring martial law. Timed correctly, invoking the 25th Amendment could end this crisis.

1/6/2021 CONTESTED ELECTION

x]

## WATCH: Mitch McConnell Gives Speech Opposing Effort to Overturn Election

By CHAS DANNER

The Senate majority leader made an impassioned plea for his GOP colleagues to abandon their effort to reverse Biden's victory.

1/6/2021

### **MAGA protesters are creating a scary scene in DC**

The US Capitol is on lockdown amid a tense situation with demonstrators outside the building, according to Capitol police officers. [@mkraju](#)

—@ShimonPro

1/6/2021 BIDEN ADMINISTRATION

x]

## Joe Biden to Tap Merrick Garland for Attorney General

By ERIC LEVITZ

The former Obama Supreme Court nominee will get his Senate confirmation hearing at last.

1/6/2021 2020 ELECTIONS

x]

## Read Mike Pence's Letter Explaining Why He Won't Object to Biden's Win

By BENJAMIN HART

The vice president will not do President Trump's bidding during Wednesday's electoral certification.

1/6/2021 CONTESTED ELECTION

x]

## Watch Giuliani Demand 'Trial by Combat' to Settle the Election

By CHARLOTTE KLEIN



The president's attorney proposed the medieval legal practice during his remarks at the "Save America" rally to protest Biden's certification.

1/6/2021

### **Garland gets the AG nod**

AP: AP sources: President-elect Joe Biden to name federal appeals court judge Merrick Garland as attorney general

—@MikeDelMoro

1/6/2021 THE NATIONAL INTEREST

x]

## Here's What Joe Biden Can Get Done With a Democratic Senate

By JONATHAN CHAIT

Economic relief, judges, health care.

1/6/2021 GEORGIA SENATE RUNOFFS

x]

## The Georgia Runoffs Should Scare the GOP

By ERIC LEVITZ

"Trumpism without Trump" doesn't seem to work.

1/6/2021

### **Though Baraitser denied a request to extradite Assange to the U.S. earlier this week, he'll stay in a London prison for now**

A British judge on Wednesday denied bail to WikiLeaks' founder Julian Assange, ordering him to remain in a high-security prison while U.K. courts decide whether he will be sent to the United States to face espionage charges.

District Judge Vanessa Baraitser said Assange must remain in prison while the courts consider an appeal by U.S. authorities against her decision not to extradite him.

The judge said Assange "has an incentive to abscond" and there is a good chance he would fail to return to court if freed.

### **WikiLeaks founder Assange denied bail in UK**

—AP

1/6/2021

## **Fauci offers some hope on vaccine distribution**

The U.S. could soon be giving at least a million COVID-19 vaccinations a day despite the sluggish start, Dr. Anthony Fauci said Tuesday, even as he warned of a dangerous next few weeks as the coronavirus surges.

... "Any time you start a big program, there's always glitches. I think the glitches have been worked out," the nation's top infectious disease expert told The Associated Press.

Vaccinations have already begun speeding up, reaching roughly half a million injections a day, he pointed out.

Now, with the holidays over, "once you get rolling and get some momentum, I think we can achieve 1 million a day or even more," Fauci said. He called President-elect Joe Biden's goal of 100 million vaccinations in his first 100 days "a very realistic, important, achievable goal."

## **Fauci: US could soon give 1 million vaccinations a day**

—AP

1/6/2021 BIDEN INAUGURATION

x]

## **Everything We Know About Joe Biden's Inauguration**

By CHARLOTTE KLEIN

Biden's swearing-in will take place in person, but much of the inauguration will be virtual due to COVID. It's unclear if Trump will attend any of it.

1/6/2021 POLITICS

x]

## **Raphael Warnock Wins and So Does the Black Church**

By SARAH JONES

Culture-war politics weren't enough to secure a Republican victory in Georgia.

1/5/2021 INTELLIGENCER CHATS

x]

## **Why Dems Are Now Optimistic About Winning Both Georgia Races**

By GABRIEL DEBENEDETTI AND BENJAMIN HART

Underwhelming Republican turnout has been a major story on Tuesday night.

1/5/2021 **KENOSHA**



## Police Officer Who Shot Jacob Blake Will Not Be Charged

By MATT STIEB

Kenosha, Wisconsin, DA determined that the officer could reasonably argue self-defense in front of a jury.

1/5/2021 **GAMES**



## How on Earth Are They Going to Pull Off the Olympics?

By WILL LEITCH

Almost a year after their postponement, the pandemic is still raging. Maybe giving up altogether wouldn't be such a bad thing.

1/5/2021 **COUP**



## Pennsylvania Republicans Just Refused to Seat a Democratic Lawmaker

By SARAH JONES

The GOP's problem with democracy is intensifying.



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**Sender:** "Paulopol, Andreea I" (b)(6)  
**Recipient:** 'ZACHABB2' <ZACHABB2@dni.gov>

**Congress of the United States**  
**House of Representatives**  
**Washington, DC 20515**

January 8, 2021

The Honorable John Ratcliffe  
Director of National Intelligence  
Office of the Director of National Intelligence  
Washington, D.C. 20511

Dear Director Ratcliffe:

House Intelligence Committee Republicans have conducted a long-standing investigation into the rise of China as our foremost national security threat. This will remain a singular priority for Committee Republicans in the new Congress.

As part of that probe, we are investigating the outbreak of the coronavirus (COVID-19). Among the various theories of the pandemic's origins, we've seen indicators that COVID-19 may have stemmed from dangerous research at laboratories in Wuhan, China, as evidenced by statements by Deputy National Security Adviser Matt Pottinger and recent media stories, including an in-depth article by Nicholson Baker.<sup>1</sup>

As shown on the COVID Timeline (attached), the Wuhan Institute of Virology has a history of mismanagement, poor safety practices, laboratory outbreaks, dangerous "gain of function" research, and other questionable activities. Chinese military writings have emphasized that biotechnology could become a new strategic component of Beijing's "Revolution in Military Affairs," while China's recent actions call into question the regime's commitment to peaceful research under the Biological Weapons Convention.

In light of the significance of these revelations, I am requesting that you provide our Committee with a classified Congressional Notification addressing Chinese virologic research, to include:

- An exact timeline of all research—and particularly "gain-of-function" studies—specific to coronaviruses at the Wuhan Institute of Virology and associated facilities;
- A counterintelligence assessment of all U.S. engagement with the Wuhan Institute of Virology on coronaviruses, including U.S. sponsored research and funding, scientific and diplomatic engagements, technology transfers, and affiliated or sponsored non-governmental organization (NGO) engagements;

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<sup>1</sup> Nicholson Baker, "The Lab-Leak Hypothesis," *New York Magazine*, January 4, 2021, *available at* <https://nymag.com/intelligencer/article/coronavirus-lab-escape-theory.html>.

- An explanation of significant changes in Intelligence Community (IC) analysis, or the evolution of such analysis, related to the origin of SARS-COV-2, research activities in Wuhan labs, efforts by China to block international investigations of a possible lab leak, and actions taken by Chinese authorities that increased COVID-19 worldwide lethality and economic disruptions;
- An assessment of Chinese adherence to international agreements that require disclosure and cooperation in the event of a viral outbreak such as COVID-19.

I would appreciate your making this response a priority for the IC given the great variance in explanations for COVID-19 origins and Chinese behavior that we are receiving from government, scientific, and media sources.

Sincerely,



Devin Nunes  
Ranking Member

Attachments [2]:

COVID Timeline

"The Lab-Leak Hypothesis"

Cc: The Honorable Michael R. Pompeo, Secretary of State  
Mr. Christopher C. Miller, Acting Secretary of Defense

Time/Name	Tags	Excerpts	Source(s)	Serial/URL/Ref
1985		China joins Biological Warfare Convention	UN	UNODA website
1989	History of lab outbreaks	Kanatan ALIBEKOV claimed that "[Soviet] analysts concluded [two epidemics of hemorrhagic fever that swept the region around a Chinese nuclear test site and biological weapons laboratory] were caused by an accident in a lab where Chinese scientists were weaponizing viral diseases."	NY Times	<a href="https://www.nytimes.com/1989/04/05/world/soviet-dfector-says-china-had-accident-at-a-germ-plant.html">https://www.nytimes.com/1989/04/05/world/soviet-dfector-says-china-had-accident-at-a-germ-plant.html</a>
2003	Mismanaged WIV BSL4	Chinese Academy of Sciences approved construction of BSL-4 laboratory at WIV	Nature	<a href="https://www.nature.com/news/inside-the-chinese-lab-posed-to-study-world-s-most-dangerous-pathogens-1.21487">https://www.nature.com/news/inside-the-chinese-lab-posed-to-study-world-s-most-dangerous-pathogens-1.21487</a>
2004	Mismanaged WIV BSL4	Construction of W V BSL 4 Lab begins (National Bio Safety Lab, Wuhan)	Nature	<a href="https://www.nature.com/news/inside-the-chinese-lab-posed-to-study-world-s-most-dangerous-pathogens-1.21487">https://www.nature.com/news/inside-the-chinese-lab-posed-to-study-world-s-most-dangerous-pathogens-1.21487</a>
2004	History of lab outbreaks	[In 2004, China suffered a SARS outbreak due to a lab leak that killed one person and infected nine. PRC authorities blamed negligence and punished five senior officials at the Chinese Centre for Disease Control and Prevention.]	SCMP	Jun Mai, "Chinese research lab denies rumours of links to first coronavirus patient," South China Morning Post, February 16, 2020.
2004		A senior French civil servant told Le Figaro that French military officers and scientists opposed the plan to help build the [WIV BSL-4] laboratory when it was announced in 2004 but were overruled by Jacques Chirac, then president, who wanted to boost cooperation with China	The Times	<a href="https://t.co/rvRQTMwEd">https://t.co/rvRQTMwEd</a>   <a href="https://www.thetimes.co.uk/edition/news/coronavirus-china-bars-safety-experts-from-wuhan-lab-brbm9rwtm">https://www.thetimes.co.uk/edition/news/coronavirus-china-bars-safety-experts-from-wuhan-lab-brbm9rwtm</a>
2015	Dangerous GOF research	"In a 2015 paper, WIV documented how they: -> found a virus in bats called SHC014-CoV that is similar to SARS. -> constructed a chimera virus using SHC014-CoV as a basis that could also infect mice cells -> found the same virus can infect "human airway cells" and impact them the same way as "epidemic strains of SARS-CoV" in vitro. (paraphrased: "It's as bad as SARS") -> tested the same virus on real mice ("in vivo"), and found it could infect their lungs. -> tried to fight the virus using antibodies and vaccines that help fight SARS, and couldn't find anything that helped. ("poor efficacy") -> synthetically cloned this chimera virus and tested it both in vitro and in vivo, and found it works well."	UNC, WIV, et al	<a href="https://www.ncbi.nlm.nih.gov/pubmed/26552006">https://www.ncbi.nlm.nih.gov/pubmed/26552006</a>
2/1/2000	Other GOF Research (US & Netherlands)	Researchers from the United States and the Netherlands published "Retargeting of Coronavirus by Substitution of the Spike Glycoprotein Ectodomain: Crossing the Host Cell Species Barriers" which found that "Coronaviruses generally have a narrow host range, infecting one or just a few species. Using targeted RNA recombination, we constructed a mutant of the coronavirus mouse hepatitis virus (MHV) in which the ectodomain of the spike glycoprotein (S) was replaced with the highly divergent ectodomain of the S protein of feline infectious peritonitis virus. The resulting chimeric virus, designated fMHV, acquired the ability to infect feline cells and simultaneously lost the ability to infect murine cells in tissue culture. This reciprocal switch of species specificity strongly supports the notion that coronavirus host cell range is determined primarily at the level of interactions between the S protein and the virus receptor. The isolation of fMHV allowed the localization of the region responsible for S protein incorporation into virions to the carboxy-terminal 64 of the 1,324 residues of this protein. This establishes a basis for further definition of elements involved in virion assembly. In addition, fMHV is potentially the ideal recipient virus for carrying out reverse genetics of MHV by targeted RNA recombination, since it presents the possibility of selecting recombinants, no matter how defective, that have regained the ability to replicate in murine cells"	Journal of Virology	<a href="https://archive.viv/Gi0OP">https://archive.viv/Gi0OP</a> <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC11474/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC11474/</a>
7/1/2002	Other GOF research (Batic)	Researchers publish "Systematic Assembly of a Full-length Infectious cDNA of Mouse Hepatitis Virus Strain A59" which found that "A novel method was developed to assemble a full-length infectious cDNA of the group II coronavirus mouse hepatitis virus strain A59 (MHV-A59). Seven contiguous cDNA clones that spanned the 31.5-kb MHV genome were isolated. The ends of the cDNAs were engineered with unique junctions and assembled with only the adjacent cDNA subclones, resulting in an intact MHV-A59 cDNA construct of ~31.5 kb in length. The interconnecting restriction site junctions that are located at the ends of each cDNA are systematically removed during the assembly of the complete full-length cDNA product, allowing reassembly without the introduction of nucleotide changes. RNA transcripts derived from the full-length MHV-A59 construct were infectious, although transfection frequencies were enhanced 10- to 15-fold in the presence of transcripts encoding the nucleocapsid protein N. Plaque-purified virus derived from the infectious construct replicated efficiently and displayed similar growth kinetics, plaque morphology, and cytopathology in murine cells as did wild-type MHV-A59. Molecularly cloned viruses recognized the MHV receptor (MHVR) for docking and entry, and pretreatment of cells with monoclonal antibodies against MHVR blocked virus entry and replication. Cells infected with molecularly cloned MHV-A59 virus expressed replicase (gene 1) proteins identical to those of laboratory MHV-A59. Importantly, the molecularly cloned viruses contained three marker mutations that had been derived from the engineered component clones. Full-length infectious constructs of MHV-A59 will permit genetic modifications of the entire coronavirus genome, particularly in the replicase gene. The method has the potential to be used to construct viral, microbial, or eukaryotic genomes approaching several million base pairs in length and used to insert restriction sites at any given nucleotide in a microbial genome."	Journal of Virology	<a href="https://jvi.asm.org/content/76/21/11065">https://jvi.asm.org/content/76/21/11065</a>   <a href="https://archive.viv/Bkily">https://archive.viv/Bkily</a>
10/28/2003	Other GOF research (Batic)	Researchers publish "Reverse genetics with a full-length infectious cDNA of severe acute respiratory syndrome coronavirus" which found that "A previously undescribed coronavirus (CoV) is the etiologic agent responsible for severe acute respiratory syndrome (SARS). Using a panel of contiguous cDNAs that span the entire genome, we have assembled a full-length cDNA of the SARS-CoV Urban strain, and have rescued molecularly cloned SARS viruses (infectious clone SARS-CoV) that contained the expected marker mutations inserted into the component clones. Recombinant viruses replicated as efficiently as WT viruses and both were inhibited by treatment with the cysteine protease inhibitor [2S,3S]-trans-epoxysuccinyl-L-leu-ylamido-3-methylbutane ethyl ester. In addition, subgenomic transcripts were initiated from the consensus sequence ACGAAC in both the WT and infectious clone SARS-CoV. Availability of a SARS-CoV full-length cDNA provides a template for manipulation of the viral genome, allowing for the rapid and rational development and testing of candidate vaccines and therapeutics against this important human pathogen."	Proceedings of the National Academy of Sciences of the United States of America	<a href="https://www.pnas.org/content/100/22/12955">https://www.pnas.org/content/100/22/12955</a> <a href="https://archive.viv/7NtUw">https://archive.viv/7NtUw</a>
3/25/2004	History of lab outbreaks	A 26-year-old female laboratory researcher from Anhui Province working for the Chinese National Institute of Virology in Beijing, which is part of China's Center for Disease Control, developed symptoms on 25 March 2004 and was clinically diagnosed with SARS coronavirus.	WHO	<a href="https://www.who.int/csr/don/2004_04_23/en/">https://www.who.int/csr/don/2004_04_23/en/</a>
4/8/2004	History of lab outbreaks	26-year-old researcher's mother became ill in Anhui on 8 April and died on 19 April. She had provided bedside care to her daughter at the Beijing hospital.	WHO	<a href="https://www.who.int/csr/don/2004_04_23/en/">https://www.who.int/csr/don/2004_04_23/en/</a>
4/17/2004	History of lab outbreaks	31-year-old male laboratory researcher who also worked at the Beijing virology institute. Developed symptoms on 17 April and was hospitalized in isolation on 22 April. Health authorities have diagnosed him as a suspected SARS case.	WHO	<a href="https://www.who.int/csr/don/2004_04_23/en/">https://www.who.int/csr/don/2004_04_23/en/</a>
4/22/2004	History of lab outbreaks	26-year-old nurse in Beijing, reported [to be diagnosed with SARS coronavirus yesterday (article published 4/23/2004), who remains in intensive care "cared for the original 26-year-old female researcher" in the Beijing hospital.	WHO	<a href="https://www.who.int/csr/don/2004_04_23/en/">https://www.who.int/csr/don/2004_04_23/en/</a>
4/22/2004	History of lab outbreaks	31-year-old male laboratory researcher who also worked at the Beijing virology institute is hospitalized in isolation on 22 April 2004.	WHO	<a href="https://www.who.int/csr/don/2004_04_23/en/">https://www.who.int/csr/don/2004_04_23/en/</a>
4/26/2004	History of lab outbreaks	"The latest outbreak of severe acute respiratory syndrome (SARS) in China, with eight confirmed or suspected cases so far and hundreds quarantined, involves two researchers who were working with the virus in a Beijing research lab, the World Health Organization (WHO) said on Monday (April 26). "We suspect two people, a 26-year-old female postgraduate student and a 31-year-old male postdoc, were both infected, apparently in two separate incidents," Bob Dietz, WHO spokesman in Beijing, told The Scientist. The woman was admitted to hospital on April 4, but the man apparently became infected independently 2 weeks later, being hospitalized on April 17. Both worked at the Chinese Institute of Virology in Beijing, part of China's Center for Disease Control. China has level three research guidelines and rules in place for handling the SARS virus, which are "of acceptable quality" to WHO, Dietz told The Scientist. But "it's a question of procedures and equipment. Frankly we are going to go in now to take a very close look," he said."	The Scientist	<a href="https://archive.is/wH09#selection-895.0-899.121">https://archive.is/wH09#selection-895.0-899.121</a>

7/2/2004	Poor safety practices	Five top officials of the Chinese Centre for Disease Control and Prevention (CDC) Thursday were punished to take blame for this year's outbreak of SARS. These officials, including centre Director Li Liming, should take responsibility for the outbreak which started with the infection of two laboratory researchers by the SARS (severe acute respiratory syndrome) virus, Vice-Premier Wu Yi said Thursday at a working conference. Official investigation shows that it is an accident due to negligence. The cases had been linked to experiments using live and inactive SARS corona virus in the CDC's wology and diarrheas institutes where interdisciplinary research on the SARS virus was conducted. The CDC's mistakes also include allowing researchers to experiment with biological materials infected with SARS in common laboratories, and the failure to immediately report the abnormal health conditions of its researchers.	China Daily	<a href="https://www.chinadaily.com.cn/english/doc/2004-07/02/content_344755.htm">https://www.chinadaily.com.cn/english/doc/2004-07/02/content_344755.htm</a>
3/7/2006	Other GDF research (US > SARS+Hurn)	The activity of artificially inserting Furin restriction sites into the coronavirus began in 2006. Add RRSRR to SARS-CoV. Researchers published "Furin cleavage of the SARS coronavirus spike glycoprotein enhances cell-cell fusion but does not affect virion entry" which found that "The fusogenic potential of Class I viral envelope glycoproteins is activated by proteolytic cleavage of the precursor glycoprotein to generate the mature receptor-binding and transmembrane fusion subunits. Although the coronavirus (CoV) S glycoproteins share membership in this class of envelope glycoproteins, cleavage to generate the respective S1 and S2 subunits appears absent in a subset of CoV species, including that responsible for the severe acute respiratory syndrome (SARS). To determine whether proteolytic cleavage of the S glycoprotein might be important for the newly emerged SARS-CoV, we introduced a furin recognition site at single basic residues within the putative S1-S2 junctional region. We show that furin cleavage at the mutated R667 position generates discrete S1 and S2 subunits and potentiates membrane fusion activity. This effect on the cell-cell fusion activity by the S glycoprotein is not, however, reflected in the infectivity of pseudotyped lentiviruses bearing the cleaved glycoprotein. The lack of effect of furin cleavage on virion infectivity mirrors that observed in the normally cleaved S glycoprotein of the murine coronavirus and highlights an additional level of complexity in coronavirus entry."	Virology	"Furin cleavage of the SARS coronavirus spike glycoprotein enhances cell-cell fusion but does not affect virion entry" by Kathryn E. Falls, Janine York, Jack H. Nunberg   <a href="https://archive.vn/7E7ER0#">https://archive.vn/7E7ER0#</a>   <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2111780/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2111780/</a>
1/12/2007	Other GDF research (Batic)	Researchers publish "A Mouse-Adapted SARS-Coronavirus Causes Disease and Mortality in BALB/c Mice" which found that "No single animal model for severe acute respiratory syndrome (SARS) reproduces all aspects of the human disease. Young inbred mice support SARS-coronavirus (SARS-CoV) replication in the respiratory tract and are available in sufficient numbers for statistical evaluation. They are relatively inexpensive and easily accessible, but their use in SARS research is limited because they do not develop illness following infection. Older (12- to 24-mo-old) BALB/c mice develop clinical illness and pneumonitis, but they can be hard to procure, and immune senescence complicates pathogenesis studies. We adapted the SARS-CoV (Urban strain) by serial passage in the respiratory tract of young BALB/c mice. Fifteen passages resulted in a virus (MA15) that is lethal for mice following intranasal inoculation. Lethality is preceded by rapid and high titer viral replication in lungs, viremia, and dissemination of virus to extrapulmonary sites accompanied by lymphopenia, neutrophilia, and pathological changes in the lungs. Abundant viral antigen is extensively distributed in bronchial epithelial cells and alveolar pneumocytes, and necrotic cellular debris is present in airways and alveoli, with only mild and focal pneumonitis. These observations suggest that mice infected with MA15 die from an overwhelming viral infection with extensive, virally mediated destruction of pneumocytes and ciliated epithelial cells. The MA15 virus has six coding mutations associated with adaptation and increased virulence; when introduced into a recombinant SARS-CoV, these mutations result in a highly virulent and lethal virus (rMA15), duplicating the phenotype of the biologically derived MA15 virus. Intranasal inoculation with MA15 reproduces many aspects of disease seen in severe human cases of SARS. The availability of the MA15 virus will enhance the use of the mouse model for SARS because infection with MA15 causes morbidity, mortality, and pulmonary pathology. This virus will be of value as a stringent challenge in evaluation of the efficacy of vaccines and antivirals."	PLOS Pathogens	<a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1769406/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1769406/</a>   <a href="https://archive.vn/MBdZV">https://archive.vn/MBdZV</a>
12/12/2007	Dangerous GDF research	WIV-associated scientists publish study on SARS-like CoV in horseshoe bats. Scientists succeed in making SL CoV transmissible to humans by combining with HIV pseudovirus (provided by W V) with S <sub>u</sub> -CoV	American Society of Microbiology, Journal of Virology	<a href="https://jvi.asm.org/content/82/4/1899">https://jvi.asm.org/content/82/4/1899</a>
9/10/2008	Other GDF research (Japan)	Japanese researchers publish study titled "Entry from the Cell Surface of Severe Acute Respiratory Syndrome Coronavirus with Cleaved S Protein as Revealed by Pseudotype Virus Bearing Cleaved S Protein" which finds that "Severe acute respiratory syndrome (SARS) coronavirus (SARS-CoV) is known to take an endosomal pathway for cell entry; however, it is thought to enter directly from the cell surface when a receptor-bound virion spike (S) protein is affected by trypsin, which induces cleavage of the S protein and activates its fusion potential. This suggests that SARS-CoV bearing a cleaved form of the S protein can enter cells directly from the cell surface without trypsin treatment. To explore this possibility, we introduced a furin-like cleavage sequence in the S protein at amino acids 798 to 801 and found that the mutated S protein was cleaved and induced cell fusion without trypsin treatment when expressed on the cell surface. Furthermore, a pseudotype virus bearing a cleaved S protein was revealed to infect cells in the presence of a lysosomotropic agent as well as a protease inhibitor, both of which are known to block SARS-CoV infection via an endosome, whereas the infection of pseudotypes with an uncleaved, wild-type S protein was blocked by these agents. A heptad repeat peptide, derived from a SARS-CoV S protein that is known to efficiently block infections from the cell surface, blocked the infection by a pseudotype with a cleaved S protein but not that with an uncleaved S protein. These results indicate that SARS-CoV with a cleaved S protein is able to enter cells directly from the cell surface and agree with the previous observation of the protease-mediated cell surface entry of SARS-CoV."	Journal of Virology	<a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2582654/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2582654/</a>   <a href="https://archive.vn/96N8L">https://archive.vn/96N8L</a>
12/16/2008	Other GDF research (Batic)	Researchers published "Synthetic recombinant bat SARS-like coronavirus is infectious in cultured cells and in mice" which found that "Defining prospective pathways by which zoonoses evolve and emerge as human pathogens is critical for anticipating and controlling both natural and deliberate pandemics. However, predicting tenable pathways of animal-to-human movement has been hindered by challenges in identifying reservoir species, culturing zoonotic organisms in culture, and isolating full length genomes for cloning and genetic studies. The ability to design and recover pathogens reconstituted from synthesized cDNAs has the potential to overcome these obstacles by allowing studies of replication and pathogenesis without identification of reservoir species or cultivation of primary isolates. Here, we report the design, synthesis, and recovery of the largest synthetic replicating life form, a 29.7-kb bat severe acute respiratory syndrome (SARS)-like coronavirus (Bat-SCoV), a likely progenitor to the SARS-CoV epidemic. To test a possible route of emergence from the noncultivable Bat-SCoV to human SARS-CoV, we designed a consensus Bat-SCoV genome and replaced the Bat-SCoV spike receptor binding domain (RBD) with the SARS-CoV RBD (Bat-SRBD). Bat-SRBD was infectious in cell culture and in mice and was efficiently neutralized by antibodies specific for both bat and human CoV spike proteins. Rational design, synthesis, and recovery of hypothetical recombinant viruses can be used to investigate mechanisms of trans-species movement of zoonoses and has great potential to aid in rapid public health responses to known or predicted emerging microbial threats."	Proceedings of the National Academy of Sciences of the United States of America	<a href="https://www.pnas.org/content/105/50/19944">https://www.pnas.org/content/105/50/19944</a> <a href="https://archive.vn/K38UQ">https://archive.vn/K38UQ</a>



<p>3/24/2009</p>	<p>Other GDF research (US)</p>	<p>U.S. researchers published "Activation of the SARS coronavirus spike protein via sequential proteolytic cleavage at two distinct sites" which found that "The coronavirus spike protein (S) plays a key role in the early steps of viral infection, with the S1 domain responsible for receptor binding and the S2 domain mediating membrane fusion. In some cases, the S protein is proteolytically cleaved at the S1-S2 boundary. In the case of the severe acute respiratory syndrome coronavirus (SARS-CoV), it has been shown that virus entry requires the endosomal protease cathepsin L; however, it was also found that infection of SARS-CoV could be strongly induced by trypsin treatment. Overall, in terms of how cleavage might activate membrane fusion, proteolytic processing of the SARS-CoV S protein remains unclear. Here, we identify a proteolytic cleavage site within the SARS-CoV S2 domain (S2', R797). Mutation of R797 specifically inhibited trypsin-dependent fusion in both cell-cell fusion and pseudovirus entry assays. We also introduced a furin cleavage site at both the S2' cleavage site within S2_793-KPTKR-797 (S2''), as well as at the junction of S1 and S2. Introduction of a furin cleavage site at the S2'' position allowed trypsin-independent cell-cell fusion, which was strongly increased by the presence of a second furin cleavage site at the S1-S2 position. Taken together, these data suggest a novel priming mechanism for a viral fusion protein, with a critical proteolytic cleavage event on the SARS-CoV S protein at position 797 (S2''), acting in concert with the S1-S2 cleavage site to mediate membrane fusion and virus infectivity."</p>	<p>Proceedings of the National Academy of Sciences of the United States of America</p>	<p><a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2660061/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2660061/</a>   <a href="https://archive.vrnj/UW021">https://archive.vrnj/UW021</a></p>
<p>9/13/2011</p>	<p>History of lab outbreaks</p>	<p>"On the heels of a damaging laboratory outbreak that sickened 27 students, leaders at China's Northeast Agricultural University last week dismissed two administrators, apologized for insufficient safety practices, and offered thousands of dollars in compensation to the students who contracted brucellosis while dissecting goats in an anatomy course last December... University administrators now admit the goats were not properly quarantined prior to reaching the lab and that instructors did not follow standard safety procedures. Infected students told the Chinese press that they did not receive safety training ahead of the dissections. One told the newspaper Southern Weekend that after a classmate asked about safety equipment, one instructor discouraged the group from wearing gloves, pointing out that he had been dissecting animals with his bare hands for 30 years. Several students then declined to wear gloves, the student said. "Basic safety is apparently one of the areas to have suffered. In a survey of 231 fourth-year medical students published in the Chinese journal Northwest Medical Education in 2010, 19% were unfamiliar with the term "laboratory biosafety." Seventy-nine percent had heard the term but weren't completely sure what it meant. Some Chinese commentators now say nothing short of an overhaul of the country's higher education system is necessary. They are arguing that universities place too much emphasis on rewarding scientists who publish in prestigious journals—and that officials and administrators should pay more attention to enabling students and scientists to safely carry out their research."</p>	<p>Science</p>	<p><a href="https://www.sciencemag.org/news/2011/09/chinese-university-fires-administrators-offers-compensation-after-lab-accident">https://www.sciencemag.org/news/2011/09/chinese-university-fires-administrators-offers-compensation-after-lab-accident</a></p>
<p>4/2/2012</p>		<p>Patent Mr. Guo, Mal, 45 years old, begins two weeks of work in in Mojiang cave</p>	<p>Independent Science News</p>	<p><a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a></p>
<p>4/22/2012</p>		<p>Patent Li, male, 32 year old, started to work in the Mojiang cave... for a total of 4 days</p>	<p>Independent Science News</p>	<p><a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a></p>
<p>4/21/2012</p>		<p>Patent, Mr. Wu, male, 30 years old started work in Mojiang cave</p>	<p>Independent Science News</p>	<p><a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a></p>
<p>4/25/2012</p>	<p>Collecting, handling, storing potentially lethal pathogens</p>	<p>Patent Lu, Male, 42 years old, was admitted to the hospital on April 25, 2012. He had fever and been coughing for half of a month and for the past three days had difficulties in breathing. He worked in the mining hole before and was exposed to large amount of feces of bats. Half of month ago, he started to have fever. His body temperature was 38.5 Celsius at first. Occasionally, when he coughed, there was rusty colored mucus with blood clots. Felt bloated in the stomach. Loss of appetite and hiccup. He initially went to the small clinic for transfusion but it was not helpful. Then, he was transferred to Yu Xi People's Hospital for treatment. During hospitalization, his body temperature was 40 Celsius and the fever did not follow any pattern. No sign of chills before the fever. Still coughed with rusty-colored mucus and blood clots. Difficulty in breathing for three days, especially after moving around. Chest tightness but no chest pain. No problem lying down. No sign of paroxysmal dyspnea at night. No abdominal pain.</p>	<p>Independent Science News</p>	<p><a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a></p>
<p>4/26/2012</p>	<p>Collecting, handling, storing potentially lethal pathogens</p>	<p>Patent Li, male, 32 year old, has been admitted to the hospital on 2012/4/26. He had sign of coughing, coughing with mucus, fever and difficulty in breathing for four days. He worked in the mining well four days ago. There were many bats and their feces in the well. Four days ago, he started to show sign of coughing, coughing with mucus (white and slimy) and fever. It smelled really bad in the well. His temperature went up to 39 Celsius. When he coughed, he had difficulties in breathing. No chest pain or coughing up blood. No sign of paroxysmal dyspnea at night. No stomach ache or diarrhea. He went to the local hospital for treatment but no documentation. His symptom had improved but wanted further treatment. He was healthy.</p>	<p>Independent Science News</p>	<p><a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a></p>
<p>4/26/2012</p>	<p>Collecting, handling, storing potentially lethal pathogens</p>	<p>Patent Zhou, male, age 63, was admitted to the hospital on April 26, 2012. He had signs of fever, coughing, difficulty in breathing, chest pain, and hiccups for more than ten days. 24 days prior to the hospitalization, he was working in the mining well for half of a month. He worked 7 hours a day. After expusing to the mining well where there were many bats and bats' feces, he started to show signs of coughing and fever and had a 38 Celsius body temperature. He immediately went to the local hospital. His fever went on and off in the next five consecutive days. The actual treatment remained unknown. The highest body temperature was 40 Celsius and the lower is 37 Celsius. He also experienced headache, dizziness, ear congestion and dry cough. There was no pattern of his illness in daytime or night time, along with chest pain. Difficulty in breathing was getting worse. Occasionally, having hiccups. No sign of nausea, vomiting, or diarrhea.</p>	<p>Independent Science News</p>	<p><a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a></p>
<p>4/26/2012</p>	<p>Collecting, handling, storing potentially lethal pathogens</p>	<p>Patent, Mr. Liu, male, 46 years old. He had sign of coughing, coughing with mucus, fever for 10 days and difficulty in breathing for three days and was admitted to the hospital on 2012/4/26. He worked in the mining well 10 days ago and was exposed to large amount of bats and their feces. He had cough, productive cough and hemoptysis (small amount), fever (highest to 39 Celsius) 10 days ago. He denied chest pain. He started to feel difficulty in breathing three days ago and went to the local hospital for treatment. The actual prescription remained unknown. For further treatment, he was admitted to our hospital.</p>	<p>Independent Science News</p>	<p><a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a></p>
<p>4/27/2012</p>	<p>Collecting, handling, storing potentially lethal pathogens</p>	<p>Patent, Mr. Guo, male, 45 years old, was admitted to the hospital. He had signs of coughing, productive cough, shortness of breath, and fever for two weeks. The patient went into a 150 meter deep cave 24 days ago. He continuously inhaled some unknown gas for 10 days. About two weeks ago, started having signs of coughing, tightness in chest, shortness of breath, fever, yellow and greenish mucus (about 2-3 times a day, about 5 ml each time). When he rests, he feels tightness in chest, shortness of breath and fever around 39-40 Celsius. Below the fever, there are no chills. Along with headache and soreness in limbs. After taking some antipyretics (not sure what kind), the body temp went back to normal. 10 days ago, the mucus turned white and with some blood string (light red, 2-3 times a day). Went to the local clinic for treatment and was prescribed antibiotics (not sure what kind). The coughing with blood stopped three days after but other symptoms remained the same. 2 days ago came to the emergency and was admitted by us.</p>	<p>Independent Science News</p>	<p><a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a></p>

5/2/2012	Collecting, handling, storing potentially lethal pathogens	Patient, Mr. Wu, male, 30 year old, was admitted to the hospital on May 2, 2012. He had signs of coughing, coughing with mucus, fever, chest tightness and shortness of breath for five days. Dry cough most of the time, sometimes with white sputum mucus and the mucus came out easily. Chills and fever. There was no observable pattern for the fever. The highest is 39.0 Celsius, accompany with headache, soreness in limbs, chest tightness and short of breath after some light exercise. No symptom of hemoptysis, dizziness and palpitation. Sweating, dizziness, loss of strength, sign of paroxysmal dyspnea at night and edema. No specific treatment after onset of illness. Admitted to our ER last night for further treatment	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
5/7/2012	Collecting, handling, storing potentially lethal pathogens	Patient Zhou, male, age 63 dies of "severe lung infection, sepsis, septic shock and infection in abdominal cavity, and asystole and stop breathing"	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
5/28/2012	Collecting, handling, storing potentially lethal pathogens	Patient LI, male, 32 year old, discharged from hospital after 24 days. Cause of recovery: "the patient was young and with a stronger immune system. He did not spend a long time in the mining well. The [anti-infection, anti-inflammation, and antiviral] treatment was immediate and effective."	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
5/28/2012	Collecting, handling, storing potentially lethal pathogens	Patient, Mr. Wu, male, 30 years old released from hospital after 26 days. Cause of recovery: "The patient is younger with stronger immune system. In addition, he did not spend a long time in the mining field, the [anti fungal medication and hormones] was immediate and effective."	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
6/12/2012	Collecting, handling, storing potentially lethal pathogens	Patient Lu, Male, 42 years old dies of "Asystole and stop breathing, severe pneumonia, type I respiratory failure, sepsis, and hepatitis B"	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
6/27/2012	Collecting, handling, storing potentially lethal pathogens	Patient, Mr. Liu, male 46 years old was subject to a thymectomy	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
8/13/2012	Collecting, handling, storing potentially lethal pathogens	Patient, Mr. Guo, Male, 45 years old, dies after being hospitalized for 109 days of "Severe pneumonia, multiple organs failure, ARDS, inhaling lung impairment, interstitial pneumonia, and invasive pulmonary aspergillosis (secondary infection)"	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
9/10/2012	Collecting, handling, storing potentially lethal pathogens	Patient, Mr. Liu, male, 46 years old released from the hospital after 107 days	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
12/12/2012	Collecting, handling, storing potentially lethal pathogens	"Half a year later, we investigated the presence of novel zoonotic pathogens in natural hosts in this cave. For the investigation, we collected anal swab samples from 20 bats ( <i>Rhinolophus ferrumequinum</i> ), 9 rats ( <i>R. flaviventris</i> ), and 5 meerkat shrews ( <i>Crocidura dracula</i> ) from the mine for virome analysis."	CDC EID	<a href="http://www.cdc.gov/eid/article/20/6/13-1022_article">www.cdc.gov/eid/article/20/6/13-1022_article</a>
2/7/2013	Collecting, handling, storing potentially lethal pathogens	WHO scientist T. AN Junhua was one of multiple scientists affiliated with other Chinese labs that published a study on phylogeny and origins of hantaviruses harbored by bats, insectivores, and rodents. "A total of 450 bats of eight different species were captured in Longquan city and Wenzhou city, Zhejiang Province in the spring of 2011. Similarly, 155 bats representing eight species were captured in Hubei Province in the spring of 2012. A total of 81 insectivores (representing two species - <i>Autoscyus scaberipes</i> and <i>Scaevola murinus</i> ) were captured in Jianghe county, Yunnan Province in the spring of 2010 and autumn of 2011. In 2006, two shrews (from the species <i>Sorex roodon</i> and <i>Sorex murinus</i> ) were collected from Yakeshi city, Inner Mongolia Autonomous Region."	PLOS	<a href="https://journals.plos.org/plospathogens/article?id=10.1371/journal.ppat.1003159#s4">https://journals.plos.org/plospathogens/article?id=10.1371/journal.ppat.1003159#s4</a>
1/1/2014	Mismanaged WIV BSL4	WIV BSL-4 Lab reportedly completed in 2014 (National Bio Safety Lab, Wuhan)	Nature	<a href="https://www.nature.com/news/inside-the-chinese-lab-posed-to-study-world-s-most-dangerous-pathogens-1.21487">https://www.nature.com/news/inside-the-chinese-lab-posed-to-study-world-s-most-dangerous-pathogens-1.21487</a>
2/1/2014	Collecting, handling, storing potentially lethal pathogens	Li Xu publishes thesis titled "Analysis of 6 patients with Severe Pneumonia Caused by Unknown Viruses" The abstract reads: "In April and May 2012, our hospital admitted 6 patients with severe pneumonia caused by unknown virus. The 6 patients were all workers in the same mine, and they were exposed to a lot of bats and bat droppings in the working environment. In the final outcome, 3 patients died and 3 patients survived. According to the identification of the Kunming Institute of Zoology, Chinese Academy of Sciences, the bats in the working mines of the 6 patients are Chinese chrysanthemum bats. However, Chinese scientists have extracted SARS-like coronaviruses from the Chinese chrysanthemum bats in the process of searching for the SARS pathogen (SARS-like-CoV). This article inferred and analyzed the diagnosis and treatment process of 6 patients with unknown virus-related severe pneumonia and the possible causes and etiology."	CNKI	<a href="https://archive.vn/k178N#n=section.287.0.303.167">https://archive.vn/k178N#n=section.287.0.303.167</a>
6/1/2014	Dangerous GOF research	Start of six-year NIH/NIAD-funded study. Understanding the Risk of Bat Coronavirus Emergence project timeline. EcoHealth Alliance Inc. Project description: Novel zoonotic, bat-origin CoVs are a significant threat to global health and food security, as the cause of SARS in China in 2002, the ongoing outbreak of MERS, and of a newly emerged Swine Acute Diarrhea Syndrome in China. In a previous R01 we found that bats in southern China harbor an extraordinary diversity of SARS-CoVs, some of which can use human ACE2 to enter cells, infect humanized mouse models causing SARS-like illness, and evade available therapies or vaccines. We found that people living close to bat habitats are the primary risk groups for spillover, that at one site diverse SARS-CoVs exist that contain every genetic element of the SARS-CoV genome, and identified serological evidence of human exposure among people living nearby. These findings have led to 18 published peer-reviewed papers, including two papers in Nature, and a review in Cell. Yet critical questions remain on the origin, diversity, capacity to cause illness, and risk of spillover of these viruses	Grantome	<a href="https://grantome.com/grant/NIH/R01-A110964-06">https://grantome.com/grant/NIH/R01-A110964-06</a>
1/1/2015	Mismanaged WIV BSL4	(The WIV BSL-4) facility opened in 2015 after being built in partnership with France, which was meant to supply the technical expertise with 50 high-level French researchers due to work there between 2017 and 2022. They did not do so as the Chinese came to dominate the arrangements, according to the officials.	The Times	<a href="https://t.co/rvaRQTMwEd">https://t.co/rvaRQTMwEd</a>   <a href="https://www.thetimes.co.uk/edition/news/coronavirus-china-bats-safety-experts-from-wuhan-lab-brbn9rwtm">https://www.thetimes.co.uk/edition/news/coronavirus-china-bats-safety-experts-from-wuhan-lab-brbn9rwtm</a>
1/1/2015	Mismanaged WIV BSL4	In the same year Alan Mérielux, the French pharmaceutical tycoon, resigned from the joint chairmanship of the committee heading the (WIV BSL-4) project.	The Times	<a href="https://t.co/rvaRQTMwEd">https://t.co/rvaRQTMwEd</a>   <a href="https://www.thetimes.co.uk/edition/news/coronavirus-china-bats-safety-experts-from-wuhan-lab-brbn9rwtm">https://www.thetimes.co.uk/edition/news/coronavirus-china-bats-safety-experts-from-wuhan-lab-brbn9rwtm</a>
6/10/2015	Dangerous GOF research	Ralph Baric, Shi, and other Chinese scientists publish "Two Mutations Were Critical for Bat to Human Transmission of Middle East Respiratory Syndrome Coronavirus," finding that "To understand how Middle East respiratory syndrome coronavirus (MERS-CoV) transmitted from bats to humans, we compared the virus surface spikes of MERS CoV and a related bat coronavirus, HKU4. Although HKU4 spike cannot mediate viral entry into human cells, two mutations enabled it to do so by allowing it to be activated by human proteases. These mutations are present in MERS-CoV spike, explaining why MERS-CoV infects human cells. These mutations therefore played critical roles in the bat to human transmission of MERS CoV, either directly or through intermediate hosts."	American Society of Microbiology Journal of Virology	<a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4524054/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4524054/</a>   <a href="https://archive.vn/vwQhY5">https://archive.vn/vwQhY5</a>
10/1/2015	Collecting, handling, storing potentially lethal pathogens	End of five year longitudinal study of SARS-CoVs in bats from a single habitat in proximity to Kunming City, Yunnan province, China, which was mainly inhabited by horseshoe bats. A total of 502 alimentary specimens (anal swabs or feces) were collected. 84 tested positive for CoV	PLOS	<a href="https://archive.xs/2BH2">https://archive.xs/2BH2</a>
11/9/2015	Dangerous GOF research	Two WIV scientists (Ge Xingyi and Shi Zhengli), along with colleagues UNC Chapel Hill, Harvard, the US FDA, and Bellinzona Institute for Microbiology, publish study on SHC014-CoV which was circulating in horseshoe bat population at the time of publication. WIV was able to synthetically rederive an infectious full length SHC014 recombinant virus that demonstrated robust viral replication in-vivo and in-vitro	Nature	<a href="https://www.ncbi.nlm.nih.gov/pubmed/26552008">https://www.ncbi.nlm.nih.gov/pubmed/26552008</a>
11/9/2015	Dangerous GOF research	Researchers from the Wuhan Institute of Virology and several U.S. labs (including the FDA's National Center for Toxicological Research) publish a study in Nature Medicine entitled "A SARS-like cluster of circulating bat coronaviruses shows potential for human emergence." It stated: "To examine the emergence potential (that is, the potential to infect humans) of circulating bat CoVs, we built a chimeric virus encoding a novel, zoonotic CoV spike protein—from the RS/SHC014-CoV sequence that was isolated from Chinese horseshoe bats—in the context of the SARS-CoV mouse-adapted backbone."	Nature Medicine	Shi Zhengli-Li et al., "A SARS-like cluster of circulating bat coronaviruses shows potential for human emergence." Nature Medicine, online Nov. 9, 2015.

11/12/2015	Dangerous GOF research	Virologists question whether the information gleaned from WIV's experiment justifies the potential risk. A virologist at the Pasteur Institute in Paris, points out that the researchers have created a novel virus that "grows remarkably well" in human cells. "If the virus escaped, nobody could predict the trajectory," he says. WIV authors, in their paper, concede that funders may think twice about allowing such experiments in the future. "Scientific review panels may deem similar studies building chimeric viruses based on circulating strains too risky to pursue," they write, adding that discussion is needed as to "whether these types of chimeric virus studies warrant further investigation versus the inherent risks involved"	Nature	<a href="https://www.nature.com/news/engineered-bat-virus-stirs-debate-over-risky-research-1.18787">https://www.nature.com/news/engineered-bat-virus-stirs-debate-over-risky-research-1.18787</a>
2/18/2016	Collecting, handling, storing potentially lethal pathogens	Article "Coexistence of Multiple coronaviruses in several bat colonies in an abandoned mineshaft" appears in <i>Virologica Sinica</i> article	NCBI	<a href="https://www.ncbi.nlm.nih.gov/uccore/983856042">https://www.ncbi.nlm.nih.gov/uccore/983856042</a>
3/18/2016	Collecting, handling, storing potentially lethal pathogens	WIV affiliated scientists publish peer reviewed study on BCoV/4991 titled "Coexistence of multiple coronaviruses in several bat colonies in an abandoned mineshaft." They identified that "BatCoV/4991 showed more divergence from human SARS-CoV than other bat SL-CoVs and could be considered as a new strain of this virus lineage"	Virologica Sinica	<a href="https://pubmed.ncbi.nlm.nih.gov/26920708/">https://pubmed.ncbi.nlm.nih.gov/26920708/</a>
3/2/2016	Collecting, handling, storing potentially lethal pathogens	WIV publishes "Rhinolophus bat coronavirus BCoV/4991 RNA-dependent RNA polymerase (RdRp) gene, partial cds" in GenBank referenced in article "Coexistence of Multiple coronaviruses in several bat colonies in an abandoned mineshaft" 2016 <i>Virologica Sinica</i> article	NCBI	<a href="https://www.ncbi.nlm.nih.gov/uccore/983856042">https://www.ncbi.nlm.nih.gov/uccore/983856042</a>
3/15/2016	Other GOF research (Bartic)	Researchers, including Ralph Baric, publish "SARS-like WIV1-CoV poised for human emergence" which found that "The emergence of severe acute respiratory syndrome coronavirus (SARS-CoV) and Middle East respiratory syndrome (MERS)-CoV highlights the continued risk of cross-species transmission leading to epidemic disease. This manuscript describes efforts to extend surveillance beyond sequence analysis, reconstructing chimeric, and full-length zoonotic, coronavirus to evaluate emergence potential. Focusing on SARS-like virus sequences isolated from Chinese horseshoe bats, the results indicate a significant threat posed by WIV1-CoV. Both full-length and chimeric WIV1-CoV readily replicated efficiently in human airway cultures and in vivo, suggesting capability of direct transmission to humans. In addition, while monoclonal antibody treatments prove effective, the SARS-based vaccine approach failed to confer protection. Together, the study indicates an ongoing threat posed by WIV1 rRNA viruses and the need for continued study and surveillance."	Proceedings of the National Academy of Sciences of the United States of America	<a href="https://www.pnas.org/content/113/11/3048.full">https://www.pnas.org/content/113/11/3048.full</a> <a href="https://archive.wiv.daohy">https://archive.wiv.daohy</a>
2/22/2017	Collecting, handling, storing potentially lethal pathogens	WIV poised to study world's most dangerous pathogens in its BSL-4 lab. It will focus on the control of emerging diseases, store purified viruses and act as a World Health Organization 'reference laboratory' linked to similar labs around the world "It will be a key node in the global biosafety-lab network," says lab director Yuan Zhiming	Nature	<a href="https://www.nature.com/news/inside-the-chinese-lab-poised-to-study-world-s-most-dangerous-pathogens-1.21487">https://www.nature.com/news/inside-the-chinese-lab-poised-to-study-world-s-most-dangerous-pathogens-1.21487</a>
5/3/2017	Poor safety practices	A 3 May 2017 <i>Changiang Times</i> article describes Tian Junhua (YOB. 1980-1999), a WHCDC based expert that has captured almost 10,000 bats for research, began research on bats. Due to his lacking knowledge he didn't take protective measures and "urine of the bat dripped like raindrops [into] his head." "The big bat is easy to spray blood after being injured by the clip; several times the bat blood is directly sprayed on Tian Junhua's skin. If it is infected, the consequences will be unimaginable." But Tian Junhua did not flinch at all, and fortunately he escaped the infection. These bats were used in the study published on 2/7/2013 by PLOS.	Changjiang Times	<a href="https://archive.is/rv5Fu">https://archive.is/rv5Fu</a> <a href="http://www.changiangtimes.com/2017/05/567037.html">http://www.changiangtimes.com/2017/05/567037.html</a>
11/30/2017	Collecting, handling, storing potentially lethal pathogens	12 WIV scientists, including Shi Zhengli and GE Xingyi, and one scientist from Yunnan Institute of Endemic Diseases Control and Prevention publish findings of 5 year longitudinal observation of Yunnan cave finding that 3 variants of SARS-CoVs in the cave that can bind to ACE2 receptors (human transmission)	PLOS	<a href="https://archive.is/zBHz2">https://archive.is/zBHz2</a>
1/19/2018	Poor safety practices	State Department cable, drafted by two officials from the U.S. Embassy in Beijing's Environment, Science, and Health Section who met with WIV scientists, allegedly reports that "During interactions with scientists at the WIV laboratory, they noted the new lab has a serious shortage of appropriately trained technicians and investigators needed to safely operate this high containment laboratory."	Washington Post (Opinions)	<a href="https://www.washingtonpost.com/opinions/2020/04/14/state-department-cables-warned-safety-issues-wuhan-lab-studying-bat-coronaviruses/">https://www.washingtonpost.com/opinions/2020/04/14/state-department-cables-warned-safety-issues-wuhan-lab-studying-bat-coronaviruses/</a>
3/5/2018	Collecting, handling, storing potentially lethal pathogens	"Using bat severe acute respiratory syndrome (SARS)-like coronavirus (CoV) WIV1 as surrogate pathogen, [WIV] extensively evaluated the disinfection efficacy of 5% MCP in the first BSL-4 laboratory in China" - i.e., WIV used a SARS-like coronavirus to test lab disinfectant	Applied Biosafety	<a href="https://journals.sagepub.com/doi/full/10.1177/1525766018758891">https://journals.sagepub.com/doi/full/10.1177/1525766018758891</a>
3/5/2018	Collecting, handling, storing potentially lethal pathogens	WIV affiliated scientists publish study on research into the efficacy of Micro-Chem Plus as a disinfectant for BSL 4 labs. "Using bat severe acute respiratory syndrome (SARS)-like coronavirus (CoV) WIV1 as a surrogate pathogen, we extensively evaluated the disinfection efficacy of 5% MCP in the first BSL-4 laboratory in China."	Applied Biosafety	<a href="https://journals.sagepub.com/doi/10.1177/1525766018758891">https://journals.sagepub.com/doi/10.1177/1525766018758891</a>
3/27/2018		U.S. Embassy in Beijing took the unusual step of repeatedly sending U.S. science diplomats to the Wuhan Institute of Virology (WIV), which had in 2015 become China's first laboratory to achieve the highest level of international bio-research safety (known as BSL-4). WIV issued a news release in English about the last of these visits, which occurred on March 27, 2018. The U.S. delegation was led by Jamison Foush, the consul general in Wuhan, and Rick Switzer, the embassy's counselor of environment, science, technology and health.	Washington Post (Opinions)	<a href="https://www.washingtonpost.com/opinions/2020/04/14/state-department-cables-warned-safety-issues-wuhan-lab-studying-bat-coronaviruses/">https://www.washingtonpost.com/opinions/2020/04/14/state-department-cables-warned-safety-issues-wuhan-lab-studying-bat-coronaviruses/</a>
4/3/2018		On March 27th, Mr. Rick Switzer, Counselor of Environment, Science, Technology and Health Section of Embassy of the United States in China, accompanied by the U.S. Consul General in Wuhan, Mr. Jamison Foush, visited Wuhan Institute of Virology (WIV), Chinese Academy of Sciences (CAS), Prof. Yanping Wang, the Deputy Director General of the WIV, met with the U.S. delegation, Prof. Zhengli Shi, Director of Center for Emerging Infectious Diseases and Deputy Director of Wuhan P4 Laboratory, and Prof. Zhihong Hu, Director of Center for Bacteria and Virus Resources and Application, participated the meeting	Wuhan Institute of Virology	<a href="http://web.archive.org/web/20200404102012/english.whiv.cas.cn/Exchange/2018/Foreign_Visits/201804/20180403_131334.html#q=Mfykhh">web.archive.org/web/20200404102012/english.whiv.cas.cn/Exchange/2018/Foreign_Visits/201804/20180403_131334.html#q=Mfykhh</a>
4/4/2018	Collecting, handling, storing potentially lethal pathogens	WIV paper documents their research involving live animals and bat coronaviruses	Wuhan Institute of Virology	<a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7094983/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7094983/</a>
2/20/2019	Collecting, handling, storing potentially lethal pathogens	Researchers at Hong Kong University publish a study of bat coronaviruses, warning, "bat-animal and bat-human interactions, such as the presence of live bats in wildlife wet markets and restaurants in Southern China, are important for interspecies transmission of [coronaviruses] and may lead to devastating global outbreaks."	NIH	Patrick Woo et al, "Global Epidemiology of Bat Coronaviruses," <i>Viruses</i> (journal), Feb. 2019, published online Feb. 20, 2019 ( <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6409556/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6409556/</a> ).
3/2/2019	Irony?	Researchers from the Wuhan Institute of Virology publish a study in the medical journal <i>Viruses</i> noting that "It is highly likely that future SARS- or MERS-like coronavirus outbreaks will originate from bats, and there is an increased probability that this will occur in China."	Viruses	Yi Fan et al, "Bat Coronaviruses in China," <i>Viruses</i> , March 2019, online March 2, 2019
3/5/2019	Promoting false sense of security WHO JEC measures ignored	Gao Fu, director of the PRC's CDC, says in a speech, "Viruses like SARS could emerge anytime, but there'll never be another SARS incident. That's thanks to how well our national contagious disease surveillance system works."	NYT	Stevyn Lee Myers, "China Created a Fail-Safe System to Track Contagious. It Failed." <i>New York Times</i> , March 29, 2020.

7/24/2019	Dangerous GOF research	Understanding the risk of Bat Coronavirus Emergence Budgeted period start. Project description: Novel zoonotic, bat-origin CoVs are a significant threat to global health and food security, as the cause of SARS in China in 2002, the ongoing outbreak of MERS, and of a newly emerged Swine Acute Diarrhea Syndrome in China. In a previous R01 we found that bats in southern China harbor an extraordinary diversity of SARS-CoVs, some of which can use human ACE2 to enter cells, infect humanized mouse models causing SARS-like illness, and evade available therapies or vaccines. We found that people living close to bat habitats are the primary risk groups for spillover, that at one site diverse SARS-CoVs exist that contain every genetic element of the SARS-CoV genome, and identified serological evidence of human exposure among people living nearby. These findings have led to 18 published peer-reviewed papers, including two papers in Nature, and a review in Cell. Yet salient questions remain on the origin, diversity, capacity to cause illness, and risk of spillover of these viruses. . . . Aim 3. In vitro and in vivo characterization of SARS-CoV spillover risk, coupled with spatial and phylogenetic analyses to identify the regions and viruses of public health concern. We will use 5 protein sequence data, infectious clone technology, in vitro and in vivo infection experiments and analysis of receptor binding to test the hypothesis that % divergence thresholds in S protein sequences predict spillover potential. We will combine these data with bat host distribution, viral diversity and phylogeny, human survey of risk behaviors and illness, and serology to identify SARS-CoV spillover risk hotspots across southern China. Together these data and analyses will be critical for the future development of public health interventions and enhanced surveillance to prevent the re-emergence of SARS or the emergence of a novel SARS-CoV.	Grantome	<a href="https://grantome.com/grant/NIH/R01-AI110964-06">https://grantome.com/grant/NIH/R01-AI110964-06</a>
11/1/2019	Collecting, handling, storing potentially lethal pathogens	As recently as November 2019, WIV was conducting research on MERS CoV, which is a direct relative to SARS-CoV-1.	Journal of Virology	<a href="https://jvi.asm.org/content/94/5/e02015-10">https://jvi.asm.org/content/94/5/e02015-10</a>
11/15/2019		We employed a coalescent framework to combine retrospective molecular clock inference with forward epidemiological simulations to determine how long SARS-CoV-2 could have circulated prior to the time of the most recent common ancestor. Our results define the period between mid-October and mid-November 2019 as the plausible interval when the first case of SARS-CoV-2 emerged in Hubei province. By characterizing the likely dynamics of the virus before it was discovered, we show that over two-thirds of SARS-CoV-2-like zoonotic events would be self-limited, dying out without igniting a pandemic. Our findings highlight the shortcomings of zoonosis surveillance approaches for detecting highly contagious pathogens with moderate mortality rates	bioRxiv	<a href="https://www.biorxiv.org/content/10.1101/2020.11.20.39216v1">https://www.biorxiv.org/content/10.1101/2020.11.20.39216v1</a>
11/17/2019	Limited, misleading, delayed reporting	In a March 2020 report, the Hong Kong-based South China Morning Post, citing Chinese "government data seen by the Post," indicates that the first known patient was a 55-year-old from Hubei Province who became ill on November 17. Asked in March 2020 about the Post report, China CDC Director Gao Fu states, "There is no solid evidence to say we already had clusters in November."	SCMP, Science	"Josephine Ma, "Coronavirus: China's First Confirmed Covid-19 Case Traced Back to November 17," South China Morning Post, March 13, 2020, <a href="https://www.scmp.com/news/china/society/article/3074991/coronavirus-chinas-first-confirmed-covid-19-case-traced-back">https://www.scmp.com/news/china/society/article/3074991/coronavirus-chinas-first-confirmed-covid-19-case-traced-back</a> . Jon Cohen, "Not Wearing Masks to Protect Against Coronavirus Is a 'Big Mistake,' Top Chinese Scientist Says," Science, March 27, 2020, <a href="https://www.sciencemag.org/news/2020/03/not-wearing-masks-protect-against-coronavirus-big-mistake-top-chinese-scientist-says">https://www.sciencemag.org/news/2020/03/not-wearing-masks-protect-against-coronavirus-big-mistake-top-chinese-scientist-says</a> ."
11/18/2019	Collecting, handling, storing potentially lethal pathogens	WIV advertises to postdoctoral candidates for "Taking bat as the research object, answer the molecular mechanism that can coexist with Ebola and SARS-related coronavirus for a long time without disease, and its relationship with flight and longevity. Virology, immunology, cell biology and multiple omics are used to compare the differences between humans and other mammals."	WIV Website	<a href="https://www.whibv.cas.cn/106341/201911/20191118_5438006.html">https://www.whibv.cas.cn/106341/201911/20191118_5438006.html</a> (archived)
11/27/2019		Brazilian Researchers from the Federal University of Santa Catarina detected "SARS-CoV-2 in two samples collected independently on 27th November 2019 (5.49 ± 0.02 log genome copies/L). Subsequent samplings were positive until 4th March 2020 (coinciding with the first COVID-19 case reported in Santa Catarina), with a SARS-CoV-2 RNA increase of one log (6.68 ± 0.02 log genome copies/L). Our results show that SARS-CoV-2 has been circulating in Brazil since late November 2019, much earlier than the first reported case in the Americas (21st January 2020, USA)."	medRxiv	<a href="https://www.medrxiv.org/content/10.1101/2020.06.26.20140731v1">https://www.medrxiv.org/content/10.1101/2020.06.26.20140731v1</a>
11/30/2019		US intelligence agencies alerted Israel to the coronavirus outbreak in China already in November, Israeli television reported Thursday. According to Channel 12 news, the US intelligence community became aware of the emerging disease in Wuhan in the second week of that month and drew up a classified document. Information on the disease outbreak was not in the public domain at that stage — and was known only apparently to the Chinese government. The network said Israeli military officials later in November discussed the possibility of the spread of the virus to the region and how it would affect Israel and neighboring countries.	The Times of Israel	<a href="https://www.timesofisrael.com/us-alerted-israel-nato-to-disease-outbreak-in-china-in-november-report/">https://www.timesofisrael.com/us-alerted-israel-nato-to-disease-outbreak-in-china-in-november-report/</a>
12/1/2019	Limited, misleading, delayed reporting	"First patient" symptom onset date identified as 1 DEC 2020. No epidemiological link identified between "first patient" and later patients	Lancet	<a href="https://www.thelancet.com/journals/lanart/article/PIIS0140-6736(20)30183-5/fulltext">https://www.thelancet.com/journals/lanart/article/PIIS0140-6736(20)30183-5/fulltext</a>
12/1/2019	Limited, misleading, delayed reporting	In a January 24, 2020, article in The Lancet medical journal, doctors from a Wuhan infectious disease hospital and their co-authors state that among the first 41 cases in Wuhan later identified as being COVID-19, the first patient showed symptoms on December 1	Lancet	Chaolin Huang, Yeming Wang, Xingwang Li, et al., "Clinical Features of Patients Infected with 2019 Novel Coronavirus in Wuhan, China," The Lancet, January 24, 2020, <a href="https://www.thelancet.com/journals/lanart/article/PIIS0140-6736(20)30183-5/fulltext">https://www.thelancet.com/journals/lanart/article/PIIS0140-6736(20)30183-5/fulltext</a> .
12/4/2019	Other GOF research (Baric)	Ralph Baric and other scientists/researchers find that "Traditionally, the emergence of coronaviruses (CoVs) has been attributed to a gain in receptor binding in a new host. Our previous work with severe acute respiratory syndrome (SARS)-like viruses argued that bats already harbor CoVs with the ability to infect humans without adaptation. These results suggested that additional barriers limit the emergence of zoonotic CoV. In this work, we describe overcoming host restriction of two Middle East respiratory syndrome (MERS)-like bat CoVs using exogenous protease treatment. We found that the spike protein of PDF2180-CoV, a MERS-like virus found in a Ugandan bat, could mediate infection of Vero and human cells in the presence of exogenous trypsin. We subsequently show that the bat virus spike can mediate the infection of human gut cells but is unable to infect human lung cells. Using receptor-blocking antibodies, we show that infection with the PDF2180 spike does not require MERS CoV receptor DPP4 and antibodies developed against the MERS spike receptor-binding domain and S2 portion are ineffective in neutralizing the PDF2180 chimera. Finally, we found that the addition of exogenous trypsin also rescues HKUS-CoV, a second bat group 2c CoV. Together, these results indicate that proteolytic cleavage of the spike, not receptor binding, is the primary infection barrier for these two group 2c CoVs. Coupled with receptor binding, proteolytic activation offers a new parameter to evaluate the emergence potential of bat CoVs and offers a means to recover previously unrecoverable zoonotic CoV strains. Overall, our studies demonstrate that proteolytic cleavage is the primary barrier to infection for a subset of zoonotic coronaviruses. Moving forward, the results argue that both receptor binding and proteolytic cleavage of the spike are critical factors that must be considered for evaluating the emergence potential and risk posed by zoonotic coronaviruses. In addition, the findings also offer a novel means to recover previously uncultivable zoonotic coronavirus strains and argue that other tissues, including the digestive tract, could be a site for future coronavirus emergence events in humans."	American Society of Microbiology, Journal of Virology	<a href="https://jvi.asm.org/content/94/5/e01774-19">https://jvi.asm.org/content/94/5/e01774-19</a>   <a href="https://archive.vn/SO_LX">https://archive.vn/SO_LX</a>
12/6/2019	Delayed admitting human to human transfer	Five days after a man linked to Wuhan's seafood market presented pneumonia-like symptoms, his wife also presents with pneumonia and is hospitalized in an isolation ward. The wife had no connection to the market, suggesting human-human transmission.	Lancet	Chaolin Huang et al., "Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China," The Lancet, Feb. 15, 2020.
12/7/2019	History of lab outbreaks	The Lanzhou Veterinary Research Institute in central China confirmed on 7 December that 96 staff and students have tested positive for the infection. In a statement, the institute said most of the infected people are not experiencing signs of brucellosis, the illness caused by the bacterium, which can include fever and flu-like symptoms.	Nature	<a href="https://www.nature.com/articles/d41586-019-03663-2">https://www.nature.com/articles/d41586-019-03663-2</a>

12/8/2019		In January 11-12 communications with WHO and in an authoritative February 17 report, Chinese authorities provide December 8 as the day when the first known patient later identified as having COVID-19 became symptomatic.	WHO, China CDC	World Health Organization, "Novel Coronavirus—China," January 22, 2020, <a href="https://www.who.int/csr/don/12-january-2020-novel-coronavirus-china/en/">https://www.who.int/csr/don/12-january-2020-novel-coronavirus-china/en/</a> ; and The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team, China CDC, "The Epidemiological Characteristics of an Outbreak of 2019 Novel Coronavirus Diseases (COVID-19)—China, 2020," China CDC Weekly, Vol. 2, No. X, February 17, 2020, <a href="http://weekly.chinacdc.cn/en/article/id/e5394662-c6c4-41e9-9a9b-fea8db1a8f51">http://weekly.chinacdc.cn/en/article/id/e5394662-c6c4-41e9-9a9b-fea8db1a8f51</a>
12/9/2019		"On December 9, 2019, Dr. Li Wenliang was transferred from the ophthalmology clinic to the ophthalmology ward."	CCTV	<a href="http://m.news.lntv.cn/2020/03/19/ART1E06u25wKzeVnNlyBgTM200319.shtml">http://m.news.lntv.cn/2020/03/19/ART1E06u25wKzeVnNlyBgTM200319.shtml</a>   <a href="https://archive.vn/EYDe5">https://archive.vn/EYDe5</a>
12/10/2019	Delayed admitting human to human transfer	An article published in The Lancet medical journal raises questions about whether Wuhan's Huanan Seafood Wholesale Market is the source of the virus. The co-authors, including experts from Wuhan's leading infectious disease hospital, report that among the first 41 patients identified in Wuhan, the first patient to show symptoms, on December 1, 2019, had no exposure to the market. Two of the next three patients to show symptoms, all on December 10, also had no exposure to the market.	Lancet	Chaolin Huang, Yeming Wang, Jingming Li, et al., "Clinical Features of Patients Infected with 2019 Novel Coronavirus in Wuhan, China," The Lancet, January 24, 2020, <a href="https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30183-5/fulltext">https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30183-5/fulltext</a> .
12/10/2019	History of lab outbreaks	On 10 December, the health commission for the province of Heilongjiang confirmed that 13 students at the Harbin Veterinary Research Institute, around 2,600 kilometres to the northeast of Lanzhou, also had the infection. The 13 students were among 47 students who had previously worked as interns at the Lanzhou institute. The Harbin institute says it is also investigating the outbreak.	Nature	<a href="https://www.nature.com/articles/d41586-019-03863-z">https://www.nature.com/articles/d41586-019-03863-z</a>
12/10/2019	Delayed admitting human to human transfer	Surprisingly the earliest genomic cluster has been identified as four patients associated with the People's Liberation Army (PLA) Central Theater Command Hospital in the Wuchang District of Wuhan. The ENA archive file creation date (stamped by the ENA server as the EID) for these four patients' specimens was on December 10, 2019, which is over two weeks before the specimens were actually collected. At this early date, according to Chinese authorities, there were only four reported cases anywhere in China. A random selection of other COVID-19 patient ENA files shows no examples of a file creation date before a sample collection date. One conclusion from this observation is that the specimens were actually collected before December 10th. The minimal base substitutions within this cluster mimics the substitutions seen in known family clusters and is consistent with direct transmission among them. This cluster contains both the first Clade A virus, which shares B6782 and C28344 with the three bat coronaviruses, RaTG13, Bat-SL-CoVZC45, and Bat-SL-CoVZXC21. The current Reference Sequence, in fact, is a Clade B virus and differs at these two variants.	SCRIBD	<a href="https://www.scribd.com/document/482094555/Covid-Pandemic-Began-at-PLA-Hospital-in-Wuhan">scribd.com/document/482094555/Covid-Pandemic-Began-at-PLA-Hospital-in-Wuhan</a>
12/10/2019	Promoting false sense of security	Wei Guixian, one of the earliest known coronavirus patients, starts feeling ill	Wall Street Journal	<a href="https://archive.vn/Ha72">https://archive.vn/Ha72</a>   <a href="https://www.wsj.com/articles/how-it-all-started-chinas-early-coronavirus-mistake-11583508932">https://www.wsj.com/articles/how-it-all-started-chinas-early-coronavirus-mistake-11583508932</a>
12/11/2019	Collecting, handling, storing potentially lethal pathogens	Two WIV affiliated scientists (SHE Zhengli and CHEN Jing), along with numerous U.S. based scientists published a study that "investigated how a neutralizing monoclonal antibody (mAb), which targets the receptor-binding domain (RBD) of Middle East respiratory syndrome (MERS) coronavirus spike, mediates viral entry and biochemical assays. Our study reveals a novel molecular mechanism for antibody-enhanced viral entry and can guide future vaccination and antiviral strategies."	American Society of Microbiology, Journal of Virology	<a href="https://jvi.asm.org/content/94/5/e02015-19">https://jvi.asm.org/content/94/5/e02015-19</a>
12/14/2019	Poor safety practices	A 14 December 2019 The Paper/Guangdong Communist Youth League Article describes TIAN Junhua as a "VetUr Biological Control Technician at the WHCDC. The paper notes that "bat excrement [often containing] large amounts of unknown virus [fell] on TIAN Junhua's body like rain." The article notes that TIAN's team "identified the Jingmen and Huangpi viruses	The Paper	<a href="https://archive.is/Piajt">https://archive.is/Piajt</a>
12/15/2019		In mid-December last year, Huanan vendor Jiang Da's started noting people were falling ill. Among the first was a part-time worker in his 60s who helped clean carcasses at a stall; soon, a friend he played chess with also fell ill. A third, a seafood monger in his 40s, was infected and later died. Patients began trickling into nearby hospitals, triggering alarms by late December that alerted the China CDC. CDC chief Gao Fu immediately sent a team to investigate.	AP	<a href="https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24f0dc58cee3a40bca2dd7a14d2955">https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24f0dc58cee3a40bca2dd7a14d2955</a>
12/16/2019	Promoting false sense of security	Patient admitted to Wuhan Central Hospital with infection in both lungs but resistant to anti-flu drugs. Staff later learned he worked at a wildlife market connected to the outbreak.	Wall Street Journal	<a href="https://archive.vn/Ha72">https://archive.vn/Ha72</a>   <a href="https://www.wsj.com/articles/how-it-all-started-chinas-early-coronavirus-mistake-11583508932">https://www.wsj.com/articles/how-it-all-started-chinas-early-coronavirus-mistake-11583508932</a>
12/17/2019	History of lab outbreaks Poor safety practices	Two Chinese agriculture research institutions are investigating how more than 200 students and staff became infected with the bacterium Brucella, strains of which are typically found in farm animals but can also trigger potentially fatal complications in people... The Beijing News also reported that students at the institute often forgo wearing masks and taking other precautions. The research institutes in Harbin and Lanzhou did not respond to Nature's questions about how the outbreak occurred, or their lab's safety procedures.	Nature	<a href="https://www.nature.com/articles/d41586-019-03863-z">https://www.nature.com/articles/d41586-019-03863-z</a>
12/18/2019		Sewage samples taken in Milan and Turin in 18 DEC 2019 showed the presence of SARS-CoV-2 virus	Reuters	<a href="https://www.reuters.com/article/us-health-coronavirus-italy-sewage/italy-sewage-study-suggests-covid-19-was-there-in-december-2019-idUSKBN23Q1J9">https://www.reuters.com/article/us-health-coronavirus-italy-sewage/italy-sewage-study-suggests-covid-19-was-there-in-december-2019-idUSKBN23Q1J9</a>
12/20/2019	Limited, misleading, delayed reporting	Patient admitted to Wuhan Central Hospital on 26 DEC 2019 "six days after the onset of symptoms," indicating he first became symptomatic on 20 DEC 2019.	ScienceDirect	<a href="https://www.sciencedirect.com/science/article/pii/S0092867420303287">https://www.sciencedirect.com/science/article/pii/S0092867420303287</a>
12/21/2019	Promoting false sense of security	Four lower respiratory tract samples, including bronchoalveolar-lavage fluid, were collected from patients with pneumonia of unknown cause who were identified in Wuhan on December 21, 2019, or later and who had been present at the Huanan Seafood Market close to the time of their clinical presentation.	New England Journal of Medicine	<a href="https://www.nejm.org/doi/10.1056/NEJMoa2001017">https://www.nejm.org/doi/10.1056/NEJMoa2001017</a>
12/24/2019	Limited, misleading, delayed reporting	Doctors at Wuhan Central Hospital take fluid samples from the lungs of a 65-year-old patient with pneumonia and send them to Vision Medicals, a genomics company in Guangzhou, Guangdong Province, for testing	Cbsun	Gao Yu, Peng Yanfeng, Yang Rui, et al., "In Depth: How Early Signs of a SARS-Like Virus Were Spotted, Spread, and Throttled," Cbsun Global, February 29, 2020, <a href="https://www.cbsunglobal.com/2020-02-29/in-depth-how-early-signs-of-a-sars-like-virus-were-spotted-spread-and-throttled-301521745.html">https://www.cbsunglobal.com/2020-02-29/in-depth-how-early-signs-of-a-sars-like-virus-were-spotted-spread-and-throttled-301521745.html</a> . Li-U Ren, Wang Ye-Ming, Wu Zhu-Qiang, et al., "Identification of a Novel Coronavirus Causing Severe Pneumonia in Human: A Descriptive Study," February 11, 2020, <a href="https://journals.lww.com/cmj/Abstract/202002000/Identification_of_a_novel_coronavirus_causing_99423.aspx">https://journals.lww.com/cmj/Abstract/202002000/Identification_of_a_novel_coronavirus_causing_99423.aspx</a> .
12/24/2019	Collecting, handling, storing potentially lethal pathogens	WIV advertises to postdoctoral candidates for research on "bat virus cross-species infection and its pathogenicity"	W V Website	<a href="http://www.whov.cas.cn/105341/201912/20191224_5471634.html">http://www.whov.cas.cn/105341/201912/20191224_5471634.html</a> (archived)



<p>12/29/2019</p>	<p>Limited, misleading, delayed reporting</p>	<p>The Hubei Provincial Hospital of Integrated Chinese and Western Medicine has identified additional cases of pneumonia of unknown cause. Other hospitals in Wuhan are reporting similar cases. Wuhan Municipal CDC organizes an expert team to investigate.</p>	<p>Xinhua, CDD                  "Xinhua Headlines, Chinese Doctor Recalls First Encounter with Mysterious Virus," April 16, 2020, <a href="http://www.xinhuanet.com/english/2020-04/16/c_138982435.htm">http://www.xinhuanet.com/english/2020-04/16/c_138982435.htm</a>; "关于新型冠状病毒感染的肺炎流行病学调查的通报" ["Bulletin on the Investigation into Issues Related to Dr. Li Wenliang Raised by the Masses"], Xinhua, March 19, 2020, <a href="http://www.ccdi.gov.cn/outiao/202003/20200319_213860.html">http://www.ccdi.gov.cn/outiao/202003/20200319_213860.html</a>; Zunyue Wu and Jennifer McGoogan, "Characteristics of and Important Lessons from the Coronavirus Disease 2019 (COVID-19) Outbreak in China: Summary of a Report of 72 334 Cases from the Chinese Center for Disease Control and Prevention," <i>Journal of the American Medical Association</i>, February 24, 2020.</p>
<p>12/30/2019</p>	<p>Censorship of health information</p>	<p>Wuhan doctor Li Wenliang also shares information on WeChat about the new SARS like virus. He is called in for questioning shortly afterward.</p>	<p>Axis  <a href="https://archive.vr/Bpivq">https://archive.vr/Bpivq</a>   <a href="https://www.axis.com/timeline-the-early-days-of-chinas-coronavirus-outbreak-and-cover-up-er62211a-af6-4G41-97b8-353718a5faab.html">https://www.axis.com/timeline-the-early-days-of-chinas-coronavirus-outbreak-and-cover-up-er62211a-af6-4G41-97b8-353718a5faab.html</a></p>
<p>12/30/2019</p>	<p>Limited, misleading, delayed reporting</p>	<p>"At around 17:30 on December 30, 2019, Dr. Li Wenliang received a message from his colleague. At 17:43, Dr. Li Wenliang forwarded it to the WeChat group "Wuhan University Clinical Level 04" under the nickname of "Li Wenliang Wuhan Ophthalmology". Published text messages such as "7 cases of SARS confirmed in the South China Fruit and Seafood Market", "Isolated in the emergency department of our hospital's Hubei District" and a clinical copy with the words "SARS coronavirus detected -high confidence-positive indicators" pathogen screening result picture, a 11-second lung CT video. At 18:42, "The latest news is that the coronavirus infection has been confirmed, and virus typing is in progress." "Don't spread it outside, let your family and relatives take precautions." At the same time, similar information also appeared in other WeChat groups. The two departmental documents of the Wuhan Municipal Health Commission that were uploaded to the Internet, and the information forwarded and released by Dr. Li Wenliang and others have aroused concern and discussion."</p>	<p>CCTV  <a href="http://m.news.cctv.com/2020/03/19/ARTI0E6z5wKzeVnly8gTM200339.shtml">http://m.news.cctv.com/2020/03/19/ARTI0E6z5wKzeVnly8gTM200339.shtml</a>   <a href="https://archive.vr/EV0e5">https://archive.vr/EV0e5</a></p>
<p>12/30/2019</p>	<p>Limited, misleading, delayed reporting</p>	<p>"Taking into account the discovery of similar cases in many hospitals in the city, the Wuhan Municipal Health Commission issued a departmental document "Emergency Notice on Reporting the Treatment of Unexplained Pneumonia" at 15:10 and 18:50 on December 30th. The "Emergency Notice on Doing a Good Job in the Treatment of Pneumonia of Unexplained Cause" requires that the treatment of pneumonia of unknown cause be done well, and a comprehensive search and retrospective investigation of pneumonia cases related to the South China Seafood Market should be carried out. The two notices were uploaded to the Internet at 15:22 and 19:00 respectively."</p>	<p>CCTV  <a href="http://m.news.cctv.com/2020/03/19/ARTI0E6z5wKzeVnly8gTM200339.shtml">http://m.news.cctv.com/2020/03/19/ARTI0E6z5wKzeVnly8gTM200339.shtml</a>   <a href="https://archive.vr/EV0e5">https://archive.vr/EV0e5</a></p>
<p>12/30/2019</p>	<p>Did not adhere to IHR 6 Limited, misleading, delayed reporting</p>	<p>"It appears China may not have proactively notified WHO of the outbreak, as required by Article 6.1 of IHR (2005). According to Dr. Michael Ryan, Executive Director of WHO's Health Emergencies Programme, WHO headquarters in Geneva first learned about the outbreak in Wuhan not directly from Chinese authorities, but rather from the Program for Monitoring Emerging Diseases (ProMED), a U.S.-based open-source platform for early intelligence about infectious disease outbreaks."</p>	<p>CRS                  #6354 "COVID-19 and China: A Chronology of Events (December 2019-January 2020)" Updated May 13, 2020, Congressional Research Service, <a href="https://crsreports.congress.gov">https://crsreports.congress.gov</a></p>
<p>12/30/2019</p>	<p>Did not adhere to IHR 6 Limited, misleading, delayed reporting</p>	<p>At 11:59 p.m. Eastern Standard Time (EST), a ProMED user posted a machine translation of a Chinese-language report about the outbreak from a news organization, Yicai, the financial news arm of China's state-owned Shanghai Media Group. Yicai had published its report online just under three hours earlier. It detailed the contents of two Wuhan Municipal Health Commission "urgent notices" about atypical pneumonia cases, which the commission had sent the day before to medical institutions in Wuhan, and which internet users in Wuhan had leaked online within minutes.</p>	<p>ProMED                  "International Society for Infectious Diseases ProMED, "Undiagnosed Pneumonia - China (Hubei): Request for information," 23:59:00, December 30, 2019, <a href="https://promedmail.org/promed-post/?id=6864153">https://promedmail.org/promed-post/?id=6864153</a>, Steven Aftergood, "Secrecy News: COV D-1D Highlights need for Public Intelligence," <i>Federation of American Scientists</i>, April 23, <a href="https://fas.org/blogs/secrecy/2020/04/covid19-intelligence/">https://fas.org/blogs/secrecy/2020/04/covid19-intelligence/</a> A program of the Brookline, MA-based International Society for Infectious Diseases, ProMED describes itself as "the largest publicly available system conducting global reporting of infectious diseases outbreaks." "独家:武汉不明肺炎病例:确诊病例与未确诊病例" ["Exclusive: Wuhan Has Already Solved 'Cases of' Pneumonia of Unknown Cause; I Will Publicly Announce Test Results as Soon as Possible"], Yicai, 10:16 a.m., December 31, 2019, <a href="https://www.yicai.com/news/100451932.html">https://www.yicai.com/news/100451932.html</a></p>
<p>12/30/2019</p>	<p>Did not adhere to IHR 6 Limited, misleading, delayed reporting</p>	<p>Another document from Wuhan that circulated widely online overnight on December 30-31—a photograph of a patient lab report showing a positive result for SARS, with the SARS finding circled in red—alerted Chinese news organizations to the possible significance of the "urgent notices." The head of emergency medicine at Wuhan Central Hospital, Dr. Ai Fen, had shared the image online with a former classmate and a group of colleagues in the time between the issuance of the two Wuhan Municipal Health Commission "urgent notices" on December 30.</p>	<p>Renwu                  Gong Jingqi, "英雄的人" ["The Person Who Handed Out the Whistle"], <i>Renwu (People)</i>, March 10, 2020, <a href="https://tinyurl.com/sggfhq8">https://tinyurl.com/sggfhq8</a></p>
<p>12/30/2019</p>	<p></p>	<p>About 12 p.m. CST, Dr. Ai Fen, head of the emergency department at Wuhan Central Hospital, receives a WeChat message from a former classmate at another hospital, Tongji Hospital, asking about a message circulating online: "Don't go to Huanan [Market]. A lot of people there have fevers..." Dr. Ai sees the message from her classmate while she is reviewing a computed tomography (CT) scan of an infected patient's lungs. She records an 11-second clip of the CT scan and sends it to him.</p>	<p>Renwu                  Gong Jingqi, "英雄的人" ["The Person Who Handed Out the Whistle"], <i>Renwu (People)</i>, March 10, 2020, <a href="https://tinyurl.com/sggfhq8">https://tinyurl.com/sggfhq8</a></p>
<p>12/30/2019</p>	<p></p>	<p>About 4 p.m. CST, Dr. Ai Fen reads Capital Bio's laboratory report on the patient admitted on December 27, which states that his sample has tested positive for Severe Acute Respiratory Disease (SARS). (The finding is later determined to be erroneous. The patient was infected with the novel coronavirus, later named SARS-CoV-2.) Dr. Ai telephones the hospital's public health department and its infectious disease department to report the finding and tells the director of the respiratory disease department in person. Then she draws a red line around the "SARS" finding and shares an image of the report online with her classmate at Tongji Hospital, as well as with a group of colleagues. She will later say she does so "to remind everyone to pay attention to protecting themselves."</p>	<p>Renwu                  Gong Jingqi, "英雄的人" ["The Person Who Handed Out the Whistle"], <i>Renwu (People)</i>, March 10, 2020, <a href="https://tinyurl.com/sggfhq8">https://tinyurl.com/sggfhq8</a></p>
<p>12/30/2019</p>	<p>Collecting, handling, storing potentially lethal pathogens</p>	<p>She Zhengli called by WIV director telling her novel coronavirus had been detected in two hospital patients with atypical pneumonia. Her studies had shown that the southern, subtropical areas of Guangdong, Guangxi and Yunnan have the greatest risk of zoonotic viruses jumping to humans from animals—particularly bats, a known reservoir for many viruses. If coronaviruses were the culprit, she remembers thinking, "could they have come from our lab?"</p>	<p>Scientific America  <a href="https://www.scientificamerican.com/article/how-chinas-bat-worm-hunted-down-virus-from-sars-to-the-new-coronavirus/">https://www.scientificamerican.com/article/how-chinas-bat-worm-hunted-down-virus-from-sars-to-the-new-coronavirus/</a></p>
<p>12/30/2019</p>	<p>Dangerous GOF research</p>	<p>Wuhan Institute of Virology researcher Shi Zhengli (known as "bat-woman" for her research) is called by the Institute's director and summoned back to Wuhan from a conference in Shanghai to study samples of the novel coronavirus. "Could they have come from our lab?" Shi feared.</p>	<p>Scientific American                  Jane Qiu, "How's China's 'Bat Woman' Hunted Down Viruses from SARS to the New Coronavirus," <i>Scientific American</i>, March 11, 2020.</p>

12/30/2019	History of lab outbreaks Poor safety practices	Bell NG—The mysterious patient samples arrived at Wuhan Institute of Virology at 2 P.M. on December 30, 2019. Moments later, Shi Zhengli's cell phone rang. It was her boss, the institute's director. The Wuhan Center for Disease Control and Prevention had detected a novel coronavirus in two hospital patients with atypical pneumonia, and it wanted Shi's renowned laboratory to investigate. Shi...walked out of the conference she was attending in Shanghai and hopped on the next train back to Wuhan. "I wondered if [the municipal health authority] got it wrong," she says. "I had never expected this kind of thing to happen in Wuhan, in central China." Her studies had shown that the southern, subtropical areas of Guangdong, Guangxi and Yunnan have the greatest risk of zoonotic viruses jumping to humans from animals—particularly bats, a known reservoir for many viruses. If corona viruses were the culprit, she remembers thinking, "could they have come from our lab?"	Scientific American	scientificamerican.com/article/how-chinas-bat-woman-hunted-down-viruses-from-sars-to-the-new-coronavirus
12/30/2019	Censorship of health information	Wuhan doctor Li Wenliang also shares information about the virus on WeChat, including a photo of lab results initially shared by Ai Fen.	The Guardian	Jily Kuo, "Coronavirus: Wuhan doctor speaks out against authorities," The Guardian, March 11, 2020.
12/30/2019	Delayed admitting human to human transfer	Ai Fen, a senior doctor at Wuhan Central Hospital, posts information on WeChat about the new virus and is reprimanded by superiors. As subsequently instructs her staff to wear protective clothing and masks, despite official instructions not to. "I knew there must be human-to-human transmission," she said in a later interview.	The Guardian	Jily Kuo, "Coronavirus: Wuhan doctor speaks out against authorities," The Guardian, March 11, 2020
12/30/2019	Censorship of health information	Ai Fen, a top doctor at Wuhan Central Hospital, posts information on WeChat about the new virus. She was reprimanded for doing so and told not to spread information about it. Wuhan doctor Li Wenliang also shares information on WeChat about the new SARS-like virus. He is called in for questioning shortly afterward.	The Guardian	www.theguardian.com/world/2020/mar/11/coronavirus-wuhan-doctor-ai-fen-speaks-out-against-authorities
12/30/2019	Limited, misleading, delayed reporting	Wuhan health commission notifies hospitals of a "pneumonia of unclear cause" and orders them to report any related information.	Washington Post	https://www.washingtonpost.com/world/2020/02/01/early-misteps-state-secrecy-china-likely-allowed-coronavirus-spread-farther-faster/
12/30/2019		5:43 p.m. CST: Wuhan Central Hospital ophthalmologist Li Wenliang sends a message to a group of his medical school classmates on the WeChat social media platform, reporting, "7 confirmed SARS cases from the Huanan Fruit and Seafood Market." Dr. Li does not personally know Dr. Ai Fen, but he sends an image of the laboratory report Dr. Ai shared with her associates less than two hours earlier. He also sends the 11-second lung CT scan of a patient's lungs that Dr. Ai shared with her classmate at noon	Xinhua	"武汉中心医院眼科副主任医师李文亮医生在微信群内通报" ("Bulletin on the Investigation into Issues Related to Dr. Li Wenliang Raised by the Masses"), Xinhua, March 19, 2020, http://www.ccdi.gov.cn/toutiao/202003/02200319_213880.html, Gong Jingai, "毛哨了的人" ("The Person Who Handed Out the Whistle"), Renwu (People), March 10, 2020, https://newsurl.com/ssgthq8."
12/30/2019		6:50 p.m. CST: The Wuhan Municipal Health Commission issues a "urgent notice" to medical institutions, instructing them on how to manage patients with pneumonia of unknown cause and ordering them to track such cases and report them in a timely fashion to district CDCs and the Wuhan Municipal Health Commission. A later investigation by China's State Supervisory Commission will reveal that someone leaks the notice online within 10 minutes of its being issued.	Xinhua, CCDI	"Wuhan Municipal Health Commission," "武汉市卫健委发布紧急通知" ("Urgent Notice Regarding Doing Work on Pneumonia of Unknown Cause"), December 30, 2019, "武汉市卫健委发布紧急通知" ("Urgent Notice Regarding Doing Work on Pneumonia of Unknown Cause"), Xinhua, March 19, 2020, http://www.ccdi.gov.cn/toutiao/202003/120200319_213880.html."
12/30/2019	Limited, misleading, delayed reporting	3:10 p.m. (CST): The Wuhan Municipal Health Commission issues an "urgent notice" intended only for medical institutions in Wuhan. It states that cases of pneumonia of unknown cause have emerged from the city's Huanan Seafood Wholesale Market. It orders hospitals to compile statistics on all such cases admitted in the previous week and report them by email to the Health Commission by 4 p.m. A later investigation by the National State Supervisory Commission, an agency tasked with investigating graft and malfeasance among public servants, will reveal that someone leaks the notice online within 12 minutes of its being issued	Xinhua, CCDI, Beijing News	"Wuhan Municipal Health Commission," "武汉市卫健委发布紧急通知" ("Municipal Health Commission Urgent Notice on Reporting Treatment of Pneumonia of Unknown Cause"), December 30, 2019, reproduced in Beijing News, http://www.bjnews.com.cn/news/2019/12/31/669421.html, "武汉市卫健委发布紧急通知" ("Urgent Notice Regarding Doing Work on Pneumonia of Unknown Cause"), Xinhua, March 19, 2020, http://www.ccdi.gov.cn/toutiao/202003/02200319_213880.html."
12/31/2019	Limited, misleading, delayed reporting	A WHO report written in July [2020] but published in November said Chinese authorities had identified 124 cases in December 2019, including five cases outside Wuhan. Among WHO's aims for its upcoming visit to China are reviews of hospital records before December	AP	https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-un-ep-bats-241badc58ee3a40ca2d6f7a14d2955
12/31/2019		Wuhan health officials confirm 27 cases of illness and close a market they think is related to the virus' spread.	Axios	https://archive.vn/Bpnyq   https://www.axios.com/time-to-the-early-days-of-chinas-coronavirus-outbreak-and-cover-up-e65211a-af66-4643-97b8-353718a5faab.html
12/31/2019	Censorship of health information	"After Dr. Li Wenliang's messages in the WeChat group were reposted on the Internet in large numbers, on the morning of December 31, 2019, relevant leaders of Wuhan Central Hospital had a conversation with Dr. Li Wenliang. During the conversation, Dr. Li Wenliang stated that he forwarded unverified SARS and other information to the group of students, with the purpose of reminding the students in the group to take precautions. The hospital asked Dr. Li Wenliang to write an understanding material."	CCTV	http://m.news.cctv.com/2020/03/19/ARTI1E06u2SwKzeVnNlyBgTM200319.shtml   https://archive.vn/EY0e5
12/31/2019	Delayed admitting human to human transfer	"At 13:38 on December 31, 2019, the Wuhan Municipal Health Commission issued a "Notice on the Current Situation of Pneumonia in Our City", stating that "27 cases have been found" and "the above cases are viral pneumonia", and said "The investigation so far has not found obvious human-to-human transmission, and no medical staff infection has been found." Many media have reported on this. In accordance with Wuhan's work arrangements for the prevention and control of pneumonia of unknown causes, the public security organs of Wuhan City, in accordance with laws and regulations on the prevention and control of infectious diseases and public security management, as well as notifications from the Municipal Health Commission, will forward and publish SARS and other infectious disease information that appears on the Internet."	CCTV	http://m.news.cctv.com/2020/03/19/ARTI1E06u2SwKzeVnNlyBgTM200319.shtml   https://archive.vn/EY0e5
12/31/2019		Doctors at Wuhan's Jinyintan Hospital request that the Wuhan Institute of Virology under the Chinese Academy of Sciences conduct whole genome sequencing on samples from six patients	China.org	"Chinese Researchers Race Against Coronavirus," China.org, April 20, 2020, http://www.china.org.cn/china/202004/20/content_7595343.htm.
12/31/2019	Censorship of health information	Chinese internet authorities begin censoring terms from social media such: Wuhan Unknown Pneumonia, SARS Variant, Wuhan Seafood Market, and keywords critical of the government's handling of the infection.	Citizen Lab	Lotus Ruan et al., "Censored Contagion: How Information on the Coronavirus is Managed on Chinese Social Media," Citizen Lab, March 3, 2020.
12/31/2019	Limited, misleading, delayed reporting	Speaking at a WHO press conference on April 29, 2020, Ryan said as soon as WHO headquarters learned about the outbreak, Huo Piumin on December 31, tasked the WHO China Country Office to request "verification of the event" from the government of China under HR (2005). Ryan noted, "member states are required to respond within 24 to 48 hours of any request from the WHO for clarification or verification of an event or a signal that we believe may be significant." 26 (HR (2005) stipulates 24 hours, not 48.)	CRS	Remarks by Michael Ryan, Executive Director of the WHO Health Emergencies Programme, at "COVID-19 Virtual Press Conference," April 29, 2020, https://www.who.int/docs/default-source/coronavirus/situation-reports/20200429-who-29-apr-2020-press-conference-20apr2020.pdf
12/31/2019	Delayed admitting human to human transfer	Officials in Taiwan report to the World Health Organization (WHO) that "news resources today indicate that at least seven atypical pneumonia cases were reported in Wuhan, China. Their health authorities replied to the media that the cases were believed not SARS, however the samples are still under examination, and cases have been isolated for treatment," signaling human-to-human transmission. But Taiwan's information is not published on the WHO platform for data-exchange among 196 countries. Taiwan officials also alert PRC authorities.	Financial Times	"15. Vandana Ramanan, "Taiwan releases December email to WHO warning about unheeded warning about coronavirus," FoxNews, April 11, 2020, 16. "Taiwan says WHO failed to act on coronavirus transmission warning," Financial Times, March 19, 2020."
12/31/2019	Did not adhere to HR 6 Limited, misleading, delayed reporting	Taiwan's Centers for Disease Control sends an email to WHO. It reads, "News resources today indicate that at least seven atypical pneumonia cases were reported in Wuhan, CHINA. Their health authorities replied to the media that the cases were believed not SARS, however the samples are still under examination, and cases have been isolated for treatment. We would greatly appreciate if you have relevant information to share with us."	Min Health, ROC	Tweet from Ministry of Health and Welfare, Republic of China (Taiwan) (MHW of Taiwan), April 11, 2020, https://twitter.com/MOH_W_Taiwan/status/1248915057188024320



12/31/2019	Promoting false sense of security	Chinese officials alert the World Health Organization (WHO) China Country Office of several cases of pneumonia of unknown cause detected in Wuhan, claiming erroneously that "the disease is preventable and controllable."	NYT	"Gao Yu et al., "In Depth: How Early Signs of a SARS-Like Virus Were Spotted, Spread, and Throttled," <i>Calisto Global</i> , February 29, 2020. Jin Wu et al., "How the Virus Got Out," <i>The New York Times</i> , March 22, 2020."
12/31/2019	Delayed admitting human to human transfer	The 27 pneumonia cases in Wuhan have been identified as viral pneumonia, according to the Wuhan Municipal Health Commission. The patients, including seven in serious condition, reported symptoms including fever and difficulty breathing. All the patients have been put in quarantined treatment.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/_78021.htm">http://en.nhc.gov.cn/2020-03/20/_78021.htm</a>
12/31/2019	Limited, misleading, delayed reporting	11:59 p.m. EST (December 30)/5:59 a.m. CET (Geneva)/12:59 p.m. CST]. A user of the U.S. based listserve program for Monitoring Emerging Diseases or ProMED posts a machine translation of Yicai's article	ProMED, FAS	"International Society for Infectious Diseases ProMED, "Undiagnosed Pneumonia—China (Hubei): Request for Information," 23:59:00, December 30, 2019, <a href="https://promedmail.org/promed-post/?id=6854153">https://promedmail.org/promed-post/?id=6854153</a> , Steven Aftergood, "Secrecy News: COVID-19 Highlights Need for Public Intelligence," <i>Federation of American Scientists</i> , April 23, <a href="https://fas.org/blogs/secrecy/2020/04/covid19-intelligence/">https://fas.org/blogs/secrecy/2020/04/covid19-intelligence/</a> A program of the Brookline, MA-based International Society for Infectious Diseases, ProMED describes itself as "the largest publicly-available system conducting global reporting of infectious diseases outbreaks""
12/31/2019	Delayed admitting human to human transmission	Taiwan's Central Epidemic Command Center later notes, "To be prudent, in the email we took pains to refer to atypical pneumonia, and specifically noted that patients had been isolated for treatment. Public health professionals could discern from this wording that there was a real possibility of human-to-human transmission of the disease.	Taiwan Central Epidemic Control Center	Taiwan Central Epidemic Command Center, "The Facts Regarding Taiwan's Email to Alert WHO to Possible Danger of COVID-19," April 11, 2020, <a href="http://at.cdc.tw/23-q82">http://at.cdc.tw/23-q82</a>
12/31/2019	Limited, misleading, delayed reporting	China tells the World Health Organization's China office about the cases of an unknown illness, 14 days after Wuhan officials were told	Washington Post	<a href="https://www.washingtonpost.com/world/2020/02/01/early-mistake-state-secrecy-china-likely-allowed-coronavirus-spread-farther-faster/">washingtonpost.com/world/2020/02/01/early-mistake-state-secrecy-china-likely-allowed-coronavirus-spread-farther-faster/</a>
12/31/2019	Limited, misleading, delayed reporting	Article 6 of the International Health Regulations (IHR) (2005), an international agreement to which China, the United States, and 114 other countries are parties, outlines State Parties' obligations, including 1. Each State Party shall assess events occurring within its territory... Each State Party shall notify WHO, by the most efficient means of communication available, by way of the National IHR Focal Point, and within 24 hours of assessment of public health information, of all events which may constitute a public health emergency of international concern within its territory... Following a notification, a State Party shall continue to communicate to WHO timely, accurate and sufficiently detailed public health information available to it on the notified event, where possible including case definitions, laboratory results, source and type of the risk, number of cases and deaths, conditions affecting the spread of the disease and the health measures employed, and report, when necessary, the difficulties faced and support needed in responding to the potential public health emergency of international concern	WHO	World Health Organization, <i>International Health Regulations (2005)</i> , Third Edition, 2016, <a href="https://www.who.int/hr/publications/9789241580496/en/">https://www.who.int/hr/publications/9789241580496/en/</a>
12/31/2019	Did not adhere to IHR 6 Limited, misleading, delayed reporting	World Health Organization (WHO) headquarters in Geneva learns of "a cluster of pneumonia cases in China" from the ProMED platform (See "United States (Brookline, MA)   WHO headquarters requests that the WHO China Country Office follow up with Chinese authorities	WHO	Remarks by Michael Ryan, Executive Director of the WHO Health Emergencies Programme, at "COVID-19 Virtual Press Conference," April 20, 2020, <a href="https://www.who.int/docs/default-source/coronavirus/transcripts/who-audio-emergencies-coronavirus-press-conference-20apr2020.pdf">https://www.who.int/docs/default-source/coronavirus/transcripts/who-audio-emergencies-coronavirus-press-conference-20apr2020.pdf</a>
12/31/2019	Limited, misleading, delayed reporting	1:38 p.m. CST: The Wuhan Municipal Health Commission posts on its website its first public statement on the outbreak. It states that some medical institutions in the city have treated cases of pneumonia linked to the city's Huanan Seafood Wholesale Market. The commission says it asked medical institutions to search for cases related to the market and do retrospective investigations, and they identified 27 cases, including seven cases in which patients are seriously ill. The commission notes that hygiene investigation and environmental sanitation measures at the market are underway	Wuhan Health Commission	Wuhan Municipal Health Commission, "武汉市卫生健康委员会通报新型冠状病毒感染的肺炎疫情" ("Wuhan Municipal Health Commission Bulletin on Our City's Current Pneumonia Epidemic Situation"), 1:38 pm, December 31, 2020, <a href="http://www.wuhan.gov.cn/toutiao/web5/showDetail/2019123108589">http://www.wuhan.gov.cn/toutiao/web5/showDetail/2019123108589</a>
12/31/2019		The Wuhan Municipal Health Commission alerts China's National Health Commission and China CDC in Beijing to the cases. The National Health Commission dispatches a working group and the first of several expert teams to Wuhan	Xinhua, JAMA	"Zhenyou Wu and Jennifer McGoogan, "Characteristics of and Important Lessons from the Coronavirus Disease 2019 (COVID-19) Outbreak in China: Summary of a Report of 72 314 Cases from the Chinese Center for Disease Control and Prevention," <i>Journal of the American Medical Association</i> , February 24, 2020. "Timeline of China Releasing Information on COVID-19 and Advancing International Cooperation on Epidemic Response," <i>Xinhua</i> , April 6, 2020, <a href="http://www.xinhuanet.com/english/2020-04/06/c_138951662.htm">http://www.xinhuanet.com/english/2020-04/06/c_138951662.htm</a> ."
12/31/2019	Limited, misleading, delayed reporting	Morning CST: Several Chinese media outlets confirm the authenticity of the Wuhan Health Commission's "urgent notices" of the day before, which spread rapidly across social media overnight. Yicai (also known as China Business News), the financial news arm of state-owned Shanghai Media Group, confirms the notices are genuine by calling the Wuhan Municipal Health Commission's hotline number. Yicai publishes a story on the outbreak in Wuhan online at 10:16 a.m. CST. Another Chinese news organization, Xin Jing Bao, confirms the authenticity of the documents with Wuhan CDC, and publishes its own story 37 minutes later	Yicai, Beijing News	"Exclusive: Wuhan Has Already Isolated Cases of Pneumonia of Unknown Cause: It Will Publicly Announce Test Results as Soon as Possible", Yicai, 10:16 a.m., December 31, 2019, <a href="https://www.yicai.com/news/100451932.html">https://www.yicai.com/news/100451932.html</a> , Xu Wen, "In 2015, Chinese E-Commerce Giant Alibaba Bought a 30% Stake in Yicai," <a href="https://www.yicai.com/about">https://www.yicai.com/about</a> , accessed April 30, 2020. "武汉卫健委：武汉市新型冠状病毒感染的肺炎病例正在下降" ("Wuhan CDC Confirms: Cases of Pneumonia of Unknown Cause Have Emerged There: The Number of Cases Is Being Tallied"), <i>Xin Jing Bao [Beijing News]</i> , 10:53 a.m., December 31, 2019, <a href="http://www.bjnews.com.cn/news/2019/12/31/668430.html">http://www.bjnews.com.cn/news/2019/12/31/668430.html</a> ."
12/31/2019	Limited, misleading, delayed reporting	Another Wuhan Central Hospital doctor, Li Wenliang, had shared the image with a group of his former classmates in a private online WeChat group a few hours later. 23 (Dr. Li would later be reprimanded by Wuhan authorities for his social media posts, celebrated by the Chinese public as a whistleblower, and fall victim to COVID-19. He died on February 7, 2020, at the age of 33-24)	CCDI, Weibo	Li Wenliang Weibo post, January 31, 2020, <a href="https://www.weibo.com/1139068205/100505113909205_profile?wvr=66&amp;mod=weibotime&amp;type=comment#_rnd1586710354267">https://www.weibo.com/1139068205/100505113909205_profile?wvr=66&amp;mod=weibotime&amp;type=comment#_rnd1586710354267</a> "武汉肺炎病例通报及治疗情况" ("Bulletin on the Investigation Issues Related to Dr. Li Wenliang Raised by the Masses"), <i>Xinhua</i> , March 19, 2020, <a href="http://www.ccdi.gov.cn/toutiao/202003/20200319_213880.html">http://www.ccdi.gov.cn/toutiao/202003/20200319_213880.html</a> , 24 "The Man Who Knew: Li Wenliang Died on February 7th," <i>The Economist</i> , <a href="https://www.economist.com/obituary/2020/02/13/li-wenliang-died-on-february-7th">https://www.economist.com/obituary/2020/02/13/li-wenliang-died-on-february-7th</a>
1/1/2020	Evidence gone Behind the scenes, lab origin thought to be most likely	Overnight on Jan. 1, the market suddenly was ordered shut, barring vendors from fetching their belongings. Jiang said China CDC researchers collected 585 environmental samples from door handles, sewage and the floor of the market, and authorities sprayed the complex down with sanitizer. Later, they would cut out everything inside and incinerate it.	AP	<a href="https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-un-panels-24bd6c8c6e3a0bca28df7a14d2955">https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-un-panels-24bd6c8c6e3a0bca28df7a14d2955</a>
1/2/2020	Limited, misleading, delayed reporting	Also on Dec. 31, WHO first learned about the cases from an open-source platform that scoots for intelligence on outbreaks, emergencies chief Ryan has said. WHO officially requested more information on Jan. 1. Under international law, members have 24 to 48 hours to respond, and China reported two days later that there were 44 cases and no deaths.	AP	<a href="https://apnews.com/article/3cd61794970661042b18d5ea0e4d9fe">https://apnews.com/article/3cd61794970661042b18d5ea0e4d9fe</a>

1/1/2020	Destruction of evidence behind the scenes, lab origin thought to be most likely	The Hubei Provincial Health Commission reportedly orders genomics companies to stop testing samples from Wuhan and to destroy existing samples	Cairn	Gao Yu, Peng Yanling, Yang Hui, et al., "In Depth: How Early Signs of a SARS-Like Virus Were Spotted, Spread, and Throttled," Cairn Global, February 29, 2020, <a href="https://www.cairnglobal.com/2020/02/29/in-depth-how-early-signs-of-a-sars-like-virus-were-spotted-spread-and-throttled-101521745.html">https://www.cairnglobal.com/2020/02/29/in-depth-how-early-signs-of-a-sars-like-virus-were-spotted-spread-and-throttled-101521745.html</a>
1/1/2020	Censorship of health information	Hubei health commission orders genomics companies to stop testing and destroy all samples.	Cairn Global	Gao Yu et al., "In Depth: How Early Signs of a SARS-like Virus Were Spotted, Spread, and Throttled," Cairn Global, February 29, 2020.
1/1/2020		Morning CST. A team from China's National Institute for Viral Disease Control and Prevention, part of Beijing-based China CDC, visits the Huanan Seafood Wholesale Market and collects 515 environmental samples, which it sends back to the institute for analysis. CDC experts will return on January 13, 2020, to take 70 more samples from stalls where vendors sold wild animals. Other scientists will later fault the team for not undertaking direct animal sampling in the market before it closed, as without such samples, it may be difficult to determine whether animals at the market were reservoirs for the virus.	Cairn, Xinhua	"Xu Luyi, '中国疾病预防控制中心: 海鲜市场 是冠状病毒的起源' ["China Center for Disease Control and Prevention States Pneumonia Virus Originated from Seafood Market, Source of Contagion Still Has Not Been Found"], Cairn Wang, January 26, 2020, <a href="http://science.cairn.com/2020-01-26/101508622.html">http://science.cairn.com/2020-01-26/101508622.html</a> . "中国疾病预防控制中心: 海鲜市场 是冠状病毒的起源" ["China CDC Has Found a Large Amount of Novel Coronavirus from the Wuhan Huanan Seafood Market"], Xinhua, January 27, 2020, <a href="http://www.xinhuanet.com/2020-01/27/c_1125504355.htm">http://www.xinhuanet.com/2020-01/27/c_1125504355.htm</a> . Yong-Zhen Zhang and Edward C. Holmes, "A Genomic Perspective on the Origin and Emergence of SARS-CoV-2," Cell, no. 181, April 16, 2020, <a href="https://www.cell.com/Cell/pdf/S0092-8674(20)30328-7.pdf">https://www.cell.com/Cell/pdf/S0092-8674(20)30328-7.pdf</a> .
1/1/2020		Between 5 a.m. and 6 a.m. CST: Wuhan's Jianghan District government suspends operation of the Huanan Seafood Wholesale Market linked to cases of atypical pneumonia. (No addition to selling seafood, the market also sold live wild animals, including hedgehogs, badgers, snakes, and turtles/ducks.) Vendors tell the news organization Xinhua Bao that workers wearing masks have been spraying disinfectant in the market late at night since at least December 30, 2019	Nature, Beijing News	"Fan Wu, Su Zhao, Bin Yu, et al., "A New Coronavirus Associated with Human Respiratory Disease in China," Nature, February 3, 2020, <a href="https://www.nature.com/articles/s41586-020-2008-3.pdf">https://www.nature.com/articles/s41586-020-2008-3.pdf</a> . Zheng Shengqo, Xiang Kai, Zhang Hulan, "中国海鲜批发市场: 的华南海鲜市场" ["The Huanan Seafood Market at the Center of the Pneumonia of Unknown Origin Incident"], Xinhua Bao, January 2, 2020, <a href="http://www.bjnews.com.cn/feature/2020/01/02/669054.htm">http://www.bjnews.com.cn/feature/2020/01/02/669054.htm</a>   Zhang Shengqo, Xiang Kai, Zhang Hulan, "不明肺炎肺炎: 中国海鲜批发市场" ["The Huanan Seafood Market at the Center of the Pneumonia of Unknown Origin Incident"], Xinhua Bao, January 2, 2020, <a href="http://www.bjnews.com.cn/feature/2020/01/02/669054.htm">http://www.bjnews.com.cn/feature/2020/01/02/669054.htm</a>
1/1/2020		Wuhan authorities close the city's seafood market, then disinfect it without swabbing individual animals and cages or drawing blood from workers, eliminating evidence of what animal might have been the source of the coronavirus and which people had become infected but survived	NYT	Editorial, "Stop the Wuhan Virus," Nature, January 21, 2020. Also Donald G. McNeill Jr. and Zolan Kanno-Youngs, "C.D.C. and W.H.O. Offers to Help China Have Been Ignored for Weeks," New York Times, February 7, 2020
1/1/2020	Censorship of health information Efforts to prevent consideration of a lab origin hypothesis	An official at the Hubei Provincial Health Commission orders labs, which had already determined that the novel virus was similar to SARS, to stop testing samples and to destroy existing samples.	The Straits Times	<a href="https://www.straitstimes.com/asia/east-asia/how-early-signs-of-the-coronavirus-were-spotted-spread-and-throttled-in-china">https://www.straitstimes.com/asia/east-asia/how-early-signs-of-the-coronavirus-were-spotted-spread-and-throttled-in-china</a>   <a href="https://archive.ny1.com/">https://archive.ny1.com/</a>
1/1/2020	Censorship of health information Efforts to prevent consideration of a lab origin hypothesis	"Wuhan Public Security Bureau brings in for questioning eight doctors who had posted information about the illness on WeChat. An official at the Hubei Provincial Health Commission orders labs, which had already determined that the novel virus was similar to SARS, to stop testing samples and to destroy existing samples."	Washington Post	<a href="https://www.washingtonpost.com/world/2020/02/01/early-mistakes-state-secrecy-china-likely-allowed-coronavirus-spread-farther-faster/">washingtonpost.com/world/2020/02/01/early-mistakes-state-secrecy-china-likely-allowed-coronavirus-spread-farther-faster</a>
1/2/2020	Did not adhere to IHR 6 Limited, misleading, delayed reporting	"Following the protocols of Article 9 of the International Health Regulations (IHR) (2005), an international agreement on responses to infectious disease outbreaks, WHO's China Country Office formally requests that the government of China provide "verification" of the outbreak"	WHO	World Health Organization, "COVID-19 Virtual Press Conference," April 20, 2020, <a href="https://www.who.int/docs/default-source/coronavirus/transcripts/who-audio-emergencies-coronavirus-press-conference-20apr2020.pdf">https://www.who.int/docs/default-source/coronavirus/transcripts/who-audio-emergencies-coronavirus-press-conference-20apr2020.pdf</a>
1/1/2020	Failed to follow IHR 6	WHO's Ryan said the WHO China Country Office formally requested verification of the outbreak on January 1, " [t]hat process continued and on 4th January WHO tweeted the existence of the event "	WHO	Remarks by Michael Ryan, Executive Director of the WHO Health Emergencies Programme, at "COVID-19 Virtual Press Conference," April 20, 2020, <a href="https://www.who.int/docs/default-source/coronavirus/transcripts/who-audio-emergencies-coronavirus-press-conference-20apr2020.pdf">https://www.who.int/docs/default-source/coronavirus/transcripts/who-audio-emergencies-coronavirus-press-conference-20apr2020.pdf</a>
1/2/2020	Censorship of health information	On Feb. 1, Washington Post cited Chinese surgeon and writer Wang Guangbao recalling that while speculation about a SARS-like virus was rampant within medical circles around Jan. 1, the detentions of the Wuhan doctors chilled open discussion: "The eight posters getting seized made all of us doctors feel we were at risk," Wang said	WP	Gerry Shih et al., "Early missteps and state secrecy in China probably allowed the coronavirus to spread farther and faster," Washington Post, Feb. 1, 2020
1/1/2020	Censorship of health information	Eight doctors in Wuhan who warned about new virus reports via social media in late December, including Dr. Li Wenliang, are detained and condemned for "making false statements on the internet." Li is forced to write a self-criticism saying his warnings "had a negative impact."	WSJ	"Yong Xiang and Nectar Gan, "This Chinese doctor tried to save lives, but was silenced. Now he has coronavirus," CNN, February 4, 2020. Jeremy Page et al., "How 1 All Started, China's Early Coronavirus Missteps," Wall Street Journal, March 6, 2020"
1/1/2020		Chinese state media reports, Experts from the National Institute for Viral Disease Control and Prevention under the China CDC allegedly take "environmental samples" with the Wuhan Seafood Market	Xinhua Net	<a href="http://www.xinhuanet.com/english/2020-01/27/c_136735677.htm">http://www.xinhuanet.com/english/2020-01/27/c_136735677.htm</a>   <a href="https://archive.is/22c0l">https://archive.is/22c0l</a>
1/1/2020	Censorship of health information	5:38 p.m. CST: The Wuhan Municipal Public Security Bureau announces on its official Weibo social media account that it has investigated eight people for "spreading rumors." The bureau's announcement states that while medical institutions in the city have admitted multiple pneumonia cases, some netizens posted and shared "inaccurate information" online, creating a "negative social influence." The eight "law breakers" have been "dealt with," the bureau says. It warns others against "manufacturing rumors, believing rumors, or spreading rumors." Chinese Central Television (CCTV), the Xinhua News Agency, and national other news outlets report on the Wuhan Municipal Public Security Bureau's announcement, also warning against spreading rumors	Xinhua, Guancha Zhe	The text of the Wuhan Public Security Bureau's Weibo message is reproduced in "武汉: 8名网传造谣者被处理" (Wuhan: Not One of the 8 Wuhan Residents Who Shared 'Inaccurate Information' Was Detained"), Guancha Zhe (Observer), January 22, 2020, <a href="https://www.guanchazhe.com/politics/2020_01_22_532626.shtml">https://www.guanchazhe.com/politics/2020_01_22_532626.shtml</a> . 武汉: 8名网传造谣者被处理" (Wuhan: Not One of the 8 Wuhan Residents Who Shared 'Inaccurate Information' Was Detained"), Guancha Zhe (Observer), January 22, 2020, <a href="https://www.guanchazhe.com/politics/2020_01_22_532626.shtml">https://www.guanchazhe.com/politics/2020_01_22_532626.shtml</a> . "8 People Are Dealt with According to Law for Spreading False Information Online About 'Wuhan Virus Pneumonia'", Xinhua, January 1, 2020, <a href="http://www.xinhuanet.com/2020-01/01/c_1125112773.htm">http://www.xinhuanet.com/2020-01/01/c_1125112773.htm</a> .
1/2/2020	Censorship of health information	The punishment of eight doctors for "rumor-mongering," broadcast on national television on Jan 2, sent a chill through the city's hospitals. "Doctors in Wuhan were afraid," said Dali Yang, a professor of Chinese politics at the University of Chicago. "It was truly intimidation of an entire profession."	AP	<a href="https://apnews.com/article/88a9e1b93de4f166acd601b2d82c29">https://apnews.com/article/88a9e1b93de4f166acd601b2d82c29</a>
1/2/2020	Limited, misleading, delayed reporting	The little information that has dribbled out suggests the virus was circulating well outside Wuhan in 2019—a finding that could raise awkward questions for Chinese officials about their early handling of the outbreak. Chinese researchers found that a child hundreds of miles from Wuhan had fallen ill with the virus by Jan. 2, suggesting it was spreading widely in December. But earlier samples weren't tested, according to a scientist with direct knowledge of the study. "There was a very deliberate choice of the time period to study, because going too early could have been too sensitive," said the scientist, who declined to be named out of fear of retribution.	AP	<a href="https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24f0ad58cee3a40bca2dd17a14d2955">https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24f0ad58cee3a40bca2dd17a14d2955</a>
1/2/2020	Limited, misleading, delayed reporting	The next entry reported to have sequenced the genome was the Wuhan Institute of Virology (WIV), an affiliate of the Chinese Academy of Sciences. Chinese state media say WIV sequenced the virus' genome on January 2	China.org	"Chinese Researchers Race Against Coronavirus," China.org, April 20, 2020, <a href="http://www.china.org.cn/china/2020-04/20/content_75953343.htm">http://www.china.org.cn/china/2020-04/20/content_75953343.htm</a> .

1/2/2020	History of lab outbreaks Poor safety practices Efforts to prevent consideration of a lab origin hypothesis	"A biosafety guideline issued to fix chronic management loopholes at virus labs 1.2020-02-17 08:52:08 Global Times Editor: Yan Special: Battle Against Novel Coronavirus Rules address chronic virus lab loopholes: experts The Ministry of Science and Technology issued new rules over the weekend, requiring laboratories nationwide to boost their biosafety in a move that experts said could fix chronic inadequate management issues during the campaign against the coronavirus. The guideline stressed the importance of strengthening the management of bio labs, especially on viruses, to ensure biosafety, ministry official Wu Yuanbin said at a press conference on Saturday. The release of the guideline deals with chronic loopholes at laboratories, Yang Zhanou, a deputy director of the pathogen biology department at Wuhan University in Hubei Province, told the Global Times on Sunday. "The mention of biosafety at labs by the ministry has nothing to do with some saying that the coronavirus leaked from the Wuhan Institute of Virology of the Chinese Academy of Sciences," Yang said. Laboratories in China have paid insufficient attention to biological disposal, Yang said. Lab trash can contain man-made viruses, bacteria or microbes with a potentially deadly impact on human beings, animals or plants. Some researchers discharge laboratory materials into the sewer after experiments without a specific biological disposal mechanism, Yang explained."	Global Times "Gerry Shih et al., "Early missteps and state secrecy in China probably allowed the coronavirus to spread farther and faster." Washington Post, Feb. 1, 2020. Global Times tweet, Jan. 2, 2020, 1:26am Beijing time ( <a href="https://twitter.com/globaltimesnews/status/112408846604884955">https://twitter.com/globaltimesnews/status/112408846604884955</a> )"
1/2/2020	Censorship of health information	At just after 8 a.m. CST, a senior official of Wuhan Central Hospital subjects Dr. Ai Fen to what she later describes as "an unprecedented and very severe rebuke." The official tells her not to speak to anyone, including her husband, about the pneumonia cases. She will comply, but will later express regret about lives lost because she didn't "keep screaming."	Renwu Gong Jingtao. "谁给医生下命令?" ["The Person Who Handed Out the Whistle"], Renwu (People), March 10, 2020, <a href="https://tiyiyun.com/sggf/q8">https://tiyiyun.com/sggf/q8</a>
1/2/2020	Limited, misleading, delayed reporting	Three travelers from Wuhan have been admitted to the hospital in Hong Kong... According to a transcript, Sophia Chan, secretary for food and health, said Hong Kong hasn't received any Wuhan-related severe pneumonia cases and that the three patients admitted to hospitals in Hong Kong had not visited the Wuhan market... "Taiwan's Center for Disease Control announced... details about one of the patients hospitalized in Hong Kong after travel to Wuhan, according to a government statement. The patient had upper-respiratory symptoms and is isolated in stable condition. Rapid screening tests for seasonal flu, SARS, and avian flu were negative."	UMN Center for Infectious Disease Research and Policy - News & Perspective <a href="https://www.cidrap.umn.edu/news-perspective/2020/01/answers-yet-chinas-pneumonia-outbreak">https://www.cidrap.umn.edu/news-perspective/2020/01/answers-yet-chinas-pneumonia-outbreak</a>
1/2/2020		"yet-identified source of the outbreak has led to rumors, mainly on social media, about a possible severe acute respiratory syndrome (SARS) outbreak and speculation about the possible emergence of a new zoonotic virus... senior advisor to the WHO's China office, told [SCMP] that investigators are still underway and authorities haven't yet confirmed the pathogen that's causing the illness."	UMN Center for Infectious Disease Research and Policy - News & Perspective <a href="https://www.cidrap.umn.edu/news-perspective/2020/01/answers-yet-chinas-pneumonia-outbreak">https://www.cidrap.umn.edu/news-perspective/2020/01/answers-yet-chinas-pneumonia-outbreak</a>
1/2/2020	Limited, misleading, delayed reporting	Chinese researchers map the new coronavirus's complete genetic information. This information is not made public until Jan. 9.	Wall Street Journal <a href="https://www.wsj.com/articles/how-it-all-started-chinas-early-coronavirus-misteps-11583508932">https://www.wsj.com/articles/how-it-all-started-chinas-early-coronavirus-misteps-11583508932</a> <a href="https://archive.vrn/hz72">https://archive.vrn/hz72</a>
1/2/2020	Limited, misleading, delayed reporting	Wuhan Institute of Virology completes mapping of the novel coronavirus genome, but this breakthrough is not made public by Chinese authorities.	WSJ Jeronny Page et al., "How It All Started: China's Early Coronavirus Misteps," Wall Street Journal, March 6, 2020.
1/2/2020		Using samples from patients at Wuhan's Jinyintan Hospital, the Wuhan Institute of Virology identifies the novel coronavirus and sequences its genome.	WSJ, China.org Jeronny Page, Wenxin Fan, and Natasha Khan, "How It All Started: China's Early Coronavirus Misteps," Wall Street Journal, March 6, 2020, <a href="https://www.wsj.com/articles/how-it-all-started-chinas-early-coronavirus-misteps-11583508932">https://www.wsj.com/articles/how-it-all-started-chinas-early-coronavirus-misteps-11583508932</a> . "Chinese Researchers Race Against Coronavirus," China.org, April 20, 2020, <a href="http://www.china.org.cn/china/2020-04/20/content_75953343.htm">http://www.china.org.cn/china/2020-04/20/content_75953343.htm</a> .
1/2/2020		China CDC and the Chinese Academy of Medical Sciences (CAMS) receive biological samples from four patients in Hubei Province and begin work to identify the pathogen responsible for their illnesses.	Xinhua "Timeline of China Releasing Information on COVID-19 and Advancing International Cooperation on Epidemic Response," Xinhua, April 6, 2020, <a href="http://www.xinhuanet.com/english/2020-04/06/c_138951662.htm">http://www.xinhuanet.com/english/2020-04/06/c_138951662.htm</a> .
1/3/2020	Limited, misleading, delayed reporting	On Jan. 3, the National Health Commission issued a confidential notice ordering labs with the virus to either destroy their samples or send them to designated institutes for safekeeping. The notice, first reported by Caixin and seen by the AP, forbade labs from publishing about the virus without government authorization. The order barred Shi's lab from publishing the genetic sequence or warning of the potential danger.	AP <a href="https://apnews.com/article/3c061794970661042b18d5a6ae49f9e">https://apnews.com/article/3c061794970661042b18d5a6ae49f9e</a>
1/3/2020	Destruction of evidence Behind the scenes, lab origin thought to be most likely	China's National Health Commission issues a directive on management of biological samples in major infectious disease outbreaks. The directive reportedly "ordered institutions not to publish any information related to the unknown disease, and ordered labs to transfer any samples they had to designated testing institutions, or to destroy them."	Caixin Gao Yu, Peng Yanfang, Yang Rui, et al., "In Depth: How Early Signs of a SARS-Like Virus Were Spotted, Spread, and Throttled," Caixin Global, February 29, 2020, <a href="https://www.caixinglobal.com/2020-02-29/in-depth-how-early-signs-of-a-sars-like-virus-were-spotted-spread-and-throttled-101521745.html">https://www.caixinglobal.com/2020-02-29/in-depth-how-early-signs-of-a-sars-like-virus-were-spotted-spread-and-throttled-101521745.html</a> .
1/3/2020	Censorship of health information	China's top health authority, the National Health Commission, follows the Hubei Health Commission by issuing a gag order directing that Wuhan pneumonia samples be moved to designated testing facilities or destroyed. The National Health Commission also orders institutions not to publish any information related to the unknown disease.	Caixin Global Gao Yu et al., "In Depth: How Early Signs of a SARS-Like Virus Were Spotted, Spread, and Throttled," Caixin Global, February 29, 2020.
1/3/2020		Professor Yong-zhen Zhang of the Shanghai Public Health Clinical Center and School of Public Health at Fudan University in Shanghai receives biological samples for analysis from Wuhan Central Hospital. The samples are from a 41-year-old pneumonia patient who worked at the Huanan Seafood Wholesale Market in Wuhan and was admitted to Wuhan Central Hospital on December 26, 2019.	Caixin, Nature "Gao Yu, Peng Yanfang, Yang Rui, et al., "In Depth: How Early Signs of a SARS-Like Virus Were Spotted, Spread, and Throttled," Caixin Global, February 29, 2020, <a href="https://www.caixinglobal.com/2020-02-29/in-depth-how-early-signs-of-a-sars-like-virus-were-spotted-spread-and-throttled-101521745.html">https://www.caixinglobal.com/2020-02-29/in-depth-how-early-signs-of-a-sars-like-virus-were-spotted-spread-and-throttled-101521745.html</a> . Fan Wu, Su Zhao, Bie Yu, et al., "A New Coronavirus Associated with Human Respiratory Disease in China," Nature, February 3, 2020, <a href="https://www.nature.com/articles/s41586-020-2006-3.pdf">https://www.nature.com/articles/s41586-020-2006-3.pdf</a> "
1/3/2020	Censorship of health information	"At about 13:30 on January 3, 2020, the Zhongnan Road Police Station of Wuchang Branch of Wuhan Public Security Bureau contacted Dr. Li Wenliang, and Dr. Li Wenliang accompanied his colleagues to the police station. Yang, deputy director of the police station, arranged for Hu, the policeman in charge of internal services, to talk to Dr. Li Wenliang. After the interview was verified, the interviewer made a transcript on the spot. Dr. Li Wenliang said that it is wrong to post information about SARS in the WeChat group and will pay attention to it in the future. The interviewer made a letter of admonition for Dr. Li Wenliang. Dr. Li Wenliang also had a copy of admonition and left the police station at 14:30. The interlocutors were Hu Mou and an auxiliary policeman. Hu signed his name and Xu Mou's name on the admonition letter. In fact, Xu did not participate in the conversation."	CCTV <a href="http://m.news.cctv.com/2020/03/19/AR1rEQ6n25wkzeVnly8gTM200319.shtml">http://m.news.cctv.com/2020/03/19/AR1rEQ6n25wkzeVnly8gTM200319.shtml</a>   <a href="https://archive.vrn/EY0e5">https://archive.vrn/EY0e5</a>
1/3/2020		A timeline in a March 26, 2020, article by China CDC experts and others in The New England Journal of Medicine indicates China CDC sequenced the genome on January 3, 2020.	NEJM Qun Li, Xuhua Guan, Peng Wu, et al., "Early Transmission Dynamics in Wuhan, China, of Novel Coronavirus-Infected Pneumonia," The New England Journal of Medicine, vol. 382, no. 13, March 26, 2020, <a href="https://www.nejm.org/doi/full/10.1056/NEJMoa2001316">https://www.nejm.org/doi/full/10.1056/NEJMoa2001316</a>
1/3/2020		China CDC completes genomic sequencing of the novel coronavirus, according to a March 26 paper by China CDC experts and others in The New England Journal of Medicine. (China's official timeline gives January 7 as the date China CDC completed sequencing of the virus.)	NEJM Qun Li, Xuhua Guan, Peng Wu, et al., "Early Transmission Dynamics in Wuhan, China, of Novel Coronavirus-Infected Pneumonia," The New England Journal of Medicine, vol. 382, no. 13, March 26, 2020, <a href="https://www.nejm.org/doi/full/10.1056/NEJMoa2001316">https://www.nejm.org/doi/full/10.1056/NEJMoa2001316</a> .

1/3/2020	Delayed admitting human to human transfer limited, misleading, delayed reporting	The Wuhan Health Commission sets narrow criteria for confirming that a case is officially part of the outbreak, saying patients can be counted only if they had ties to the Huanan seafood market, excluding the growing number of cases with no such ties. An official from a district disease control center in Wuhan also tells a hospital doctor handling infection reports that "this was a special contagious disease and we should report only after superiors had notified us."	NYT	Steven Lee Myers, "China Dusts 2 Party Officials Amid Outrage About Coronavirus Response," New York Times, February 13, 2020
1/3/2020	Delayed admitting human to human transfer	A total of 44 viral pneumonia cases have been reported in Wuhan. All the patients have been put in quarantine, with 11 in serious condition and the others in stable condition as of 8 a.m. on Jan. 3.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78621.htm">http://en.nhc.gov.cn/2020-03/20/c_78621.htm</a>
1/3/2020	Censorship of health information	"According to Taiwan-based 'The Storm Media,' the National Health Commission publishes 'Notice on Strengthening the Management of Biological Sample Resources and Related Scientific Research Activities in the Prevention and Control of Major Infectious Diseases'...[this document] was not published on the official website of the National Health Commission. There are several important provisions in the No. 3 document obtained from this journal: 1. All relevant agencies shall, in accordance with the requirements of the health administrative department at or above the provincial level, provide biological samples to the designated pathogen testing agency to carry out pathogenic testing and complete the handover procedures. 2. Without approval, biological samples and related information shall not be provided to other institutions and individuals. 3. Institutions and individuals that have obtained biological samples of relevant cases from relevant medical and health institutions shall immediately destroy the samples on the spot or send them to the state-designated depository for safekeeping. 4. During the epidemic prevention and control work period, no institution or individual may publish information about pathogen testing or experimental results without authorization."	The Storm Media	<a href="https://archive.is/0uiv">https://archive.is/0uiv</a>   <a href="https://www.storm.ng/article/2526880">https://www.storm.ng/article/2526880</a>
1/3/2020		5:08 pm CST: The Wuhan Municipal Health Commission reports it has identified 44 patients with symptoms consistent with pneumonia of unknown origin, some of whom worked at the Huanan Seafood Wholesale Market and 11 of whom are severely ill.	thepaper.cn	"武汉市卫生健康委：44名患者确诊肺炎" ("Wuhan Health Commission Bulletin Regarding the Situation of Viral Pneumonia of Unknown Cause"), January 3, 2020, <a href="http://n.thepaper.cn/newsDetail_forward_5420260">http://n.thepaper.cn/newsDetail_forward_5420260</a> .
1/3/2020	Censorship of health information	About 1:30 p.m. CST: Wuhan Central Hospital's Dr. U Wenliang, accompanied by a colleague, arrives at the Wuchang Sub-station of the Wuhan Public Security Bureau to discuss his December 30 posts to the WeChat group. U is required to sign a letter of reprimand, which he will post online on January 31. The letter states that U's "false statement" "severely disturbed social order" and violated the People's Republic of China's Law on Penalties for Administration of Public Security (Article 25 of the law prohibits "intentionally disturbing the public order by spreading rumors or making false reports of dangerous situations, epidemic situations, or police actions.")	Weibo, LOC, CCDI	U Wenliang Weibo post, January 31, 2020, <a href="https://www.weibo.com/1139068205/150XbaARR?from=page_1005051139068205_profile&amp;wm=686mod=weibo&amp;time&amp;type=comment&amp;rid=1587586422806">https://www.weibo.com/1139068205/150XbaARR?from=page_1005051139068205_profile&amp;wm=686mod=weibo&amp;time&amp;type=comment&amp;rid=1587586422806</a> Laney Zhang, "FALGs: Spreading Rumors and Police Reprimand Under Chinese Law," Law Library of Congress, March 2, 2020, <a href="https://blogs.loc.gov/law/2020/03/falgs-spreading-rumors-and-police-reprimand-under-chinese-law/?locrblog=law">https://blogs.loc.gov/law/2020/03/falgs-spreading-rumors-and-police-reprimand-under-chinese-law/?locrblog=law</a>   "群众造谣的违法成本太低" 有关话说请听"的通报" ("Bulletin on the Investigation into Issues Related to Dr. U Wenliang Raised by the Masses"), Xinhua, March 19, 2020, <a href="http://www.ccdi.gov.cn/toutiao/202003/t20200319_213880.html">http://www.ccdi.gov.cn/toutiao/202003/t20200319_213880.html</a> .
1/3/2020	Limited, misleading, delayed reporting	U.S. Centers for Disease Control and Prevention (U.S. CDC) Director Robert Redfield emails and then speaks with his Chinese counterpart, Gao Fu (George F. Gao), Director-General of China CDC, who tells him about the atypical pneumonia outbreak in Wuhan. (China later says this is the first of 30 briefings it will provide to the U.S. government through February 3.) Redfield then calls HHS Secretary Alex M. Azar. 1st at home to brief him on the call. Secretary Azar reportedly tells his chief of staff to notify the White House's National Security Council.	WP, NYT, Beijing News	"Glenn Kessler, 'Did Trump Offer Experts to China to Help with the Coronavirus?'" Washington Post, April 3, 2020, <a href="https://www.washingtonpost.com/politics/2020/04/03/how-much-pressure-did-trump-put-china-access-concerning-coronavirus/">https://www.washingtonpost.com/politics/2020/04/03/how-much-pressure-did-trump-put-china-access-concerning-coronavirus/</a> ; Yasmeen AbuTaleb, Josh Dawsey, Ellen Nakashima, and Greg Miller, "The U.S. Was Beset by Denial and Dysfunction as the Coronavirus Raged," Washington Post, April 4, 2020, <a href="https://www.washingtonpost.com/national-security/2020/04/04/coronavirus-government-dysfunction/">https://www.washingtonpost.com/national-security/2020/04/04/coronavirus-government-dysfunction/</a> "A Timely Response," Beijing Review, April 30, 2020, <a href="http://www.bjreview.com/World/202004/t20200410_800200502.html">http://www.bjreview.com/World/202004/t20200410_800200502.html</a> Michael D. Shear, Sheri Fink, and Noah Weiland, "Inside Trump Administration, Debate Raged over What to Tell Public," New York Times, March 9, 2020, <a href="https://www.nytimes.com/2020/03/09/us/politics/trump-coronavirus.html">https://www.nytimes.com/2020/03/09/us/politics/trump-coronavirus.html</a> .
1/3/2020	Failed to follow IHR 6	China's official timeline says it began "regularly informing" WHO of developments related to the outbreak on January 3.	Xinhua	"China Publishes Timeline on COVID-19 Information Sharing, Int'l Cooperation," Xinhua, April 6, 2020, <a href="http://www.xinhuanet.com/english/2020-04/06/c_138951662.htm">http://www.xinhuanet.com/english/2020-04/06/c_138951662.htm</a>
1/4/2020	Delayed admitting human to human transfer	Another expert outside mainland China begins to sound alarms over human-to-human transmission. The head of the University of Hong Kong's Centre for Infection, Ho Pak-leung, warns that Hong Kong "should implement the strictest possible monitoring system for a mystery new viral pneumonia that has infected dozens of people on the mainland, as it is highly possible that the illness is spreading from human to human."	RTHK	"Wuhan virus is probably spreading between people," RTHK, January 4, 2020.
1/4/2020	Failed to follow IHR 6	On January 4, WHO tweeted, "China has reported to WHO a cluster of pneumonia cases—with no deaths—in Wuhan, Hubei Province."	WHO	Remarks by Michael Ryan, Executive Director of the WHO Health Emergencies Programme, at "COVID-19 Virtual Press Conference," April 20, 2020, <a href="https://www.who.int/docs/default-source/coronavirus/transcripts/who-audio-emergencies-coronavirus-press-conference-20apr2020.pdf">https://www.who.int/docs/default-source/coronavirus/transcripts/who-audio-emergencies-coronavirus-press-conference-20apr2020.pdf</a>
1/4/2020	Failed to follow IHR 6	Whether intentionally or otherwise, WHO's first formal statement about the outbreak on January 5 was not clear on how the WHO Country Office learned about the outbreak. It used passive voice to state that the China Country Office "was informed" on December 31, 2019, of cases of pneumonia of unknown cause in Wuhan.	WHO	World Health Organization, "Pneumonia of Unknown Cause—China," Disease Outbreak News, January 5, 2020, <a href="https://www.who.int/csr/don/05-january-2020-pneumonia-of-unknown-cause-china/en/">https://www.who.int/csr/don/05-january-2020-pneumonia-of-unknown-cause-china/en/</a>
1/4/2020	PRC violation of IHR 6.3	In its first public statement on the outbreak, WHO tweets, "China has reported to WHO a cluster of pneumonia cases—with no deaths—in Wuhan, Hubei Province. Investigations are underway to identify the cause of this illness." The tweet appears to reflect that China has formally notified the outbreak, as the WHO China Country Office requested it do on January 2.	WHO	Tweet by World Health Organization, January 4, 2020, <a href="https://twitter.com/WHO/status/1212523866793814656?m=20">https://twitter.com/WHO/status/1212523866793814656?m=20</a> .
1/4/2020	US support & offers of support to PRC	The U.S. CDC offers to send technical experts to China. U.S. CDC Director Robert Redfield emails China CDC Director-General Gao Fu, saying, "I would like to offer [U.S.] CDC technical experts in laboratory and epidemiology of respiratory infectious diseases to assist you and China CDC in identification of this unknown and possibly novel pathogen." Whether the United States nor China has disclosed how Gao responds, if at all, but no U.S. CDC team goes to China at this time.	WP	Glenn Kessler, "Did Trump Offer Experts to China to Help with the Coronavirus?" Washington Post, April 3, 2020, <a href="https://www.washingtonpost.com/politics/2020/04/03/how-much-pressure-did-trump-put-china-access-concerning-coronavirus/">https://www.washingtonpost.com/politics/2020/04/03/how-much-pressure-did-trump-put-china-access-concerning-coronavirus/</a> .
1/5/2020	Limited, misleading, delayed reporting	By Jan. 3, the Chinese CDC had independently sequenced the virus, according to internal data seen by the Associated Press. And by just after midnight on Jan. 5, a third designated government lab, the Chinese Academy of Medical Sciences, had decoded the sequence and submitted a report—pulling all-nighters to get results in record time, according to a state media interview. Yet even with full sequences decoded by three state labs independently, Chinese health officials remained silent. The WHO reported on Twitter that investigations were under way into an unusual cluster of pneumonia cases with no deaths in Wuhan, and said it would share "more details as we have them."	AP	<a href="https://apnews.com/article/3cd61794970661042b18d5eaaed9f4e">https://apnews.com/article/3cd61794970661042b18d5eaaed9f4e</a>

1/5/2020	Limited, misleading, delayed reporting	On Jan. 5, the Shanghai Public Health Clinical Center (led by famed virologist Zhang Yongzhen) was the latest to sequence the virus. He submitted it to the GenBank database, where it sat awaiting review, and notified the National Health Commission. He warned them that the new virus was similar to SARS and likely infectious.	AP	<a href="https://apnews.com/article/306b1794970661042b18d5aeae4d9fae">https://apnews.com/article/306b1794970661042b18d5aeae4d9fae</a>
1/5/2020	Delayed admitting human to human transfer	A total of 59 viral pneumonia cases of unknown cause had been reported in Wuhan by the Morning of Jan 5.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/5/2020	Limited, misleading, delayed reporting	"Fortunately, next-generation meta-transcriptomic sequencing enabled [ZHANG Yongzhen and his team at Shanghai Public Health Clinical Center and School of Life Science] to obtain a complete viral genome from this patient on January 5, 2020. Initial analysis revealed that the virus was closely related to those of SARS-like viruses (family Coronaviridae). This result was immediately reported to the relevant authorities, and an annotated version of the genome sequence (strain Wuhan-Hu-1) was submitted to NCBI/GenBank on the same day. Although the GenBank sequence (GenBank: MN908947) was the first of SARS-CoV-2 available, it was subsequently corrected to ensure its accuracy."	ScienceDirect	<a href="https://www.sciencedirect.com/science/article/pii/S0032867420303287">https://www.sciencedirect.com/science/article/pii/S0032867420303287</a>
1/5/2020	Delayed admitting human to human transfer	[ZHANG Yongzhen's team at the Shanghai Public Health Clinical Center Shanghai] reported its discovery to the National Health Commission on the same day and recommended "relevant prevention and control measures" be taken in public places, because the patient from whom the sample was collected had suffered very severe symptoms and the virus resembled a group previously found in bats.	South China Morning Post	<a href="https://www.scmp.com/news/china/society/article/3052966/chinese-laboratory-first-shared-coronavirus-genome-world-ordered">https://www.scmp.com/news/china/society/article/3052966/chinese-laboratory-first-shared-coronavirus-genome-world-ordered</a>
1/5/2020	Delayed admitting human to human transfer	ZHANG Yongzhen's team [at the Shanghai Public Health Clinical Center Shanghai] isolated and finished the genome sequence of the then unknown virus on January 5, two days before China's official announcement that mysterious pneumonia cases in Wuhan were caused by a hitherto unknown coronavirus.	South China Morning Post	<a href="https://www.scmp.com/news/china/society/article/3052966/chinese-laboratory-first-shared-coronavirus-genome-world-ordered">https://www.scmp.com/news/china/society/article/3052966/chinese-laboratory-first-shared-coronavirus-genome-world-ordered</a>
1/5/2020	Delayed admitting human to human transfer Promoting false sense of security	WHO releases statement characterizing PRC's initial Dec. 31 notice about "pneumonia of unknown etiology." WHO states: "Based on the preliminary information from the Chinese investigation team, no evidence of significant human-to-human transmission and no health care worker infections have been reported." This continues to ignore Taiwan's warnings of Dec. 31.	WHO	"Pneumonia of unknown cause - China," WHO, January 5, 2020 ( <a href="https://www.who.int/csr/don/05-january-2020-pneumonia-of-unknown-cause-china/en/">https://www.who.int/csr/don/05-january-2020-pneumonia-of-unknown-cause-china/en/</a> )
1/5/2020	Delayed admitting human to human transmission Promoting false sense of security	WHO issues its first formal public statement on the outbreak, a "disease outbreak news" item. It states, "On December 31, 2019, the WHO China Country Office was informed of cases of pneumonia of unknown etiology (unknown cause) detected in Wuhan City, Hubei Province of China." The statement adds, "Based on the preliminary information from the Chinese investigation team, no evidence of significant human to human transmission and no health care worker infections have been reported." WHO says it "advises against the application of any travel or trade restrictions on China based on the current information available on this event."	WHO	World Health Organization, "Pneumonia of Unknown Cause - China," Disease Outbreak News, January 5, 2020, <a href="https://www.who.int/csr/don/05-january-2020-pneumonia-of-unknown-cause-china/en/">https://www.who.int/csr/don/05-january-2020-pneumonia-of-unknown-cause-china/en/</a> .
1/5/2020	Delayed admitting human to human transfer	The Shanghai Public Health Clinical Center, a research lab, alerts National Health Commission that one of its professors has identified a SARS-like coronavirus and mapped its genome. The lab also recommends "appropriate prevention and control measures in public places."	WSJ	Jeremy Page et al., "How It All Started: China's Early Coronavirus Misteps," Wall Street Journal, March 6, 2020.
1/5/2020	Limited, misleading, delayed reporting	Wuhan Municipal Health Commission stops releasing daily updates on new cases. This continued until Jan. 18.	WSJ	Jeremy Page et al., "How It All Started: China's Early Coronavirus Misteps," Wall Street Journal, March 6, 2020.
1/5/2020	Delayed admitting human to human transmission	The Wuhan Municipal Health Commission announces that it has identified 59 patients with symptoms consistent with pneumonia of unknown origin. It states that a preliminary investigation has uncovered no "clear evidence of human-to-human transmission" or infections among medical workers.	Wuhan Health Commission	Wuhan Municipal Health Commission, "武汉市卫生健康委 1 月 5 日不明原因的病毒性肺炎病例通报" ["Wuhan Municipal Health Commission Bulletin on the Situation Regarding Viral Pneumonia of Unknown Cause"], January 5, 2020, <a href="http://www.wuhan.gov.cn/front/web/showDetail/2020010509020">http://www.wuhan.gov.cn/front/web/showDetail/2020010509020</a> .
1/5/2020	Limited, misleading, delayed reporting	The team led by Prof. Yongzhen Zhang of Fudan University in Shanghai identifies a novel coronavirus and sequences its genome. The team reports its work to Chinese authorities and submits the sequence to GenBank, a genetic sequence database operated by the U.S. National Institutes of Health that serves as "an annotated collection of all publicly available DNA sequences." (China's official timelines omit mention of the team's work, perhaps because it was not coordinated by China's National Health Commission. China's official timelines state that successful sequencing of the genome happened two days later, with China CDC's reported sequencing of the virus on January 7.)	Xinhua, Cell, NIH	"Yong Zhen Zhang and Edward C. Holmner, "A Genomic Perspective on the Origin and Emergence of SARS-CoV-2," Cell, no. 181, April 16, 2020, <a href="https://www.cell.com/cell/pdf/S0092-8674(20)30328-7.pdf">https://www.cell.com/cell/pdf/S0092-8674(20)30328-7.pdf</a> GenBank, "Severe Acute Respiratory Syndrome Coronavirus 2 Isolate Wuhan Hu 1, Complete Genome," January 5, 2020, <a href="https://www.ncbi.nlm.nih.gov/ncbi/nc/045512">https://www.ncbi.nlm.nih.gov/ncbi/nc/045512</a> National Center for Biotechnology Information, U.S. National Library of Medicine, "GenBank Overview," <a href="https://www.ncbi.nlm.nih.gov/genbank/">https://www.ncbi.nlm.nih.gov/genbank/</a> , accessed May 6, 2020. "Timeline of China Releasing Information on COVID-19 and Advancing International Cooperation on Epidemic Response," Xinhua, April 6, 2020, <a href="http://www.xinhuanet.com/english/2020-04/06/c_138951662.htm">http://www.xinhuanet.com/english/2020-04/06/c_138951662.htm</a> ."
1/5/2020	Delayed admitting human to human transmission	The head of an expert team sent to Wuhan from Beijing, Xu Jianguo, reports that "China has many years of disease control, there's absolutely no chance that this will spread widely because of Spring Festival travel," and there is "no evidence of human-to-human transmission."	AP	"China didn't warn public of likely pandemic for 6 key days," The Associated Press, April 15, 2020.
1/6/2020	Delayed admitting human to human transmission	During this period, teams of experts dispatched to Wuhan by Beijing said they failed to find clear signs of danger and human-to-human transmission. "China has many years of disease control, there's absolutely no chance that this will spread widely because of Spring Festival travel," the head of the first expert team, Xu Jianguo, told Takungpao, a Hong Kong paper, on Jan. 6. He added there was "no evidence of human to human transmission" and that the threat from the virus was low.	AP	<a href="https://apnews.com/article/6a9e1b91de4ffc1b6ac6d12d82c2f9">https://apnews.com/article/6a9e1b91de4ffc1b6ac6d12d82c2f9</a>
1/6/2020		"On January 6, 2020, Dr. Li Wenkang admitted an 82-year-old patient with eye disease."	CCTV	<a href="http://m.news.cctv.com/2020/03/19/ARTI06625WkZeeV6nly8gTM200339.shtml">http://m.news.cctv.com/2020/03/19/ARTI06625WkZeeV6nly8gTM200339.shtml</a>   <a href="https://archive.vn/EW0e5">https://archive.vn/EW0e5</a>
1/6/2020	US support & offers of support to PRC	US CDC offers Beijing technical expertise to help with the virus. Beijing ignores this offer for more than a month, along with repeated additional offers from HHS Secretary Alex Azar and other senior U.S. officials.	NYT	Donald G. McNeil Jr. and Zulan Karim-Youngs, "C.D.C. and W.H.O. Offers to Help China Have Been Ignored for Weeks," New York Times, February 7, 2020
1/6/2020		U.S. CDC issues a "Watch Level 3 Alert (be aware and practice usual precautions)" for Wuhan, due to "a pneumonia outbreak of unknown cause." It advises travelers to Wuhan to "Avoid animals (alive or dead), animal markets, and products that come from animals (such as uncooked meat)," "Avoid contact with sick people," and "Wash hands often with soap and water." It also advises anyone who has traveled to Wuhan and feels sick to isolate at home except for seeking medical care.	US Embassy Beijing	U.S. Embassy and Consulates in China, "Health Alert - Pneumonia of Unknown Cause in China," January 7, 2020, <a href="https://china.usembassy-china.org.cn/health-alert-pneumonia-of-unknown-cause-in-china/">https://china.usembassy-china.org.cn/health-alert-pneumonia-of-unknown-cause-in-china/</a>
1/6/2020	US support & offers of support to PRC. Limited, misleading, delayed information transfer	HHS Secretary Azar and CDC Director Robert Redfield renew Redfield's offer to send U.S. CDC experts to China, this time in the form of an official letter. Azar later recalls, "We made the offer to send the [U.S.] CDC experts in laboratory and epidemiology of respiratory infectious diseases to assist their Chinese colleagues to get to the bottom of key scientific questions like, how transmissible is this disease? What is the severity? What is the incubation period and can there be asymptomatic transmission?"	WP, CNN	"Glenn Kessler, "Did Trump Offer Experts to China to Help with the Coronavirus?" The Washington Post, April 3, 2020, <a href="https://www.washingtonpost.com/politics/2020/04/03/how-trump-pressure-did-trump-put-china-access-concerning-coronavirus/">https://www.washingtonpost.com/politics/2020/04/03/how-trump-pressure-did-trump-put-china-access-concerning-coronavirus/</a> CNN, "New Day," transcript, interview with Health and Human Services Secretary Alex Azar, February 14, 2020, <a href="http://transcripts.cnn.com/TRANSCRIPTS/2002/14/ndny.05.html">http://transcripts.cnn.com/TRANSCRIPTS/2002/14/ndny.05.html</a> ."
1/6/2020	Limited, misleading, delayed reporting	The annual full session of the Wuhan Municipal People's Congress opens. The congress will last five days and occupy 51% of the city's most important citizens, including the city's entire top leadership. While the congress is in session, the Wuhan Municipal Health Commission will issue no updates on the status of the epidemic.	Xinhua	"马国强辞去武汉市人大常委会主任职务" ["Ma Guoqiang Resigns His Post as Chairman of the Wuhan Municipal People's Congress Standing Committee"], Xinhua, January 6, 2020, <a href="http://www.xinhuanet.com/reishi/202001/06/c_1125428166.htm">http://www.xinhuanet.com/reishi/202001/06/c_1125428166.htm</a> .

1/7/2020	Limited, misleading, delayed reporting	By Jan 7, another team at Wuhan University had sequenced the pathogen and found it matched Shi's, making Shi certain they had identified a novel coronavirus. But Chinese CDC experts said they didn't trust Shi's findings and needed to verify her data before she could publish, according to three people familiar with the matter. Both the National Health Commission and the Ministry of Science and Technology, which oversees Shi's lab, declined to make Shi available for an interview.	AP <a href="https://apnews.com/article/3c061794970661042b18d5aeae4d9fe">https://apnews.com/article/3c061794970661042b18d5aeae4d9fe</a>
1/7/2020		Xi Jinping becomes involved in the response	Axios <a href="https://archive.vn/Bpvtq   https://www.axios.com/timeline-the-early-days-of-chinas-coronavirus-outbreak-and-cover-up-e652118-af64643-9768-3537185faab.html">https://archive.vn/Bpvtq   https://www.axios.com/timeline-the-early-days-of-chinas-coronavirus-outbreak-and-cover-up-e652118-af64643-9768-3537185faab.html</a>
1/7/2020	Delayed admitting human to human transmission	A 69-year-old patient undergoes neurosurgery at Wuhan Union Hospital. Four days later, he will develop symptoms that will later be identified as those of the novel coronavirus. Following his admission, he will infect 14 medical workers, making him the virus' first identified "super-spreader." Chinese authorities will not disclose infections among medical personnel until January 20.	Cixin Gao Yu, Xiao Hui, Ma Dawang, et al., "In Depth, How Wuhan Lost the Fight to Contain the Coronavirus," Cixin Global, February 3, 2020. <a href="https://www.cixinglobal.com/2020-02-03/in-depth-how-wuhan-lost-the-fight-to-contain-the-coronavirus-101510749.html">https://www.cixinglobal.com/2020-02-03/in-depth-how-wuhan-lost-the-fight-to-contain-the-coronavirus-101510749.html</a>
1/7/2020	Delayed admitting human to human transfer Promoting false sense of security Limited, misleading, delayed information	Among other reports of medical worker infections, a single "super-spreader" patient who underwent surgery at the Wuhan Union Hospital on January 7, 2020, was later found to have infected 14 medical staff.	Cixin Global Gao Yu, Xiao Hui, Ma Dawang, et al., "In Depth, How Wuhan Lost the Fight to Contain the Coronavirus," Cixin Global, February 3, 2020. <a href="https://www.cixinglobal.com/2020-02-03/in-depth-how-wuhan-lost-the-fight-to-contain-the-coronavirus-101510749.html">https://www.cixinglobal.com/2020-02-03/in-depth-how-wuhan-lost-the-fight-to-contain-the-coronavirus-101510749.html</a>
1/7/2020		"The patient had a fever on January 7 and was later diagnosed with the new coronavirus,"	CCTV <a href="http://m.news.cctv.com/2020/03/13/APRTF06nz5WkEYnly8gTM200319.shtml   https://archive.vn/EY0e5">http://m.news.cctv.com/2020/03/13/APRTF06nz5WkEYnly8gTM200319.shtml   https://archive.vn/EY0e5</a>
1/7/2020	Limited, misleading, delayed reporting	9 p.m. CST: A China CDC team reportedly sequences the genome of the novel coronavirus. Chinese state media will announce this on January 9.	CCTV "8名病毒携带者 炎症性肺病确诊 为新型冠状病毒肺炎" [8 Viral Pneumonia Patients Leave Hospital, The Pathogen Is Preliminarily Determined to Be a Novel Coronavirus], Chinese Central Television, January 9, 2020, <a href="http://news.cctv.com/2020/01/09/AR111qaoXDCwFfMSUPAnN95200109.shtml">http://news.cctv.com/2020/01/09/AR111qaoXDCwFfMSUPAnN95200109.shtml</a>
1/7/2020	Limited, misleading, delayed reporting	The team led by Prof. Yong-zhen Zhang of Fudan University in Shanghai submits an article to the peer-reviewed journal Nature detailing the team's sequencing of the novel coronavirus	Nature Fan Wu, Su Zhao, Bin Yu, et al., "A New Coronavirus Associated with Human Respiratory Disease in China," Nature, February 3, 2020. <a href="https://www.nature.com/articles/s41586-020-2008-3.pdf">https://www.nature.com/articles/s41586-020-2008-3.pdf</a> . The published article notes that Nature received it on January 7, 2020, and accepted it for publication on January 28, 2020.
1/7/2020		PRC state media publishes a speech, said to have been delivered by Xi Jinping to party leaders on Feb. 3, saying he had been leading the fight against the virus "at every moment" since Jan. 7. His first public comments on the epidemic had been Jan. 20.	NYT Amy Qin, "China's Leader, Under Fire, Says He Led Coronavirus Fight Early On," New York Times, Feb. 15, 2020
1/7/2020		Shi Zhengli of the Wuhan Institute of Virology recalled in a March 11 interview with Scientific American that by January 7 her team found that the novel coronavirus's sequence did not match any of the viruses her team had sampled from bat caves. "That really took a load off my mind," she said. But the novel sequence was 96% identical to one her team had sampled previously in Yunnan	Scientific American Jane Qiu, "How's China's 'Bat Woman' Hunted Down Viruses from SARS to the New Coronavirus," Scientific American, March 11, 2020.
1/7/2020	Delayed admitting human to human transfer Limited, misleading, delayed reporting Promoting false sense of security	"Hong Kong continues to flag more sick travelers, though there's no sign any of the patients are linked to the Wuhan cluster, which is focused around a seafood market that also sold live animals such as chickens, bats, marmots, and other wild animals. Wuhan's health department hasn't announced any new cases since Jan 5, keeping the total at 59, and so far there are no announcements about a pathogen, thought to be viral. So far tests have ruled out influenza, avian influenza, adenovirus, severe acute respiratory syndrome (SARS), and Middle East respiratory syndrome coronavirus (MERS-CoV). The city is home to one of China's top labs, the Wuhan Institute of Virology. Some experts wonder if a novel coronavirus might be the cause of the outbreak. Hong Kong has identified 9 more sick travelers who recently visited Wuhan, and tests have already identified common respiratory viruses in four of them. According to the administrative region's Centre for Health Protection (CHP), 30 sick travelers have been evaluated since Dec 31, and 13 have been discharged."	UMN Center for Infectious Disease Research and Policy - News & Perspective <a href="https://www.cidrap.umn.edu/news-perspective/2020/01/nations-step-screening-and-await-word-chinas-pneumonia-outbreak">https://www.cidrap.umn.edu/news-perspective/2020/01/nations-step-screening-and-await-word-chinas-pneumonia-outbreak</a>
1/7/2020		"US Embassy & Consulates in China today posted a health alert about Wuhan's unidentified pneumonia outbreak, following a US Center for Disease Control and Prevention (CDC) alert yesterday.	UMN Center for Infectious Disease Research and Policy News & Perspective <a href="https://www.cidrap.umn.edu/news-perspective/2020/01/nations-step-screening-and-await-word-chinas-pneumonia-outbreak">https://www.cidrap.umn.edu/news-perspective/2020/01/nations-step-screening-and-await-word-chinas-pneumonia-outbreak</a>
1/7/2020		Wall Street Journal reports for the first time that Chinese scientists have tied the mystery illnesses to a new strain of coronavirus	WSJ Natasha Khan, "New Virus Discovered by Chinese Scientists Investigating Pneumonia Outbreak," The Wall Street Journal, Jan. 7, 2020.
1/7/2020		China's state media reported three meetings of China's top decision-making body, the seven-man Communist Party Politburo (also known as "Political Bureau") Standing Committee, in the month of January 2020, on January 7, 13, and 25. Contemporaneous reporting on the first two meetings made no mention of the epidemic, although on February 15 the Communist Party released February 3 remarks in which General Secretary Xi recalled having "raised a demand for prevention and control of the novel coronavirus pneumonia" at the January 7 meeting	Xinhua "1月25日在中央政治局常委会上，研究"如何防止疫情扩散" 徐济讲话" [Xi Jinping, Remarks When Central Committee Politburo Committee Meeting Was Considering How to Do Work to Combat the Novel Coronavirus Pneumonia Epidemic], Xinhua, February 15, 2020. <a href="http://www.xinhuanet.com/politics/2020-02/15/c_1125578886.htm">http://www.xinhuanet.com/politics/2020-02/15/c_1125578886.htm</a>
1/7/2020		China's leader, Xi Jinping, convenes an all-day meeting of the country's seven-man Politburo Standing Committee, the country's highest decision-making body. Media reports of the meeting at the time do not mention the epidemic. In a February 3 speech made public on February 15, however, Xi states that at the January 7 meeting, he "raised a demand for prevention and control of the novel coronavirus pneumonia."	Xinhua "CPC Leadership Hears Work Reports," Xinhua, January 7, 2020. <a href="http://www.xinhuanet.com/english/2020-01/07/c_138685526.htm">http://www.xinhuanet.com/english/2020-01/07/c_138685526.htm</a> . "习近平在中共中央政治局常委会上研究防止疫情扩散" [Xi Jinping, Remarks When Central Committee Politburo Committee Meeting Was Considering How to Do Work to Combat the Novel Coronavirus Pneumonia Epidemic], Xinhua, February 15, 2020. <a href="http://www.xinhuanet.com/politics/2020-02/15/c_1125578886.htm">http://www.xinhuanet.com/politics/2020-02/15/c_1125578886.htm</a>
1/7/2020	Limited, misleading, delayed reporting	China's official timelines provide January 7 as the date China CDC sequenced the genome (vix 3 Jan as reported by researchers in the NEJM)	Xinhua, NEJM QunLi, Xuhua Guan, Peng Wu, et al., "Early Transmission Dynamics in Wuhan, China, of Novel Coronavirus-Infected Pneumonia," The New England Journal of Medicine, vol. 382, no. 13, March 26, 2020. <a href="https://www.nejm.org/doi/full/10.1056/NEJMoa2001316">https://www.nejm.org/doi/full/10.1056/NEJMoa2001316</a> 35" Timeline of China Releasing Information on COVID-19 and Advancing International Cooperation on Epidemic Response," Xinhua, April 6, 2020. <a href="http://www.xinhuanet.com/english/2020-04/06/c_138951622.htm">http://www.xinhuanet.com/english/2020-04/06/c_138951622.htm</a> . "8名病毒携带者 炎症性肺病确诊 为新型冠状病毒肺炎" [8 Viral Pneumonia Patients Leave Hospital, The Pathogen Is Preliminarily Determined to Be a Novel Coronavirus], Chinese Central Television, January 9, 2020. <a href="http://news.cctv.com/2020/01/09/AR111qaoXDCwFfMSUPAnN95200109.shtml">http://news.cctv.com/2020/01/09/AR111qaoXDCwFfMSUPAnN95200109.shtml</a>

1/8/2020	Delayed admitting human to human transmission	The second expert team, dispatched on Jan. 8, similarly failed to unearth any clear signs of human-to-human transmission. Yet during their stay, more than half a dozen doctors and nurses had already fallen ill with the virus, a retrospective China CDC study published in the New England Journal of Medicine would later show. The teams looked for patients with severe pneumonia, missing those with milder symptoms. They also narrowed the search to those who had visited the seafood market — which was in retrospect a mistake, said Cowling, the Hong Kong epidemiologist, who flew to Beijing to review the cases in late January.	AP	<a href="https://apnews.com/article/68a9e1b93de4ff3166cd6012d82c29">https://apnews.com/article/68a9e1b93de4ff3166cd6012d82c29</a>
1/8/2020	Limited, misleading, delayed reporting	On Jan. 8, the Wall Street Journal reported that scientists had identified a new coronavirus in samples from pneumonia patients in Wuhan, pre-empting and embarrassing Chinese officials. The lab technician told the AP they first learned about the discovery of the virus from the Journal. The article also embarrassed WHO officials. Dr. Tom Grein, chief of WHO's acute events management team, said the agency looked "doubly, incredibly stupid." Van Kerkhove, the American expert, acknowledged WHO was "already late" in announcing the new virus and told colleagues that it was critical to push China.	AP	<a href="https://apnews.com/article/3c061794970661042b18d5ea9ed9fae">https://apnews.com/article/3c061794970661042b18d5ea9ed9fae</a>
1/8/2020	Limited, misleading, delayed reporting	Ryan, WHO's chief of emergencies, was also upset at the dearth of information. "The fact is, we're two to three weeks into an event, we don't have a laboratory diagnosis, we don't have an age, sex or geographic distribution, we don't have an epi curve," he complained, referring to the standard graphic of outbreaks scientists use to show how an epidemic is progressing. After the article, state media officially announced the discovery of the new coronavirus. But even then, Chinese health authorities did not release the genome, diagnostic tests, or detailed patient data that could hint at how infectious the disease was. By that time, suspicious cases were already appearing across the region.	AP	<a href="https://apnews.com/article/3c061794970661042b18d5ea9ed9fae">https://apnews.com/article/3c061794970661042b18d5ea9ed9fae</a>
1/8/2020	Limited, misleading, delayed reporting	On Jan. 8, Thai airport officers pulled aside a woman from Wuhan with a runny nose, sore throat, and high temperature. Chulalongkorn University professor Supaporn Wutharaprasadee's team found the woman was infected with a new coronavirus, much like what Chinese officials had described. Supaporn partially figured out the genetic sequence by Jan. 9, reported it to the Thai government and spent the next day searching for matching sequences. Because Chinese authorities hadn't published any sequences, she found nothing. She could not prove the Thai virus was the same one sickening people in Wuhan. "It was kind of wait and see, when China will release the data, then we can compare," said Supaporn.	AP	<a href="https://apnews.com/article/3c061794970661042b18d5ea9ed9fae">https://apnews.com/article/3c061794970661042b18d5ea9ed9fae</a>
1/8/2020		Jan. 8, the head of the Chinese Center for Disease Control and Prevention, George F. Gao, became emotional after acknowledging that danger during a call with his American counterpart, Dr. Robert R. Redfield, according to two people familiar with Dr. Redfield's account of the call. Yet neither Dr. Redfield nor Dr. Gao, each constrained by politics, signaled a public alarm.	NYT	<a href="https://www.nytimes.com/2020/12/30/world/asia/china-coronavirus.html">https://www.nytimes.com/2020/12/30/world/asia/china-coronavirus.html</a>
1/8/2020	US support & offers of support to PRC	"But now, on Jan. 8, Dr. Gao was agitated, according to two people familiar with Dr. Redfield's account of the call. The virus had infected medical workers, Dr. Gao said, and was jumping between humans, despite the denials by local officials. Politically, it was a serious situation for both men. As his predecessor had with avian flu, Dr. Redfield quickly offered American help to fight the outbreak in Wuhan. He told Dr. Gao that he could send 20 epidemiologists in 48 hours. This time, China never accepted."	NYT	<a href="https://www.nytimes.com/2020/12/30/world/asia/china-coronavirus.html">https://www.nytimes.com/2020/12/30/world/asia/china-coronavirus.html</a>
1/8/2020		Eight patients with viral pneumonia of unknown causes in Wuhan have been cured of the disease and were discharged from hospital.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/8/2020		In an article with a Hong Kong byline, "New Virus Discovered by Chinese Scientists Investigating Pneumonia Outbreak," The Wall Street Journal is the first major publication to report that Chinese scientists have genetically sequenced a novel coronavirus. The Wall Street Journal says "Chinese scientists" sequenced the virus, but it does not identify them or their institutions.	WSJ	Natasha Khan. "New Virus Discovered by Chinese Scientists Investigating Pneumonia Outbreak," Wall Street Journal, January 8, 2020, <a href="https://www.wsj.com/articles/new-virus-discovered-by-chinese-scientists-investigating-pneumonia-outbreak-11578485668">https://www.wsj.com/articles/new-virus-discovered-by-chinese-scientists-investigating-pneumonia-outbreak-11578485668</a> .
1/8/2020	Limited, misleading, delayed reporting	U.S. and Chinese CDC Directors speak by phone about "technological exchanges and cooperation," according to China's official timeline	Xinhua	"China Publishes Timeline on COVID-19 Information Sharing, Not Cooperation," Xinhua, April 6, 2020, <a href="http://www.xinhuanet.com/english/2020-04/06/c_138951662.htm">http://www.xinhuanet.com/english/2020-04/06/c_138951662.htm</a> .
1/9/2020		On Jan. 9, a 61-year-old man with the virus passed away in Wuhan — the first known death. The death wasn't made public until Jan. 11.	AP	<a href="https://apnews.com/article/3c061794970661042b18d5ea9ed9fae">https://apnews.com/article/3c061794970661042b18d5ea9ed9fae</a>
1/9/2020		10:32 a.m. CST: CCTV reports that on January 7, China CDC successfully sequenced the genome of the novel coronavirus responsible for the Wuhan outbreak	CCTV	"8名病毒性肺炎患者出院，病毒基因组测序完成" ("8 Viral Pneumonia Patients Leave Hospital, The Pathogen Is Preliminarily Determined to Be a Novel Coronavirus"), Chinese Central Television, January 9, 2020, <a href="http://news.cctv.com/2020/01/09/ARTI11qaXDCwRfMSUPAnNp9200109.shtml">http://news.cctv.com/2020/01/09/ARTI11qaXDCwRfMSUPAnNp9200109.shtml</a>
1/9/2020	Limited, misleading, delayed reporting	Preliminary lab results showed a new type coronavirus had caused viral pneumonia in Wuhan, according to Xu Jianguo, a Chinese expert who led a team to evaluate the pathogen test results.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/9/2020	Delayed admitting human to human transfer	"As of noon on Thursday local time, 10 patients — five of whom are under seven years old — had been admitted to hospital in Hong Kong with flu-like symptoms or pneumonia who had been to Wuhan during the past two weeks, Hong Kong's Hospital Authority said in a statement. "The patients concerned had not visited (fresh food) markets in Wuhan before the onset of symptoms," the statement said."	Radio Free Asia	Federal Information & News Dispatch, Inc., "Experts Cast Doubts on Chinese Official Claims Around 'New' Wuhan Coronavirus" 2020-01-09
1/9/2020	Delayed admitting human to human transfer	"Chinese health authorities had said the virus — which first struck in Wuhan among employees of a now-shuttered seafood market — wasn't SARS, and no human-to-human transmission has yet been reported. But health experts have cast doubt on the claims about human to human transmission. Ho Pak-leung, head of the University of Hong Kong's Centre for Infection, has warned that it is highly possible that the illness is spreading from human to human, given the sheer number of cases that have mushroomed in a short period of time. Hong Kong authorities appear to be taking the possibility seriously, with health screening of all passengers coming into the city from mainland China already in place."	Radio Free Asia	Federal Information & News Dispatch, Inc., "Experts Cast Doubts on Chinese Official Claims Around 'New' Wuhan Coronavirus" 2020-01-09
1/9/2020	Limited, misleading, delayed reporting	"Repeated calls to various numbers listed for the Wuhan Institute of Virology under the Chinese Academy of Sciences rang unanswered. However, an employee who identified herself as a senior engineer said she knew nothing about the virus. "Sorry, I... I don't know about this," the employee said."	Radio Free Asia	Federal Information & News Dispatch, Inc., "Experts Cast Doubts on Chinese Official Claims Around 'New' Wuhan Coronavirus" 2020-01-09
1/9/2020	Limited, misleading, delayed reporting. Promoting false sense of security	WHO representative Galea said "people with symptoms of pneumonia and reported travel history to Wuhan have been identified at international airports," but no travel advisories have been issued for China as hundreds of millions get ready to travel across the country to spend Lunar New Year with their families on Jan. 25. People living in Wuhan have said there is scant information in the media about the outbreak, in a country where media outlets are strictly controlled by the ruling Chinese Communist Party. An employee who answered the phone at Wuhan's Jinyintan Hospital declined to comment when contacted by RFA on Thursday. "We don't give interviews here," the employee said. "The only official channel for this matter is the Wuhan municipal health commission, so... you can contact them directly to find out more." However, calls to the Wuhan municipal health commission rang unanswered during office hours on Thursday.	Radio Free Asia	Federal Information & News Dispatch, Inc., "Experts Cast Doubts on Chinese Official Claims Around 'New' Wuhan Coronavirus" 2020-01-09
1/9/2020	Limited, misleading, delayed reporting	In response to Beijing's confirmation, international scientists urge Chinese authorities to quickly share data on the virus, the disease it causes, and how it spreads.	Science	Dennis Normile, et al., "Scientists urge China to quickly share data on virus linked to pneumonic outbreak," Science, January 9, 2020.

1/9/2020	Limited, misleading, delayed reporting	"China announces it has mapped the coronavirus genome. [The genome itself is not published until 1/11]"	Washington Post	<a href="https://www.washingtonpost.com/world/2020/02/01/nearly-misteps-state-scientist-china-likely-allowed-coronavirus-spread-farther-faster/">https://www.washingtonpost.com/world/2020/02/01/nearly-misteps-state-scientist-china-likely-allowed-coronavirus-spread-farther-faster/</a>   <a href="https://archive.vn/Pf2ao">https://archive.vn/Pf2ao</a>
1/9/2020	Delayed admitting human to human transfer Promoting false sense of security	WHO releases a statement: "Preliminary identification of a novel virus in a short period of time is a notable achievement and demonstrates China's increased capacity to manage new outbreaks. . . . According to Chinese authorities, the virus in question can cause severe illness in some patients and does not transmit readily between people. . . . WHO does not recommend any specific measures for travellers. WHO advises against the application of any travel or trade restrictions on China based on the information currently available."	WHO	WHO Statement Regarding Cluster of Pneumonia Cases in Wuhan, China, January 9, 2020
1/9/2020	Limited, misleading, delayed reporting	On January 9, 2020, WHO announced, "Chinese authorities have made a preliminary determination of a novel (or new) coronavirus, identified in a hospitalized person with pneumonia in Wuhan." January 9, 2020 media reports about the CDC's sequencing breakthrough appear to have prompted WHO to issue its statement announcing identification of a novel coronavirus.	WHO	World Health Organization, "WHO Statement Regarding Cluster of Pneumonia Cases in Wuhan, China," January 9, 2020, <a href="https://www.who.int/china/news/detail/09-01-2020-who-statement-regarding-cluster-of-pneumonia-cases-in-wuhan-china">https://www.who.int/china/news/detail/09-01-2020-who-statement-regarding-cluster-of-pneumonia-cases-in-wuhan-china</a> .
1/9/2020	Promoting false sense of security Limited, misleading, delayed information	WHO issues a statement about the preliminary determination of a novel coronavirus, observing, "Preliminary identification of a novel virus in a short period of time is a notable achievement." It adds, "WHO does not recommend any specific measures for travelers. WHO advises against the application of any travel or trade restrictions on China based on the information currently available."	WHO	World Health Organization, "WHO Statement Regarding Cluster of Pneumonia Cases in Wuhan, China," January 9, 2020, <a href="https://www.who.int/china/news/detail/09-01-2020-who-statement-regarding-cluster-of-pneumonia-cases-in-wuhan-china">https://www.who.int/china/news/detail/09-01-2020-who-statement-regarding-cluster-of-pneumonia-cases-in-wuhan-china</a>
1/9/2020	Limited, misleading, delayed reporting	Chinese authorities identify a novel coronavirus as the likely cause of the outbreak in Wuhan, two days after the Wall Street Journal reported on Chinese scientists discovering the novel strain.	WSJ	Jeremy Page et al., "How It All Started: China's Early Coronavirus Misteps," Wall Street Journal, March 6, 2020.
1/9/2020		9:45 a.m. CST: The Xinhua news agency publishes an interview in which a prominent medical expert states that the pneumonia cases in Wuhan appear to be caused by a novel coronavirus.	Xinhua	"肺炎病毒新型肺炎病毒不明原因病例增加情况" "专家: 肺炎病毒新型肺炎" ("Expert Says It is a Novel Coronavirus; Preliminary Progress Has Been Made in Identifying the Cause of the Viral Pneumonia of Unknown Cause in Wuhan"), Xinhua, January 9, 2020, <a href="http://www.xinhuanet.com/politics/2020-01/09/c_1125438971.htm">http://www.xinhuanet.com/politics/2020-01/09/c_1125438971.htm</a> , "New-type Coronavirus Causes Pneumonia in Wuhan: Expert," Xinhua, January 9, 2020, <a href="http://www.xinhuanet.com/english/2020-01/09/c_138690297.htm">http://www.xinhuanet.com/english/2020-01/09/c_138690297.htm</a>
1/10/2020	Limited, misleading, delayed reporting	The recordings suggest that rather than colluding with China, as Trump declared, WHO was itself kept in the dark as China gave it the minimal information required by law. However, the agency did try to portray China in the best light, likely as a means to secure more information. And WHO experts genuinely thought Chinese scientists had done "a very good job" in detecting and decoding the virus, despite the lack of transparency from Chinese officials. WHO staffers debated how to press China for gene sequences and detailed patient data without angering authorities, worried about losing access and getting Chinese scientists into trouble. Under international law, WHO is required to quickly share information and alerts with member countries about an evolving crisis. Galea noted WHO could not indulge China's wish to sign off on information before telling other countries because "that is not respectful of our responsibilities." In the second week of January, WHO's chief of emergencies, Dr. Michael Ryan, told colleagues it was time to "shift gears" and apply more pressure on China, fearing a repeat of the outbreak of Severe Acute Respiratory Syndrome that started in China in 2002 and killed nearly 800 people worldwide.	AP	<a href="https://apnews.com/article/3c061794970661042b18d5aeae9d9fae">https://apnews.com/article/3c061794970661042b18d5aeae9d9fae</a>
1/10/2020	Limited, misleading, delayed reporting	Ryan said the best way to "protect China" from possible action by other countries was for WHO to do its own independent analysis with data from the Chinese government on whether the virus could easily spread between people. Ryan also noted that China was not cooperating in the same way some other countries had in the past. "This would not happen in Congo and did not happen in Congo and other places," he said, probably referring to the Ebola outbreak that began there in 2018. "We need to see the data... It's absolutely important at this point."	AP	<a href="https://apnews.com/article/3c061794970661042b18d5aeae9d9fae">https://apnews.com/article/3c061794970661042b18d5aeae9d9fae</a>
1/10/2020		"On January 10, Dr. Li Wenliang began to have a fever and went to the fever clinic of Wuhan Central Hospital for treatment."	CCTV	<a href="http://m.news.cctv.com/2020/01/19/AR1rE06n5wKzeVnlyBqTM200319.shtml">http://m.news.cctv.com/2020/01/19/AR1rE06n5wKzeVnlyBqTM200319.shtml</a>   <a href="https://archive.vn/EYdeS">https://archive.vn/EYdeS</a>
1/10/2020	Limited, misleading, delayed reporting	More international scientists and public-health experts call on China to share more information on the new coronavirus.	CIDRAP	Lisa Schirring, "Pressure builds on China to share info on new coronavirus," CIDRAP, January 10, 2020.
1/10/2020	Limited, misleading, delayed reporting	The annual full session of the Wuhan Municipal People's Congress concludes after five days, during which the Wuhan Municipal Health Commission issued no updates on the epidemic.	CNN.cn	武汉市第十四届人民代表大会第五次会议... 第十四届人民代表大会第五次会议... 第十四届人民代表大会第五次会议... (The Fifth Plenary Session of the 14th Wuhan Municipal People's Congress Closes, Ma Guojiang Presides over the Meeting and Gives a Speech, Zhou Xianwang and Hu Shugang Attend, Hu Lishan is Elected Chairman of the 14th People's Congress Standing Committee," Changqiang Wang (Yangtze Net), January 10, 2020, <a href="http://news.cnn.cn/ywh/20200119/31922.htm?spm=spmm.1066-001.0.0.1wzh5k">http://news.cnn.cn/ywh/20200119/31922.htm?spm=spmm.1066-001.0.0.1wzh5k</a> .
1/10/2020	Promoting false sense of security Delayed admitting human to human transmission	After leading a second expert team from Beijing to Wuhan, prominent PRC government expert Wang Guangfa tells state broadcaster CCTV that the Wuhan pneumonia was "under control" and mostly a "mild condition." His team reported no clear signs of human-to-human transmission, though more than half a dozen doctors already were ill. On March 15, Wang wrote on social media that he "always suspected it was human-to-human transmissible."	NYT, AP	"Li Yuan, 'China blames critics over deadly virus outbreak,'" New York Times, January 25, 2020. "China didn't warn public of likely pandemic for 6 key days," The Associated Press, April 15, 2020."
1/10/2020	Delayed admitting human to human transmission	WHO issues "Advice for International Travel and Trade in Relation to the Outbreak of Pneumonia Caused by a New Coronavirus in China." It recommends against entry screening for travelers, stating, "It is generally considered that entry screening offers little benefit, while requiring considerable resources." Reflecting information from China, it states, "From the currently available information, preliminary investigation suggests that there is no significant human-to-human transmission, and no infections among health care workers have occurred."	WHO	World Health Organization, "Advice for International Travel and Trade in Relation to the Outbreak of Pneumonia Caused by a New Coronavirus in China," January 10, 2020, <a href="https://www.who.int/news-room/articles-detail/whoadvice-for-international-travel-and-trade-in-relation-to-the-outbreak-of-pneumonia-caused-by-a-new-coronavirus-in-china/">https://www.who.int/news-room/articles-detail/whoadvice-for-international-travel-and-trade-in-relation-to-the-outbreak-of-pneumonia-caused-by-a-new-coronavirus-in-china/</a>
1/10/2020	Limited, misleading, delayed reporting	Chinese National Health Commission Party Secretary and Director Ma Xiaowei and China CDC Director-General Gao Fu speak separately by telephone with WHO Director General Tedros about the epidemic. According to China's official timeline, the Chinese government shares "specific primers and probes for detecting the novel coronavirus" with WHO.	Xinhua	"China Publishes Timeline on COVID-19 Information Sharing, Int'l Cooperation," Xinhua, April 6, 2020, <a href="http://www.xinhuanet.com/english/2020-04/06/c_138951662.htm">http://www.xinhuanet.com/english/2020-04/06/c_138951662.htm</a> .
1/10/2020		The Wuhan Institute of Virology is among the institutions that have now developed testing kits. All suspected novel coronavirus patients in Wuhan are tested.	Xinhua	"China Publishes Timeline on COVID-19 Information Sharing, Int'l Cooperation," Xinhua, April 6, 2020, <a href="http://www.xinhuanet.com/english/2020-04/06/c_138951662.htm">http://www.xinhuanet.com/english/2020-04/06/c_138951662.htm</a>
1/11/2020	Limited, misleading, delayed reporting	Despite the plaudits, China in fact sat on releasing the genetic map, or genome, of the virus for more than a week after three different government labs had fully decoded the information. Tight controls on information and competition within the Chinese public health system were to blame, according to dozens of interviews and internal documents. Chinese government labs only released the genome after another lab published it ahead of authorities on a virologist website on Jan. 11.	AP	<a href="https://apnews.com/article/3c061794970661042b18d5aeae9d9fae">https://apnews.com/article/3c061794970661042b18d5aeae9d9fae</a>
1/11/2020	Limited, misleading, delayed reporting Censorship of health information	On Jan. 11, a team led by Zhang, from the Shanghai Public Health Clinical Center, finally published a sequence on virological.org, used by researchers to swap tips on pathogens. The move angered Chinese CDC officials, three people familiar with the matter said, and the next day, his laboratory was temporarily shuttered by health authorities.	AP	<a href="https://apnews.com/article/3c061794970661042b18d5aeae9d9fae">https://apnews.com/article/3c061794970661042b18d5aeae9d9fae</a>
1/11/2020	Limited, misleading, delayed reporting	With the private Shanghai lab having already gone public, the PRC government's National Health Commission shares virus genomic information with the WHO for the first time.	Cainx Global	Gao Yu et al., "In Depth: How Early Signs of a SARS-like Virus Were Spotted, Spread, and Throttled," Cainx Global, January 29, 2020



1/11/2020	Delayed admitting human to human transfer Promoting false sense of security	Hong Kong's secretary for food and health announced: "According to the mainland authorities, there is no evidence of human to human transmission and there is also no healthcare professional being infected. Also of note is after the closure of the concerned market in Wuhan, there is no new case since January 3."	HK press archives	David Webb tweet citing Hong Kong press archives, March 20, 2020 ( <a href="https://twitter.com/webbhk/status/1240897837501542401">https://twitter.com/webbhk/status/1240897837501542401</a> ).
1/11/2020	Limited, misleading, delayed reporting	The NHC said that China would share with the WHO information on the genome sequence of a new type coronavirus detected in viral pneumonia cases reported in Wuhan, after the pathogen was identified on Jan 7.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/11/2020		One patient with viral pneumonia has been confirmed dead in Wuhan, and seven others were in critical condition	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/11/2020		A fourth group of scientists, led by Prof. Yong-zhen Zhang of Fudan University in Shanghai, sequenced the genome on January 5, 2020, and was the first to share it with the world. They deposited the sequence with the U.S. National Institutes of Health's GenBank, a database of publicly available DNA sequences, on January 5, submitted a paper on their work to the journal Nature on January 7, 2020, and posted the genome on Virological.org, an open-access hub for pre-publication data and analyses, on the morning of January 11.	Science, Cell, Nature, Virological	"Jon Cohen, "Chinese Researchers Reveal Draft Genome of Virus Implicated in Wuhan Pneumonia Outbreak," Science, January 13, 2020, <a href="https://www.sciencemag.org/news/2020/01/chinese-researchers-reveal-draft-genome-virus-implicated-wuhan-pneumonia-outbreak">https://www.sciencemag.org/news/2020/01/chinese-researchers-reveal-draft-genome-virus-implicated-wuhan-pneumonia-outbreak</a> Yang-Zhen Zhang and Edward C. Holmes, "A Genomic Perspective on the Origin and Emergence of SARS-CoV-2," Cell, No. 181, April 16, 2020, <a href="https://www.cell.com/cell/pdf/S0092-8674(20)30328-7.pdf">https://www.cell.com/cell/pdf/S0092-8674(20)30328-7.pdf</a> 38Fan Wu, Su Zhao, Bin Yu, et al., "A New Coronavirus Associated with Human Respiratory Disease in China," Nature, February 3, 2020, <a href="https://www.nature.com/articles/s41586-020-2008-3.pdf">https://www.nature.com/articles/s41586-020-2008-3.pdf</a> . "新型冠状病毒肺炎患者呼吸道分泌物中检测到新型冠状病毒" ["8 Viral Pneumonia Patients Leave Hospital; The Pathogen Is Preliminarily Determined to Be a Novel Coronavirus"], Chinese Central Television, January 9, 2020, <a href="http://news.cctv.com/2020/01/09/ARTI1qaoXDCwFfM5UPAnNy9200109.shtml">http://news.cctv.com/2020/01/09/ARTI1qaoXDCwFfM5UPAnNy9200109.shtml</a> 39Posting by Edward C. Holmes, University of Sydney on behalf of the consortium led by Professor Yong-Zhen Zhang, Fudan University, Shanghai, January 10, 2020, <a href="http://virological.org/t/ncov-2019-coronavirus-genome/319">http://virological.org/t/ncov-2019-coronavirus-genome/319</a> . Prof. Holmes wrote on behalf of Chinese colleagues at the Shanghai Public Health Clinical Center and School of Public Health, in collaboration with Wuhan Central Hospital, Huazhong University of Science and Technology, the Wuhan Center for Disease Control and Prevention, the National Institute for Communicable Disease Control and Prevention.
1/11/2020	Limited, misleading, delayed reporting	After the Shanghai team's announcement, China CDC's National Institute for Viral Disease Control and Prevention shares three sequences on Global Initiative on Sharing All Influenza Data (GISAID), an international platform for sharing influenza data. Two other Chinese teams share sequences to GISAID, too.	Science, GISAID	Jon Cohen and Dennis Norme, "World on Alert for Potential Spread of New SARS-like Virus Found in China," Science, January 14, 2020, <a href="https://www.sciencemag.org/news/2020/01/world-alert-potential-spread-new-sars-virus-found-china">https://www.sciencemag.org/news/2020/01/world-alert-potential-spread-new-sars-virus-found-china</a> ; GISAID, "History," <a href="https://www.gisaid.org/about-us/history/">https://www.gisaid.org/about-us/history/</a> The originating lab for three of the genomes is the National Institute for Viral Disease Control and Prevention, China CDC. The Institute of Pathogen Biology at the Chinese Academy of Medical Sciences and Peking University Medical College submits a fourth genome, and Wuhan Jinyintan Hospital submits a fifth.
1/11/2020	Limited, misleading, delayed reporting	Later on January 11, 2020, a team from China CDC and two other teams shared genomic sequences of the novel coronavirus on Global Initiative on Sharing All Influenza Data (GISAID), an international platform for sharing influenza data, and WHO tweeted that Chinese authorities had provided WHO with genetic sequences for the virus.	Science, GISAID	Jon Cohen, "Chinese Researchers Reveal Draft Genome of Virus Implicated in Wuhan Pneumonia Outbreak," Science, January 13, 2020, <a href="https://www.sciencemag.org/news/2020/01/chinese-researchers-reveal-draft-genome-virus-implicated-wuhan-pneumonia-outbreak">https://www.sciencemag.org/news/2020/01/chinese-researchers-reveal-draft-genome-virus-implicated-wuhan-pneumonia-outbreak</a> Yang-Zhen Zhang and Edward C. Holmes, "A Genomic Perspective on the Origin and Emergence of SARS-CoV-2," Cell, No. 181, April 16, 2020, <a href="https://www.cell.com/cell/pdf/S0092-8674(20)30328-7.pdf">https://www.cell.com/cell/pdf/S0092-8674(20)30328-7.pdf</a> 38Fan Wu, Su Zhao, Bin Yu, et al., "A New Coronavirus Associated with Human Respiratory Disease in China," Nature, February 3, 2020, <a href="https://www.nature.com/articles/s41586-020-2008-3.pdf">https://www.nature.com/articles/s41586-020-2008-3.pdf</a> . "新型冠状病毒肺炎患者呼吸道分泌物中检测到新型冠状病毒" ["8 Viral Pneumonia Patients Leave Hospital; The Pathogen Is Preliminarily Determined to Be a Novel Coronavirus"], Chinese Central Television, January 9, 2020, <a href="http://news.cctv.com/2020/01/09/ARTI1qaoXDCwFfM5UPAnNy9200109.shtml">http://news.cctv.com/2020/01/09/ARTI1qaoXDCwFfM5UPAnNy9200109.shtml</a> 39Posting by Edward C. Holmes, University of Sydney on behalf of the consortium led by Professor Yong-Zhen Zhang, Fudan University, Shanghai, January 10, 2020, <a href="http://virological.org/t/ncov-2019-coronavirus-genome/319">http://virological.org/t/ncov-2019-coronavirus-genome/319</a> . Prof. Holmes wrote on behalf of Chinese colleagues at the Shanghai Public Health Clinical Center and School of Public Health, in collaboration with Wuhan Central Hospital, Huazhong University of Science and Technology, the Wuhan Center for Disease Control and Prevention, the National Institute for Communicable Disease Control and Prevention.
1/11/2020	Limited, misleading, delayed reporting	"With the help of Dr. Andrew Rambaut (University of Edinburgh), ZHANG Yongzhen and his team at Shanghai Public Health Clinical Center and School of Life Science released the genome sequence of the virus on the open access Virological website ( <a href="http://virological.org/">http://virological.org/</a> ) early on January 11, 2020."	ScienceDirect	<a href="https://www.sciencedirect.com/science/article/pii/S0022867420303287">https://www.sciencedirect.com/science/article/pii/S0022867420303287</a>
1/11/2020	Limited, misleading, delayed reporting Promoting false sense of security	[ZHANG Yongzhen's team at the Shanghai Public Health Clinical Centre Shanghai] made the finding public on January 11 after it saw that the authorities had taken no obvious action to warn the public about the coronavirus... It shared the data on virological.org, an open platform for discussions, and GenBank, an open-access data repository, and said researchers were welcome to download, share, use and analyse the data.	South China Morning Post	<a href="https://www.scmp.com/news/china/society/article/3052986/chinese-laboratory-first-shared-coronavirus-genome-world-ordered">https://www.scmp.com/news/china/society/article/3052986/chinese-laboratory-first-shared-coronavirus-genome-world-ordered</a>
1/11/2020	Limited, misleading, delayed reporting	"9:08 a.m. CST The team led by Prof. Yong-Zhen Zhang of Fudan University in Shanghai becomes the first to share the genomic sequence of the novel coronavirus with the world. Australian virologist Edward C. Holmes tweets that he has posted an "initial genome sequence of the coronavirus associated with the Wuhan outbreak" on Virological.org, a hub for pre-publication data and analyses. On Virological.org, Holmes writes that he is acting on behalf of the consortium of scientists led by Prof. Zhang, and that the team has also deposited the sequence with GenBank."	Virological.org	"Tweet by Eddie Holmes, January 10, 2020, <a href="https://twitter.com/edwardholmes/status/1215802670176276482?ref=tw">https://twitter.com/edwardholmes/status/1215802670176276482?ref=tw</a> Posting by Edward C. Holmes, University of Sydney on behalf of the consortium led by Professor Yong-Zhen Zhang, Fudan University, Shanghai, January 10, 2020, <a href="http://virological.org/t/ncov-2019-coronavirus-genome/319">http://virological.org/t/ncov-2019-coronavirus-genome/319</a> Prof. Holmes wrote on behalf of Chinese colleagues at the Shanghai Public Health Clinical Center and School of Public Health, in collaboration with Wuhan Central Hospital, Huazhong University of Science and Technology, the Wuhan Center for Disease Control and Prevention, the National Institute for Communicable Disease Control and Prevention, and the University of Sydney."
1/11/2020	Limited, misleading, delayed reporting	1/11 - 1/17 Important prescheduled CCP meeting held in Wuhan as planned. During that time, the Wuhan Health Commission insists there are no new cases	Washington Post	<a href="https://www.washingtonpost.com/world/2020/02/01/early-newssteps-state-secretary-china-likely-allowed-coronavirus-spread-farther-faster/">washingtonpost.com/world/2020/02/01/early-newssteps-state-secretary-china-likely-allowed-coronavirus-spread-farther-faster/</a>

1/11/2020	Promoting false sense of security	11-17 Jan: Important prescheduled CCP meeting held in Wuhan. During that time, the Wuhan Health Commission insists there are no new cases	Washington Post	<a href="https://www.washingtonpost.com/world/2020/02/01/nearly-millions-state-science-china-likely-allowed-coronavirus-spread-farther-faster/">https://www.washingtonpost.com/world/2020/02/01/nearly-millions-state-science-china-likely-allowed-coronavirus-spread-farther-faster/</a>   <a href="https://archive.vn/Pftao">https://archive.vn/Pftao</a>
1/11/2020		On January 11, 2020, WHO tweeted, "BREAKING: WHO has received the genetic sequences for the novel #coronavirus (2019-nCoV) from the Chinese authorities." China appears to have determined that a novel coronavirus was responsible days before January 9, 2020, however. Its scientists also sequenced the virus' genome days earlier than January 11, 2020	WHO	Tweet from World Health Organization, January 11, 2020. <a href="https://twitter.com/WHO/status/121610849818823085">https://twitter.com/WHO/status/121610849818823085</a>
1/11/2020		WHO tweets, "BREAKING: WHO has received the genetic sequences for the novel #coronavirus (2019 nCoV) from the Chinese authorities. We expect them to be made publicly available as soon as possible."	WHO	Tweet from World Health Organization, January 11, 2020. <a href="https://twitter.com/WHO/status/121610849818823">https://twitter.com/WHO/status/121610849818823</a>
1/11/2020	Limited, misleading, delayed reporting Delayed admitting human to human transmission	In its first statement since January 5, the Wuhan Municipal Health Commission states that it has identified no new infections since January 3 and that cases preliminarily attributed to novel coronavirus pneumonia stand at 41—18 fewer than the 59 cases of pneumonia of unknown cause the commission reported on January 5. The commission announces the first death of a coronavirus patient, a 61-year-old man who was a long-time customer of the Hubean Seafood Wholesale Market. The commission states again that it has not found evidence of person-to-person transmission or infections among health care workers	Wuhan Health Commission	“武汉市卫生健康委员会于1月11日通报肺炎病例” (“Wuhan Municipal Health Commission Bulletin Regarding Viral Pneumonia of Unknown Cause”), January 11, 2020. <a href="http://www.wuhan.gov.cn/infoweb/showDetail/2020011109035">http://www.wuhan.gov.cn/infoweb/showDetail/2020011109035</a> .
1/11/2020		China later says the Chinese institutions that jointly share the genomic sequence with WHO are China CDC, the Chinese Academy of Medical Sciences, and the Wuhan Institute of Virology under the Chinese Academy of Sciences, as designated agencies of the National Health Commission	Xinhua	"Timeline of China Releasing Information on COVID-19 and Advancing International Cooperation on Epidemic Response," Xinhua, April 6, 2020. <a href="http://www.xinhuanet.com/english/2020-04/06/c_138951662.htm">http://www.xinhuanet.com/english/2020-04/06/c_138951662.htm</a> .
1/12/2020	Limited, misleading, delayed reporting	After Zhang released the genome, the Chinese CDC, the Wuhan Institute of Virology and the Chinese Academy of Medical Sciences raced to publish their sequences, working overnight to review them, gather patient data, and send them to the National Health Commission for approval, according to documentation obtained by the AP. On Jan. 12, the three labs together finally published the sequences on GISAID, a platform for scientists to share genomic data. By then, more than two weeks had passed since Vision Medicals decoded a partial sequence, and more than a week since the three government labs had all obtained full sequences. Around 600 people were infected in that week, a roughly three-fold increase.	AP	<a href="https://apnews.com/article/3c061794970661042b18d5aeae0d9fc">https://apnews.com/article/3c061794970661042b18d5aeae0d9fc</a>
1/12/2020		A team from China's National Institute for Viral Disease Control and Prevention, part of China CDC, return to the shuttered Hubean Seafood Wholesale Market to collect 70 additional samples from stalls where vendors sold wild animals. China CDC previously collected an initial 515 environmental samples from the market on January 1, 2020	Cixin, Xinhua, SCMP	Xu Cuiyi, "中国疾控中心专家组在武汉市中心城区农贸市场采集样本" ["China Center for Disease Control and Prevention Status: Pneumonia Virus Originated from Seafood Market, Source of Contagion Still Has Not Been Found"], Cixin Wang, January 26, 2020. <a href="http://science.cixin.com/2020/01/26/101508622.html">http://science.cixin.com/2020/01/26/101508622.html</a> . "中国疾控中心专家组在武汉市中心城区农贸市场采集样本" ("China CDC Has Found a Large Amount of Novel Coronavirus from the Wuhan Hubean Seafood Market"), Xinhua, January 27, 2020. <a href="http://www.xinhuanet.com/2020-01/27/c_1125804358.htm">http://www.xinhuanet.com/2020-01/27/c_1125804358.htm</a> . 147 Zhuang Pinghui, "Chinese Laboratory That First Shared Coronavirus Genome with World Ordered to Close for 'Rectification', Hindering Its Covid-19 Research," South China Morning Post, February 28, 2020. <a href="https://www.scmp.com/news/china/society/article/3052966/chinese-laboratory-first-shared-coronavirus-genome-world-ordered">https://www.scmp.com/news/china/society/article/3052966/chinese-laboratory-first-shared-coronavirus-genome-world-ordered</a> .
1/12/2020		"[Li Wenliang] admitted to the ophthalmology ward of Wuhan Central Hospital on January 12"	CCTV	<a href="http://m.news.cctv.com/2020/03/19/ARTI1E06n25wKzeYnNlyBzTM200319.shtml">http://m.news.cctv.com/2020/03/19/ARTI1E06n25wKzeYnNlyBzTM200319.shtml</a>   <a href="https://archive.vn/EY0E5">https://archive.vn/EY0E5</a>
1/12/2020		The annual full session of the People's Congress of Hubei Province opens in Wuhan. It will last five and a half days and involve 683 delegates. Representatives from the U.S. and United Kingdom consulates in Wuhan attend the opening ceremony. While the congress is in session, the Wuhan Municipal Health Commission will issue daily updates. But will report no new infections	Hubei Daily	“湖北省十三届人民代表大会第三次会议隆重开幕” (“The Third Session of the 13th Hubei Provincial People's Congress Grandly Opens”), Hubei Daily, January 13, 2020. <a href="http://www.hbpc.gov.cn/2020/01/13/31787.html">http://www.hbpc.gov.cn/2020/01/13/31787.html</a> ; “湖北省十三届人民代表大会第三次会议开幕” (“The Third Session of the Hubei Provincial 13th People's Congress Holds Its Third Full Meeting”), Hubei Daily, January 17, 2020. <a href="http://www.hbpc.gov.cn/2020/01/17/31918.html">http://www.hbpc.gov.cn/2020/01/17/31918.html</a> .
1/12/2020	Censorship of health information	The Shanghai Health Commission orders Dr. Yong-zhen Zhang's laboratory at the Shanghai Public Health Clinical Center and School of Public Health at Fudan University to close for unspecified "rectification." No reason is given. According to Hong Kong's South Morning Post, it is "not clear whether the closure was related to the publishing of the sequencing data before the authorities."	SCMP	"Zhuang Pinghui, "Chinese Laboratory That First Shared Coronavirus Genome with World Ordered to Close for 'Rectification', Hindering Its Covid-19 Research," South China Morning Post, February 28, 2020. <a href="https://www.scmp.com/news/china/society/article/3052966/chinese-laboratory-first-shared-coronavirus-genome-world-ordered">https://www.scmp.com/news/china/society/article/3052966/chinese-laboratory-first-shared-coronavirus-genome-world-ordered</a> ."
1/12/2020	Censorship of health information	Professor Zhang Yongzhen's lab in Shanghai is closed by authorities for "rectification," one day after it shared genomic sequence data with the world for the first time. "The closure has greatly affected the scientists and their research when they should be racing against the clock to find the means to help put the novel coronavirus outbreak under control," a lab source says.	SCMP, Inkstone News	"Zhuang Pinghui, "Chinese laboratory that first shared coronavirus genome with world ordered to close for rectification", hindering its Covid-19 research," South China Morning Post, Feb 28, 2020. Zhuang Pinghui, "Shanghai lab first to publish the coronavirus genome ordered shut," Inkstone News, March 2, 2020."
1/12/2020	Censorship of health information	"The laboratory at the Shanghai Public Health Clinical Centre was ordered to close for 'rectification' on January 12, a day after Professor Zhang Yongzhen's team published the genome sequence on open platforms. It closed temporarily the following day.... "The centre was not given any specific reasons why the laboratory was closed for rectification. [We have submitted] four reports [asking for permission] to reopen but we have not received any replies," a source with the centre said, requesting anonymity because of the matter's sensitivity.... It was not clear whether the closure was related to the publishing of the sequencing data before the authorities.... China's National Health Commission announced hours after the release by Zhang's team that it would share the genome sequence with the World Health Organisation. It later emerged that the information had been sent through the officially designated Wuhan Institute of Virology.	South China Morning Post	<a href="https://www.scmp.com/news/china/society/article/3052966/chinese-laboratory-first-shared-coronavirus-genome-world-ordered">https://www.scmp.com/news/china/society/article/3052966/chinese-laboratory-first-shared-coronavirus-genome-world-ordered</a>
1/12/2020	Delayed admitting human to human transfer	Dr. Li Wenliang is hospitalized with symptoms of the novel coronavirus. In a January 31 Weibo micro-blog post, he recalls thinking at this time, "How can the bulletins still be saying there is no human-to-human transmission, and no medical worker infections?" Chinese authorities do not disclose medical worker infections until January 20.	Weibo	J Wenliang Weibo post, January 31, 2020. <a href="https://www.weibo.com/1139098205/d0Xp0ARR?frompage=1005051139098205_profile&amp;ww=6&amp;uid=weibotweid&amp;type=comment#_rml158768422896">https://www.weibo.com/1139098205/d0Xp0ARR?frompage=1005051139098205_profile&amp;ww=6&amp;uid=weibotweid&amp;type=comment#_rml158768422896</a>
1/12/2020	Delayed admitting human to human transfer Promoting false sense of security	WHO issues a statement noting, "China shared the genetic sequence of the novel coronavirus on 12 January, which will be of great importance for other countries to use in developing specific diagnostic tests." WHO also states, "The evidence is highly suggestive that the outbreak is associated with exposures in one seafood market in Wuhan. The market was closed on 1 January 2020. At this stage, there is no infection among healthcare workers, and no clear evidence of human-to-human transmission"	WHO	World Health Organization, "Novel Coronavirus—China," January 12, 2020. <a href="https://www.who.int/csr/don/12-january-2020-novel-coronavirus-china/en/">https://www.who.int/csr/don/12-january-2020-novel-coronavirus-china/en/</a>
1/12/2020		Chinese state media reports, Experts from the National Institute for Viral Disease Control and Prevention under the China CDC allegedly take "environmental samples" with the Wuhan Seafood Market	Xinhua Net	<a href="http://www.xinhuanet.com/english/2020-01/27/c_138735677.htm">http://www.xinhuanet.com/english/2020-01/27/c_138735677.htm</a> <a href="https://archive.vn/Z2zNi">https://archive.vn/Z2zNi</a>

1/13/2020	Limited, misleading, delayed reporting	Without these internal reports, it took the first case outside China, in Thailand on Jan. 13, to galvanize leaders in Beijing into recognizing the possible pandemic before them. It was only then that they launched a nationwide plan to find cases — distributing CDC-sanctioned test kits, easing the criteria for confirming cases and ordering health officials to screen patients. They also instructed officials in Hubei province, where Wuhan is located, to begin temperature checks at transportation hubs and cut down on large public gatherings. And they did it all without telling the public.	AP	<a href="https://apnews.com/article/68a9e1b91de4ff1c166acd6012d82c2f9">https://apnews.com/article/68a9e1b91de4ff1c166acd6012d82c2f9</a>
1/13/2020	Exporting the virus	First Coronavirus case outside of China is reported in Bangkok when a 61-year-old woman from Wuhan tests positive four days after landing with a fever at the airport. The patient began exhibiting symptoms (fever, chills, sore throat, headache) three days before leaving Wuhan.	SCMP, WHO	"Elizabeth Cheung, "Wuhan pneumonia: Thailand confirms first case outside of China," South China Morning Post, January 13, 2020. "Novel Coronavirus - Thailand (ex. China)," WHO, January 14, 2020."
1/13/2020		Thai authorities confirm the first case of the coronavirus outside of China. The individual confirmed to have the virus is a Chinese national who traveled to Thailand from Wuhan.	WHO	World Health Organization, "Novel Coronavirus (2019-nCoV) Situation Report—1," January 21, 2020, <a href="https://www.who.int/docs/default-source/coronavirus/situation-reports/20200121-sitrep-1-2019-ncov.pdf?sfvrsn=20a99c10_4">https://www.who.int/docs/default-source/coronavirus/situation-reports/20200121-sitrep-1-2019-ncov.pdf?sfvrsn=20a99c10_4</a>
1/13/2020		The Communist Party's top decision-making body, the Politburo-Standing Committee, meets in Beijing to discuss reports to be delivered at upcoming annual full meetings of the national legislature, the National People's Congress, and a political advisory body. (Both meetings will subsequently be postponed due to the epidemic.) Chinese media reports on the meeting do not mention the novel coronavirus.	Xinhua	"CPC Leadership Holds Meeting to Deliberate Reports," Xinhua, January 16, 2020, <a href="http://www.xinhuanet.com/english/2020-01/16/c_138710689.htm">http://www.xinhuanet.com/english/2020-01/16/c_138710689.htm</a>
1/13/2020	Delayed admitting human to human transfer	Two experts from Taiwan's Communicable Disease Control Medical Network and its Centers for Disease Control arrive in Wuhan for a two-day visit to investigate the outbreak. With colleagues from the Chinese Special Administrative Regions of Hong Kong and Macao, they visit Wuhan's Jinyintan Hospital, where an official from China's National Health Commission tells them, "limited human-to-human transmission cannot be excluded." One of the Taiwan experts recalls thinking, "that means human-to-human transmission absolutely."	Xinhua, Telegraph, Focus Taiwan, Taiwan CDC	Nicola Smith, "They Wanted to Take Us Sightsawing. I Stayed in the Hotel," Says First Foreign Official to Enter Wuhan," The Telegraph (London), May 6, 2020. <a href="https://www.telegraph.co.uk/global-health/science-and-disease/wanted-take-us-sight-seeing-stayed-hotel-says-first-foreign/">https://www.telegraph.co.uk/global-health/science-and-disease/wanted-take-us-sight-seeing-stayed-hotel-says-first-foreign/</a> Chen Wei-bing and Ko Lin, "Taiwanese Experts Arrive in Wuhan to Learn More About Strange Virus," Focus Taiwan, January 13, 2020. <a href="https://focustawebn.tw/society/202001130015">https://focustawebn.tw/society/202001130015</a> . Taiwan Centers for Disease Control, "Two Experts from Taiwan Visit Wuhan to Understand and Obtain Information on Severe Special Infectious Pneumonia Outbreak, Taiwan CDC Raises Travel Notice Level for Wuhan to Level 2," January 20, 2020, <a href="https://www.cdc.gov.tw/Eng/Bulletin/Detail/JFGUvHkUHMz2eyAlHQ?typed=158">https://www.cdc.gov.tw/Eng/Bulletin/Detail/JFGUvHkUHMz2eyAlHQ?typed=158</a> . "大陆两岸 大陆两岸 大陆两岸 大陆两岸 大陆两岸" (Taiwan Affairs Office, The Mainland Puts Great Emphasis on Maintaining the Health and Well Being of Compatriots on Either Side of the Strait), Xinhua, January 15, 2020. <a href="http://www.xinhuanet.com/fw/2020-01/15/c_1125463706.htm">http://www.xinhuanet.com/fw/2020-01/15/c_1125463706.htm</a> .
1/14/2020	Delayed admitting human to human transfer Exporting the virus Promoting false sense of security	In a confidential teleconference with provincial health officials, PRC National Health Commission chief Ma Xiaowei reportedly warns that the novel virus is "the most severe challenge since SARS in 2003, and is likely to develop into a major public health event," adding that "clustered cases suggest that human-to-human transmission is possible." Citing the case reported in Thailand the day prior, Ma warns of spread overseas and during China's coming Lunar New Year festivities. It would be another six days before any of these official concerns are made public.	AP	"China didn't warn public of likely pandemic for 6 key days," The Associated Press, April 15, 2020.
1/14/2020	Delayed admitting human to human transmission	Under a section titled "sober understanding of the situation," the memo said that "clustered cases suggest that human-to-human transmission is possible." It singled out the case in Thailand, saying that the situation had "changed significantly" because of the possible spread of the virus abroad.	AP	<a href="https://apnews.com/article/68a9e1b91de4ff1c166acd6012d82c2f9">https://apnews.com/article/68a9e1b91de4ff1c166acd6012d82c2f9</a>
1/14/2020	Delayed admitting human to human transfer Promoting false sense of security	The next day, in a confidential teleconference, China's top health official ordered the country to prepare for a pandemic, calling the outbreak the "most severe challenge since SARS in 2003," as the AP previously reported. Chinese CDC staff across the country began screening, isolating, and testing for cases, turning up hundreds across the country. Yet even as the Chinese CDC internally declared a level one emergency, the highest level possible, Chinese officials still said the chance of sustained transmission between humans was low. WHO went back and forth. Van Kerkhove said in a press briefing that "it is certainly possible there is limited human-to-human transmission." But hours later, WHO seemed to backtrack, and tweeted that "preliminary investigations conducted by the Chinese authorities have found no clear evidence of human-to-human transmission" — a statement that later became fodder for critics.	AP	<a href="https://apnews.com/article/3c061794970661042b18d5a2ae4d0fae">https://apnews.com/article/3c061794970661042b18d5a2ae4d0fae</a>
1/14/2020	Limited, misleading, delayed reporting	The documents show that the head of China's National Health Commission, Ma Xiaowei, laid out a grim assessment of the situation on Jan. 14 in a confidential teleconference with provincial health officials. A memo states that the teleconference was held to convey instructions on the coronavirus from President Xi Jinping, Premier Li Keqiang and Vice Premier Sun Chunlan, but does not specify what those instructions were. "The epidemic situation is still severe and complex, the most severe challenge since SARS in 2003, and is likely to develop into a major public health event," the memo cites Ma as saying. The National Health Commission is the top medical agency in the country. In a faxed statement, the Commission said it had organized the teleconference because of the case reported in Thailand and the possibility of the virus spreading during New Year travel. It added that China had published information on the outbreak in an "open, transparent, responsible and timely manner," in accordance with "important instructions" repeatedly issued by President Xi.	AP	<a href="https://apnews.com/article/68a9e1b91de4ff1c166acd6012d82c2f9">https://apnews.com/article/68a9e1b91de4ff1c166acd6012d82c2f9</a>
1/14/2020	Limited, misleading, delayed reporting	"With the coming of the Spring Festival, many people will be traveling, and the risk of transmission and spread is high," the memo continued. "All localities must prepare for and respond to a pandemic." In the memo, Ma demanded officials unite around Xi and make clear that political considerations and social stability were key priorities during the long lead-up to China's two biggest political meetings of the year in March. While the documents do not spell out why Chinese leaders waited six days to make their concerns public, the meetings may be one reason.	AP	<a href="https://apnews.com/article/68a9e1b91de4ff1c166acd6012d82c2f9">https://apnews.com/article/68a9e1b91de4ff1c166acd6012d82c2f9</a>
1/14/2020	Censorship of health information Promoting false sense of security	Placelocks police detain journalists trying to report from Wuhan's Jinyintan Hospital and force them to delete their TV footage and hand in phones and cameras for inspection.	Business Insider, NYT	Ashley Collman, "China spent the crucial first days of the Wuhan coronavirus outbreak arresting people who posted about it online and threatening journalists," Business Insider, January 24, 2020. Also Li Yuan, "China silences critics over deadly virus outbreak," New York Times, January 25, 2020.
1/14/2020		"[Li Wenliang] transferred to the third ward of the Department of Respiratory and Critical Care Medicine on January 14"	CCTV	<a href="http://m.news.cctv.com/2020/01/19/AR1rE06n5wkrzVnlyBqTM200319.shtml">http://m.news.cctv.com/2020/01/19/AR1rE06n5wkrzVnlyBqTM200319.shtml</a>   <a href="https://archive.vn/EV0eS">https://archive.vn/EV0eS</a>
1/14/2020	Delayed admitting human to human transfer Promoting false sense of security	The chief of the WHO emerging diseases unit reports that "it is possible that there is limited human-to-human transmission, potentially among families, but it is very clear right now that we have no sustained human-to-human transmission."	Reuters	Stephanie Nebehay, "WHO says new China coronavirus could spread, warns hospitals worldwide," Reuters, January 14, 2020.
1/14/2020	Delayed admitting human to human transfer	When visitors from Hong Kong, Macao, and Taiwan visited Wuhan January 13-14, 2020, an official from China's National Health Commission told them, "limited human-to-human transmission cannot be excluded."	Telegraph	Nicola Smith, "They Wanted to Take Us Sightsawing. I Stayed in the Hotel," Says First Foreign Official to Enter Wuhan," The Telegraph (London), May 6, 2020. <a href="https://www.telegraph.co.uk/global-health/science-and-disease/wanted-take-us-sight-seeing-stayed-hotel-says-first-foreign/">https://www.telegraph.co.uk/global-health/science-and-disease/wanted-take-us-sight-seeing-stayed-hotel-says-first-foreign/</a> .
1/14/2020	Delayed admitting human to human transfer Promoting false sense of security	WHO announces Chinese authorities have seen "no clear evidence of human-to-human transmission of the novel coronavirus."	Twitter WHO Account	<a href="https://twitter.com/WHO/status/1217043229427761352?ref_src=twsrc=twf twcamp=tweetembed&amp;ref_url=https://www.foxnews.com/world/world-health-organization-january-tweet-china-human-transmission-coronavirus">https://twitter.com/WHO/status/1217043229427761352?ref_src=twsrc=twf twcamp=tweetembed&amp;ref_url=https://www.foxnews.com/world/world-health-organization-january-tweet-china-human-transmission-coronavirus</a>   <a href="https://archive.vn/9sc30">https://archive.vn/9sc30</a>

1/14/2020		Dr. Maria Van Kerkhove, acting head of WHO's emerging diseases unit, tells a press conference in Geneva the same day, "it is certainly possible that there is limited human-to-human transmission."	UN Geneva Tweet by UN Geneva, January 14, 2020. 1:07 p.m. <a href="https://twitter.com/UNGeneva/status/1217146107957932032">https://twitter.com/UNGeneva/status/1217146107957932032</a> . Stephanie Nebehay. "WHO Says New China Virus Could Spread, It's Warning All Hospitals," Reuters, January 14, 2020. <a href="https://www.reuters.com/article/china-health-pneumonia-whu/whu-says-new-china-virus-could-spread-it-warns-all-hospitals-idUSJN2ZF48F">https://www.reuters.com/article/china-health-pneumonia-whu/whu-says-new-china-virus-could-spread-it-warns-all-hospitals-idUSJN2ZF48F</a> .
1/14/2020	Delayed admitting human to human transfer Promoting false sense of security	Official WHO twitter page announces: "Preliminary investigations conducted by the Chinese authorities have found no clear evidence of human-to-human transmission of the novel #coronavirus (2019-nCoV) identified in Wuhan, #China." This is more than five weeks after the first evidence of human-to-human transmission in Wuhan.	WHO WHO tweet, January 14, 2020, 6:18am ET ( <a href="https://twitter.com/WHO/status/1217043229427763152">https://twitter.com/WHO/status/1217043229427763152</a> ).
1/14/2020	Delayed admitting human to human transfer Promoting false sense of security	WHO headquarters tweets: "Preliminary investigations conducted by the Chinese authorities have found no clear evidence of human to human transmission of the novel #coronavirus (2019-nCoV) identified in Wuhan, #China."	WHO World Health Organization (@WHO) tweet, January 14, 2020, 6:18 a.m. <a href="https://twitter.com/WHO/status/1217043229427761152">https://twitter.com/WHO/status/1217043229427761152</a> .
1/15/2020	Limited, misleading, delayed reporting	A day after the confidential teleconference, China's CDC initiates the highest-level emergency response internally and the National Health Commission distributes 63 pages of instructions to provinces on identifying cases and equipping doctors with protective gear. These instructions are marked "internal," "not to be spread on the internet," and "not to be publicly disclosed."	AP "China didn't warn public of likely pandemic for 5 key days," The Associated Press, April 15, 2020
1/15/2020	Delayed admitting human to human transmission	"I always suspected it was human-to-human transmissible," said Wang Guangfa, the leader of the second expert team, in a Mar. 15 post on Weibo, the Chinese social media platform. He fell ill with the virus soon after returning to Beijing on Jan. 16.	AP <a href="https://apnews.com/article/68a9e1b91de4ff1c166ad6012d82c2f9">https://apnews.com/article/68a9e1b91de4ff1c166ad6012d82c2f9</a>
1/15/2020	Promoting false sense of security Limited, misleading, delayed reporting	"In response to the teleconference, the Center for Disease Control and Prevention in Beijing initiated the highest-level emergency response internally, level one, on Jan. 15. It assigned top CDC leaders to 14 working groups tasked with getting funds, training health workers, collecting data, doing field investigations and supervising laboratories, an internal CDC notice shows. The National Health Commission also distributed a 63-page set of instructions to provincial health officials, obtained by the AP. The instructions ordered health officials nationwide to identify suspected cases, hospitals to open fever clinics, and doctors and nurses to don protective gear. They were marked "internal" — "not to be spread on the internet," "not to be publicly disclosed." In public, however, officials continued to downplay the threat, pointing to the 41 cases public at the time."	AP <a href="https://apnews.com/article/68a9e1b91de4ff1c166ad6012d82c2f9">https://apnews.com/article/68a9e1b91de4ff1c166ad6012d82c2f9</a>
1/15/2020	Exporting the virus	The patient who becomes the first confirmed U.S. case leaves Wuhan and arrives in the U.S., carrying the coronavirus.	CDC "First Travel-related Case of 2019 Novel Coronavirus Detected in United States." U.S. CDC, January 21, 2020. <a href="https://www.cdc.gov/media/releases/2020/p0121-novel-coronavirus-travel-case.html">https://www.cdc.gov/media/releases/2020/p0121-novel-coronavirus-travel-case.html</a>   <a href="https://archwe.vn/66596C">https://archwe.vn/66596C</a>
1/15/2020	Delayed admitting human to human transfer	What is clear is that by the second week of December, several Huanan workers were falling sick with similar symptoms, including fever, coughing, fatigue and aching limbs. Even at that initial stage, there were indications that it was spreading to people with no market exposure—a signal of human-to-human transmission. Wuhan's government announced last month that the first confirmed case was a person nicknamed Chee who fell sick on Dec. 8 but had fully recovered and been discharged from the hospital. The person denied going to the Huanan market, it said.	Wall Street Journal <a href="https://www.wsj.com/articles/how-it-all-started-chinas-early-coronavirus-mistep-11583508932">https://www.wsj.com/articles/how-it-all-started-chinas-early-coronavirus-mistep-11583508932</a>
1/15/2020	Delayed admitting human to human transfer Promoting false sense of security	Li Qun, head of the Chinese CDC's emergency center, plays down the human to human transmission threat on state television. "After careful screening and prudent judgment, we have reached the latest understanding that the risk of human-to-human transmission is low."	WSJ Jeremy Page et al., "How It All Started: China's Early Coronavirus Misteps," Wall Street Journal, March 6, 2020.
1/15/2020		The Wuhan Municipal Health Commission reports no new infections or deaths, stating that the cumulative number of cases in the city has remained steady at 41	Wuhan Health Commission Wuhan Municipal Health Commission, "武汉市卫生健康委员会通报新型冠状病毒感染的肺炎疫情" ("Wuhan Municipal Health Commission Bulletin Regarding the Novel Coronavirus Infection Pneumonia Situation"), January 15, 2020.
1/15/2020		In a question-and-answer statement dated January 14 but posted to its website on January 15, the Wuhan Municipal Health Commission confirms that the case reported by Thai authorities on January 13 is a resident of Wuhan. The commission also answers the question, "Up to now, has there been person-to-person transmission?" The commission answers, "Existing investigative results indicate no clear evidence of person-to-person transmission. We cannot rule out the possibility of limited person-to-person transmission, but the risk of sustained person-to-person transmission is low."	Wuhan Health Commission Wuhan Municipal Health Commission, "武汉市卫生健康委员会通报新型冠状病毒感染的肺炎疫情" ("Q&A on Knowledge About Novel Coronavirus Infection Pneumonia"), dated January 14, 2020; posted January 15, 2020. <a href="http://www.wuhan.gov.cn/swxz_28/gsgz/202001/202001301199594.shtml">http://www.wuhan.gov.cn/swxz_28/gsgz/202001/202001301199594.shtml</a>
1/16/2020	Delayed admitting human to human transfer	Wuhan's Municipal Health Commission issued no updates while a five-day-long political meeting took place in the city January 6-10. For the duration of a second major political meeting in the city, January 12-17, the Wuhan Municipal Health Commission issued daily updates, but reported no new infections. The commission's report on January 11, issued on the day between the two political meetings, gave the impression the epidemic was shrinking. On January 5, the commission had reported a cumulative 58 cases in the city. On January 11, it revised the cumulative number of cases down to 41, a number that remained constant through January 16. The absence of updates from January 6 to 10, and the official statements that no new cases had been detected between January 3 and January 16, may have given Wuhan residents a false sense of security that the outbreak was under control.	Wuhan Health Commission Wuhan Municipal Health Commission, "武汉市卫生健康委员会通报新型冠状病毒感染的肺炎疫情" ("Wuhan Municipal Health Commission Bulletin on the Situation Regarding Wral Pneumonia of Unknown Cause"), January 5, 2020. <a href="http://www.wuhan.gov.cn/front/web/showDetail/202001050902050?text=1">http://www.wuhan.gov.cn/front/web/showDetail/202001050902050?text=1</a> ; 卫生健康委员会: 1月11日通报新型冠状病毒感染的肺炎疫情" ("Wuhan Municipal Health Commission Bulletin Regarding Wral Pneumonia of Unknown Cause"), January 11, 2020. <a href="http://www.wuhan.gov.cn/front/web/showDetail/2020011109035">http://www.wuhan.gov.cn/front/web/showDetail/2020011109035</a>
1/17/2020	Limited, misleading, delayed reporting	"But the six day delay by China's leaders in Beijing came on top of almost two weeks during which the national Center for Disease Control did not register any cases from local officials, internal bulletins obtained by the AP confirm. Yet during that time, from Jan. 5 to Jan. 17, hundreds of patients were appearing in hospitals not just in Wuhan but across the country. It's uncertain whether it was local officials who failed to report cases or national officials who failed to report them. It's also not clear exactly what officials knew at the time in Wuhan, which only opened back up last week with restrictions after its quarantine. But what is clear, experts say, is that China's rigid controls on information, bureaucratic hurdles and a reluctance to send bad news up the chain of command muffled early warnings. The punishment of eight doctors for "rumor-mongering," broadcast on national television on Jan. 2, sent a chill through the city's hospitals."	AP <a href="https://apnews.com/article/68a9e1b91de4ff1c166ad6012d82c2f9">https://apnews.com/article/68a9e1b91de4ff1c166ad6012d82c2f9</a>
1/17/2020		U.S. CDC and the Department of Homeland Security's U.S. Customs and Border Protection begin health screenings for travelers arriving from Wuhan at three U.S. airports. The airports, identified as receiving the greatest number of travelers from Wuhan, are San Francisco (SFO), New York (JFK), and Los Angeles (LAX)	CDC U.S. CDC, "Public Health Screening to Begin at 3 U.S. Airports for 2019 Novel Coronavirus (2019-nCoV)," January 17, 2020. <a href="https://www.cdc.gov/media/releases/2020/p0117-coronavirus-screening.html">https://www.cdc.gov/media/releases/2020/p0117-coronavirus-screening.html</a> .
1/17/2020		A second patient with coronavirus-related pneumonia has been confirmed dead in Wuhan	PRC National Health Commission <a href="http://en.nhc.gov.cn/2020_03/20/c_78021.htm">http://en.nhc.gov.cn/2020_03/20/c_78021.htm</a>
1/17/2020		The annual full session of the People's Congress of Hubei Province, which opened on January 12, concludes. After the session closes, the Wuhan Municipal Health Commission announces new infections for the first time since January 3. It states that four new infections bring the number of confirmed cases in the city to 45, with two deaths	Wuhan Health Commission, Hubei Province Peoples Congress "People's Congress of Hubei Province, '湖北省第十三届人民代表大会第三次会议'" ("The Third Session of the 13th People's Congress of Hubei Province Closes"), January 18, 2020. <a href="http://www.hbpc.gov.cn/2020/01/18/323955.html">http://www.hbpc.gov.cn/2020/01/18/323955.html</a> ; Wuhan Municipal Health Commission, "武汉市卫生健康委员会通报新型冠状病毒感染的肺炎疫情" ("Wuhan Municipal Health Commission Bulletin Regarding the Novel Coronavirus Infection Pneumonia Situation"), January 17, 2020. <a href="http://www.wuhan.gov.cn/front/web/showDetail/2020011709054">http://www.wuhan.gov.cn/front/web/showDetail/2020011709054</a> .

1/17/2020		Chinese leader Xi Jinping arrives in Burma (Burmese) as Myanmar on the start of a state visit to celebrate the 70th anniversary of bilateral diplomatic relations and the "China-Myanmar Year of Culture and Tourism." It is his first overseas trip of the year. Chinese media coverage of his trip does not mention the novel coronavirus.	Xinhua	Xi, Myanmar leaders celebrate 70th anniversary of Diplomatic Ties, Xinhua, January 18, 2020, <a href="http://www.xinhuanet.com/english/2020-01/18/c_138714325.htm">http://www.xinhuanet.com/english/2020-01/18/c_138714325.htm</a> .
1/18/2020		The Wuhan Union Hospital, one of the city's best, held an emergency meeting on Jan. 18, instructing staff to adopt stringent isolation — still before Xi's public warning. A health expert told AP that on Jan. 19, she toured a hospital built after the SARS outbreak, where medical workers had furiously prepared an entire building with hundreds of beds for pneumonia patients. "Everybody in the country in the infectious disease field knew something was going on," she said, declining to be named to avoid disrupting sensitive government consultations. "They were anticipating it."	AP	<a href="https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c2f9">https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c2f9</a>
1/18/2020		The Wuhan Health Commission announces four new cases.	Axios	<a href="https://archive.vn/Bpnrq">https://archive.vn/Bpnrq</a>   <a href="https://www.axios.com/timeline-the-early-days-of-chinas-coronavirus-outbreak-and-cover-up-ee65211a-af66-4641-97b8-353718a5faab.html">https://www.axios.com/timeline-the-early-days-of-chinas-coronavirus-outbreak-and-cover-up-ee65211a-af66-4641-97b8-353718a5faab.html</a>
1/18/2020	Delayed admitting human to human transfer	To celebrate the Lunar New Year, more than 40,000 households in Wuhan's Bububing neighborhood hold their 20th annual potluck banquet. Observers later blame the banquet for contributing to the spread of the virus in Wuhan. In a January 22 interview with CCTV, Wuhan Mayor Zhou Xiaowang says the decision to go forward with the banquet was "based on the judgment that in this epidemic, transmission between people was limited."	China News, FT, CCTV	"武汉社区千万家宴 万户家庭共叙团圆情" ["Wuhan Communist Holds Ten-Thousand Families Banquet—1000 Households Share the Neighborly Spirit"], China News Service ( <a href="http://www.chinaews.com">www.chinaews.com</a> ), January 19, 2020, <a href="http://www.chinanews.com/sh/2020/01-19/9064003.shtml">http://www.chinanews.com/sh/2020/01-19/9064003.shtml</a> . James Kyjse, Sun Yu, and Tom Hancock, "Coronaviruses: The Cost of China's Public Health Cover-Up," Financial Times, February 6, 2020, <a href="https://www.ft.com/content/fa83463b-4737-12ea-aeb3-955839e06441">https://www.ft.com/content/fa83463b-4737-12ea-aeb3-955839e06441</a> . "武汉市市长接受央视记者专访：疫情初期防控措施存在不足" ["Wuhan Mayor Accepts CCTV Headquarters Journalist's Exclusive Interview: The Weak Link in Epidemic Control is the Migrant Population"], CCTV, January 22, 2020, <a href="http://m.news.cctv.com/2020/01/22/ART1pQRrCfCgOa386da4rwYBI200122.shtml">http://m.news.cctv.com/2020/01/22/ART1pQRrCfCgOa386da4rwYBI200122.shtml</a> .
1/18/2020		Evening CST: A six person National Health Commission high level expert group led by Dr. Zhang Nanshan, a hero from China's struggle against SARS in 2002-2003, arrives in Wuhan.	Guangzhou Municipal People's Government	Guangzhou Municipal People's Government, "广州市 60 天 5 小时" ["A Complete Record of Zhong Nanshan's 60-Day Battle with the Epidemic"], April 26, 2020, <a href="http://www.gz.gov.cn/st1/shhs/202001/td/kymf/content/post_5807311.html">http://www.gz.gov.cn/st1/shhs/202001/td/kymf/content/post_5807311.html</a> .
1/18/2020	Catastrophic missteps Promoting false sense of security Delayed admitting human to human transmission	Wuhan hosts mass "potluck" banquet of 40,000 families in attempt to break world record.	NYT	Ji Yuan, "China silences critics over deadly virus outbreak," <i>New York Times</i> , January 25, 2020.
1/18/2020		In a telephone call, HHS Secretary Azar briefs President Donald J. Trump about the epidemic. It's the first time.	NYT	Eric Lipton, David E. Sanger, Maggie Haberman et al., "He Could Have Seen What Was Coming: Behind Trump's Failure on the Virus," <i>New York Times</i> , April 11, 2020, <a href="https://www.nytimes.com/2020/04/11/us/politics/coronavirus-trump-response.html">https://www.nytimes.com/2020/04/11/us/politics/coronavirus-trump-response.html</a>
1/18/2020	Promoting false sense of security	Annual Wuhan Lunar New Year banquet. Tens of thousands of people gathered for a potluck.	The Star	<a href="https://archive.vn/FpvrwC">https://archive.vn/FpvrwC</a>
1/18/2020	Limited, misleading, delayed reporting Promoting false sense of security Delayed admitting human to human transmission	Wuhan Municipal Health Commission announces new cases of the virus for the first time since before January 5. The announcement comes after the close of the five-day meeting of Wuhan's Communist Party-controlled People's Congress, during which officials made daily claims of no new cases, no human-human transmission, and no infected medical workers.	WSJ, NYT	"Jeremy Page et al. 'How It All Started: China's Early Coronavirus Missteps,' <i>Wall Street Journal</i> , March 6, 2020 Amy Qin, "China's Leader, Under Fire, Says He Led Coronavirus Fight Early On," <i>New York Times</i> , Feb. 15, 2020."
1/18/2020		Chinese leader Xi Jinping returns to Beijing after a two-day state visit to Burma	Xinhua	"Xi Returns to China After State Visit to Myanmar," January 18, 2020, <a href="http://www.xinhuanet.com/english/2020-01/18/c_138715984.htm">http://www.xinhuanet.com/english/2020-01/18/c_138715984.htm</a> .
1/19/2020	Too little, too late	Beijing sends epidemiologists to Wuhan.	Axios	<a href="https://archive.vn/Bpnrq">https://archive.vn/Bpnrq</a>   <a href="https://www.axios.com/timeline-the-early-days-of-chinas-coronavirus-outbreak-and-cover-up-ee65211a-af66-4641-97b8-353718a5faab.html">https://www.axios.com/timeline-the-early-days-of-chinas-coronavirus-outbreak-and-cover-up-ee65211a-af66-4641-97b8-353718a5faab.html</a>
1/19/2020		China's National Health Commission confirms the first case of the new coronavirus outside of Hubei Province, in a 65-year-old resident of Shenzhen, Guangdong Province, next to Hong Kong. The patient had traveled to Wuhan on December 29, 2019, developed symptoms on January 3, and returned to Shenzhen on January 4	China CDC Weekly, Health Commission of Guangdong Province	Health Commission of Guangdong Province, "国家卫生健康委通报：首例境外输入新型冠状病毒肺炎确诊病例" ["National Health Commission Confirms My Province's First Imported Confirmed Case of Novel Coronavirus Infection (Pneumonia)"], January 20, 2020, <a href="http://www.gd.gov.cn/twzq_yqzx/content/post_2878057.html">http://www.gd.gov.cn/twzq_yqzx/content/post_2878057.html</a> . The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team, China CDC, "The Epidemiological Characteristics of an Outbreak of 2019 Novel Coronavirus Diseases (COVID-19)—China, 2020," <i>China CDC Weekly</i> , vol. 2, no. 1, February 17, 2020, <a href="http://weekly.chinacdc.cn/en/article/id/e53946e2-c6d4-41e9a9b6-fa84b1a8f51">http://weekly.chinacdc.cn/en/article/id/e53946e2-c6d4-41e9a9b6-fa84b1a8f51</a> .
1/19/2020		The Chinese National Health Commission high level expert team receives a briefing from the Wuhan Municipal Health Commission and visits the Jinyintan Hospital, where novel coronavirus patients are being treated, and WHO CDC. At 5 p.m. CST, the expert team boards a plane for Beijing	Guangzhou Municipal People's Government	Guangzhou Municipal People's Government, "广州市 60 天 5 小时" ["A Complete Record of Zhong Nanshan's 60-Day Battle with the Epidemic"], April 26, 2020, <a href="http://www.gz.gov.cn/st1/shhs/202001/td/kymf/content/post_5807311.html">http://www.gz.gov.cn/st1/shhs/202001/td/kymf/content/post_5807311.html</a> .
1/19/2020		In Beijing, top health officials had received ominous reports from doctors in Wuhan and had sent two expert teams to investigate. But they lacked the political clout to challenge Wuhan officials and held their tongues in public. To a degree, Dr. Zhong's trip to Wuhan was less medical than political. He already knew the virus was spreading between people; his real purpose was to break the logjam in China's opaque system of government. "There is certainly human-to-human transmission," Dr. Zhong wrote in a report that he drafted on the train before reaching Wuhan, according to a recent Chinese book written with his cooperation. "Remind the public not to go to Wuhan except for special reasons, reduce outings and avoid gatherings."	NYT	<a href="https://www.nytimes.com/2020/12/30/world/asia/china-coronavirus.html">https://www.nytimes.com/2020/12/30/world/asia/china-coronavirus.html</a>
1/19/2020		Wuhan reported 17 new coronavirus-related pneumonia cases. Among the infected patients, 12 are male and five are female. They are aged between 30 and 79, and three of them were in critical condition	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/19/2020		The Wuhan Municipal Health Commission announces that the city's cumulative total of cases is 62, with two deaths.	Wuhan Health Commission	Wuhan Municipal Health Commission, "武汉市 19 日通报新型冠状病毒感染的肺炎疫情" ["Wuhan Municipal Health Commission Bulletin Regarding the Novel Coronavirus Infection Pneumonia Situation"], January 19, 2020, <a href="http://www.wuhan.gov.cn/wzx_28/gsgg/202004/A20200430_1295579.shtml">http://www.wuhan.gov.cn/wzx_28/gsgg/202004/A20200430_1295579.shtml</a>

1/20/2020	Delayed admitting human to human transmission	On Jan. 20, President Xi issued his first public comments on the virus, saying the outbreak "must be taken seriously" and every possible measure pursued. A leading Chinese epidemiologist, Zhong Nanshan, announced for the first time that the virus was transmissible from person to person on national television. If the public had been warned a week earlier to take actions such as social distancing, mask wearing and travel restrictions, cases could have been cut by up to two thirds, one paper later found. An earlier warning could have saved lives, said Zhang, the doctor in Los Angeles	AP	<a href="https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c2f9">https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c2f9</a>
1/20/2020	Limited, misleading, delayed reporting	In the six days after top Chinese officials secretly determined they likely were facing a pandemic from a new coronavirus, the city of Wuhan at the epicenter of the disease hosted a mass banquet for tens of thousands of people; millions began traveling through for Lunar New Year celebrations. President Xi Jinping warned the public on the seventh day, Jan. 20. But by that time, more than 3,000 people had been infected during almost a week of public silence, according to internal documents obtained by The Associated Press and expert estimates based on retrospective infection data. That delay from Jan. 14 to Jan. 20 was neither the first mistake made by Chinese officials at all levels in confronting the outbreak, nor the longest lag, as governments around the world have dragged their feet for weeks and even months in addressing the virus. But the delay by the first country to face the new coronavirus came at a critical time — the beginning of the outbreak. China's attempt to walk a line between alerting the public and avoiding panic set the stage for a pandemic that has infected more than 2 million people and taken more than 133,000 lives. That delay from Jan. 14 to Jan. 20 was neither the first mistake made by Chinese officials at all levels in confronting the outbreak, nor the longest lag, as governments around the world have dragged their feet for weeks and even months in addressing the virus. But the delay by the first country to face the new coronavirus came at a critical time — the beginning of the outbreak. China's attempt to walk a line between alerting the public and avoiding panic set the stage for a pandemic that has infected more than 2 million people and taken more than 133,000 lives.	AP	<a href="https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c2f9">https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c2f9</a>
1/20/2020	Limited, misleading, delayed reporting	Chinese President Xi Jinping called for the "timely publication of epidemic information and deepening of international cooperation." Despite that directive, WHO staff still struggled to obtain enough detailed patient data from China about the rapidly evolving outbreak. That same day, the U.N. health agency dispatched a small team to Wuhan for two days, including Galea, the WHO representative in China. They were told about a worrying cluster of cases among more than a dozen doctors and nurses. But they did not have "transmission trees" detailing how the cases were linked, nor a full understanding of how widely the virus was spreading and who was at risk. In an internal meeting, Galea said their Chinese counterparts were "talking openly and consistently" about human-to-human transmission, and that there was a debate about whether or not this was sustained. Galea reported to colleagues in Geneva and Manila that China's key request to WHO was for help "in communicating this to the public, without causing panic."	AP	<a href="https://apnews.com/article/3c061794070661042b18d58aee4d9fa">https://apnews.com/article/3c061794070661042b18d58aee4d9fa</a>
1/20/2020	Delayed admitting human to human transfer	Zhong Nanshan, a top Chinese doctor who is helping to coordinate the coronavirus response, announces the virus can be passed between people	Axios	<a href="https://archive.vn/Bpniq   https://www.axios.com/timeline-the-early-days-of-chinas-coronavirus-outbreak-and-cover-up-e665211a-af64-4641-97b8-353718a5faab.html">https://archive.vn/Bpniq   https://www.axios.com/timeline-the-early-days-of-chinas-coronavirus-outbreak-and-cover-up-e665211a-af64-4641-97b8-353718a5faab.html</a>
1/20/2020	Exporting the virus	The first case announced in South Korea.	Axios	<a href="https://archive.vn/Bpniq   https://www.axios.com/timeline-the-early-days-of-chinas-coronavirus-outbreak-and-cover-up-e665211a-af64-4641-97b8-353718a5faab.html">https://archive.vn/Bpniq   https://www.axios.com/timeline-the-early-days-of-chinas-coronavirus-outbreak-and-cover-up-e665211a-af64-4641-97b8-353718a5faab.html</a>
1/20/2020	Limited, misleading, delayed reporting	Dr. Zhong Nanshan, a leading authority on respiratory health well-known for his role as fighting SARS, confirms in a TV interview that the disease is spreading from person-to-person, a fact first identified by doctors in Wuhan in December. He later said that if the government had taken action earlier, in December or even early January, "the number of sick would have been greatly reduced."	Caiwn Global, WSJ	"Gao Yu, 'In Depth: How Early Signs of a SARS-Like Virus Were Spotted, Spread, and Throttled,' Cuiwn Global, February 29, 2020. Jeremy Page et al., "How It All Started: China's Early Coronavirus Missteps," Wall Street Journal, March 6, 2020"
1/20/2020	Limited, misleading, delayed reporting	The timeline indicates that information Chinese authorities provided to the Chinese public and to the world in the early weeks of the epidemic was often incomplete and understated the extent of the virus' spread. China shared more information beginning January 20, 2020.	CRS	<a href="https://crsreports.congress.gov/product/pdf/R/R46354/3">https://crsreports.congress.gov/product/pdf/R/R46354/3</a>
1/20/2020		China's National Health Commission classifies the novel coronavirus-caused pneumonia as a Category B statutory notifiable infectious disease under the PRC Law on the Prevention and Treatment of Infectious Diseases. This empowers hospitals to put those with the disease under mandatory isolation or quarantine and allows the government to blockade epidemic areas. The commission also declares the new disease an infectious disease subject to quarantines for the purposes of the PRC Frontier Health and Quarantine Law, allowing authorities to impose quarantines and other measures on travelers entering and exiting China.	LOC, PRC National Health Commission	PRC National Health Commission, "PRC National Health Commission Notice No. 1," January 20, 2020, <a href="http://www.nhc.gov.cn/yjky/j47916/202001/44a3b6245e8049d2837a4f27529cd396.shtml">http://www.nhc.gov.cn/yjky/j47916/202001/44a3b6245e8049d2837a4f27529cd396.shtml</a> . Laney Zhang, "FAQs: Measures to Control Infectious Diseases Under Chinese Law," Law Library of Congress, January 23, 2020, <a href="https://blogs.loc.gov/law/2020/01/faqs-measures-to-control-infectious-diseases-under-chinese-law/">https://blogs.loc.gov/law/2020/01/faqs-measures-to-control-infectious-diseases-under-chinese-law/</a> .
1/20/2020	Delayed admitting human to human transfer	"Zhong Nanshan, director of the China State Key Laboratory of Respiratory Disease and a world expert on the SARS virus, said after a visit to Wuhan that the source of the new type coronavirus was probably from wildlife, such as bamboo rats or badgers. "The outbreak concentrated in two districts in Wuhan, where there are big seafood markets," Zhong said in an interview with state broadcaster CCTV on Monday. "While they are called seafood markets, many vendors are selling game. According to preliminary epidemiological analysis, the virus is probably transmitted from wildlife [at the markets] to humans."	OSC	"Why Wild Animals Are a Key Ingredient in China's Coronavirus Outbreak", Hong Kong South China Morning Post Online in English 1345 GMT 22 Jan 20
1/20/2020		Shi Zhengli, a researcher with the Wuhan Institute of Virology at the Chinese Academy of Sciences, said the real problem was in people's behaviour, rather than with the animals. "The simplest way to prevent such infectious diseases is to stay away from wildlife, say no to game, avoid their habitats and livestock and farms mixing with wildlife," Shi said.	OSC	"Why Wild Animals Are a Key Ingredient in China's Coronavirus Outbreak", Hong Kong South China Morning Post Online in English 1345 GMT 22 Jan 20
1/20/2020	Limited, misleading, delayed reporting	A high-level expert team of China's national Health Commission (NHC) confirmed people-to-people transmission of the novel coronavirus and infections among medical staff. Zhong Nanshan, a renowned respiratory expert and head of the team, said the geographical distribution of Wuhan's infectious cases indicated a close relationship between the epidemic and a local seafood market.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/20/2020	Delayed admitting human to human transfer	A WHO expert echoed that position in a January 14, 2020, press conference, stating that China had experienced "limited" human-to-human transmission of the novel coronavirus, mainly in families. Chinese authorities first publicly confirmed person-to-person transmission on January 20.	Reuters, CCTV	Stephanie Nebehay, "WHO Says New China Virus Could Spread, It's Warning All Hospitals," Reuters, January 14, 2020, <a 20,="" 2020,="" <a="" href="http://www.xinhuanet.com/english/2020-01/20/c_138721785.htm" january="" xinhua,="">http://www.xinhuanet.com/english/2020-01/20/c_138721785.htm</a> . CCTV, "央视：国家卫健委高级别专家组最新研判冠状病毒肺炎存在人传人" (Record: The National Health Commission High-Level Expert Group Answers Journalist's Questions About Novel Coronavirus Pneumonia), CCTV, January 20, 2020, <a href="http://m.news.cctv.com/2020/01/20/ARF1F4F7LEu8TRQsnde93B200120.shtml">http://m.news.cctv.com/2020/01/20/ARF1F4F7LEu8TRQsnde93B200120.shtml</a>
1/20/2020	Delayed admitting human to human transfer	Wuhan medical personnel began falling ill with symptoms similar to their patients' in December, but Chinese authorities did not acknowledge medical worker infections until January 20.	Weibo	Li Wenliang Weibo post, January 21, 2020, <a href="http://www.weibo.com/1139098205/150XbuARR?frompage=1005051139098205_profile&amp;wvr=6&amp;mod=weibotimeline_type_comment#rd1587686422806">http://www.weibo.com/1139098205/150XbuARR?frompage=1005051139098205_profile&amp;wvr=6&amp;mod=weibotimeline_type_comment#rd1587686422806</a> . Andrew Green,

1/20/2020		Experts from the WHO China Country Office and WHO's Western Pacific Regional Office arrive in Wuhan for a brief field visit. They visit Wuhan's Tianhe Airport, Zhongnan Hospital, and Hubei Provincial CDC. They will leave the next day.	WHO	World Health Organization, "Mission Summary: WHO Field Visit to Wuhan, China 20-21 January 2020," January 22, 2020, <a href="https://www.who.int/china/news/detail/22-01-2020-field-visit-wuhan-china-jan-2020">https://www.who.int/china/news/detail/22-01-2020-field-visit-wuhan-china-jan-2020</a>
1/20/2020		PRC state media publish first public remarks from Xi Jinping about the virus, ordering officials to contain it.	WSJ	Jeremy Page et al., "How It All Started: China's Early Coronavirus Missteps," Wall Street Journal, March 6, 2020.
1/20/2020	Limited, misleading, delayed reporting	The Wuhan Municipal Health Commission announces its cumulative case count is 198, an increase of 136 cases from the day before, with three deaths.	Wuhan Health Commission	Wuhan Municipal Health Commission, "武汉市新型冠状病毒感染的肺炎疫情通报" (Wuhan Municipal Health Commission Bulletin Regarding the Novel Coronavirus Infection Pneumonia Situation"), January 20, 2020, <a href="http://wjw.wuhan.gov.cn/xwzx_zq/gsgg/202004/20200430_1199586.shtml">http://wjw.wuhan.gov.cn/xwzx_zq/gsgg/202004/20200430_1199586.shtml</a>
1/20/2020		The city of Wuhan establishes a "Novel Coronavirus Infection Pneumonia Epidemic Prevention and Control Command Center" headed by Wuhan Mayor Zhou Xianwang.	Xinhua	武汉市新型冠状病毒感染的肺炎疫情防控指挥部 ("Wuhan Establishes Novel Coronavirus Infection Pneumonia Prevention and Control Command Center"), Xinhua, January 21, 2020, <a href="http://www.xinhuanet.com/202001/21/c_1125487979.htm">http://www.xinhuanet.com/202001/21/c_1125487979.htm</a> .
1/20/2020		8 a.m. to 12 p.m. CST: The National Health Commission high-level expert group led by Dr. Zhong Nanshan briefs China's cabinet, the State Council, on findings from the group's visit to Wuhan the day before.	Xinhua	"China confirms human-to-human transmission of 2019-nCoV, infection of medical staff," Xinhua, January 20,
1/20/2020		7:27 p.m. CST: Xinhua News Agency reports that Chinese leader Xi Jinping has issued an "important instruction" to prioritize prevention and control work. He tells Communist Party and government bodies at all levels to put people's lives and health "in first place." He also orders "timely issuance of epidemic information and despatching of international cooperation."	Xinhua	"习近平对新型冠状病毒疫情防控工作作出重要指示" ("Xi Jinping Issues Important Instruction on Novel Coronavirus Infectious Pneumonia Epidemic; Emphasizes Putting the People's Lives and Health in First Place, Resolutely Contain Epidemic Spread; Urge Qing Issues Instructions"), Xinhua, January 20, 2020, <a href="http://www.xinhuanet.com/politics/leaders/202001/20/c_1125486561.htm">http://www.xinhuanet.com/politics/leaders/202001/20/c_1125486561.htm</a> .
1/20/2020	Delayed admitting human to human transfer	5:00 p.m. - 7:00 p.m. CST: In a group interview organized by the National Health Commission, the head of the Chinese National Health Commission's High-Level Expert Group, Dr. Zhong Nanshan, publicly confirms for the first time that the novel coronavirus is being transmitted from person to person and that medical personnel have been infected.	Xinhua, CCTV	, <a href="http://www.xinhuanet.com/english/2020-01/20/c_138721785.htm">http://www.xinhuanet.com/english/2020-01/20/c_138721785.htm</a> ; CCTV, "国家卫健委高级别专家组组长钟南山称新冠病毒存在人传人" (Record: The National Health Commission High-Level Expert Group Answers Journalist's Questions About Novel Coronavirus Pneumonia), CCTV, January 20, 2020, <a href="http://m.news.cctv.com/2020/01/20/ARTI14F17E687Rqknd938200120.shtml">http://m.news.cctv.com/2020/01/20/ARTI14F17E687Rqknd938200120.shtml</a> .
1/21/2020		U.S. CDC confirms the first novel coronavirus case in the United States, in a patient who returned from Wuhan on January 15, 2020.	CDC	U.S. CDC, "First Travel-Related Case of 2019 Novel Coronavirus Detected in United States," January 21, 2020, <a href="https://www.cdc.gov/media/releases/2020/p0121-novel-coronavirus-travel-case.html">https://www.cdc.gov/media/releases/2020/p0121-novel-coronavirus-travel-case.html</a> .
1/21/2020		4:00 p.m. CST: At a Guangdong Provincial Government press conference, Dr. Zhong Nanshan, head of the National Health Commission's high-level expert group, discloses that in Wuhan, a single patient infected 14 medical personnel.	People's Government of Guangdong Province	Information Office, People's Government of Guangdong Province, "广东省新型冠状病毒肺炎疫情防控新闻发布会" ("Guangdong Province Press Conference on the Novel Coronavirus Infection Pneumonia Epidemic Situation and Prevention and Control Situation"), January 21, 2020, <a href="http://gdnv.southcn.com/g/2020-01/21/content_190108342.htm">http://gdnv.southcn.com/g/2020-01/21/content_190108342.htm</a> .
1/21/2020	Promoting false sense of security Too little, too late	China vowed to take preventive and control measures of Category A infectious diseases to effectively fight against the pneumonia caused by the novel coronavirus. The pneumonia has been classified as the category B infectious diseases and a quarantinable disease at the border.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/21/2020	Censorship of health information	China's top political commission in charge of law and order warns that "anyone who deliberately delays and hides the reporting of [virus] cases out of his or her own self-interest will be nailed on the pillar of shame for eternity."	South China Morning Post	<a href="https://archive.vry33gn/">https://archive.vry33gn/</a>   <a href="https://www.scmp.com/news/china/politics/article/3046984/china-warns-cadres-cover-spread-virus-and-be-nailed-pillar">https://www.scmp.com/news/china/politics/article/3046984/china-warns-cadres-cover-spread-virus-and-be-nailed-pillar</a>
1/21/2020	Exploiting the virus	The U.S. Centers for Disease Control and Prevention confirms the first coronavirus case in the United States.	U.S. CDC Newsroom	<a href="https://www.cdc.gov/media/releases/2020/p0121-novel-coronavirus-travel-case.html">https://www.cdc.gov/media/releases/2020/p0121-novel-coronavirus-travel-case.html</a>
1/21/2020		CCP flagship newspaper People's Daily mentions the coronavirus epidemic and Xi's actions to fight it for the first time.	Washington Post	<a href="https://www.washingtonpost.com/world/2020/01/21/early-mistake-state-secrecy-china-likely-allowed-coronavirus-spread-farther-faster/">https://www.washingtonpost.com/world/2020/01/21/early-mistake-state-secrecy-china-likely-allowed-coronavirus-spread-farther-faster/</a>
1/21/2020	Delayed admitting human to human transfer	WHO delegation concludes a two-day field visit to Wuhan, notes that "Data collected through detailed epidemiological investigation and through the deployment of the new test kit nationally suggests that human to human transmission is taking place in Wuhan."	WHO	"Mission summary: WHO Field Visit to Wuhan, China 20-21 January 2020," WHO, January 22, 2020
1/21/2020		"WHO issues its first situation report on the novel coronavirus. It reports 278 confirmed cases in China and four outside the country."	WHO	World Health Organization, "Novel Coronavirus (2019-nCoV) Situation Report—1," January 21, 2020, <a href="https://www.who.int/docs/default-source/coronavirus/situation-reports/20200121-sitrep-1-2019-ncov.pdf">https://www.who.int/docs/default-source/coronavirus/situation-reports/20200121-sitrep-1-2019-ncov.pdf</a> .
1/21/2020		People's Daily, the authoritative newspaper of the Communist Party Central Committee, breaks its silence on the novel coronavirus epidemic. Its January 21 issue carries six articles on the epidemic, including two on the front page.	WHO, Peoples Daily	人民日报 ("People's Daily"), <a href="http://paper.people.com.cn/mrb/html/2020-01/21/nbs.D110000remrb_01.htm">http://paper.people.com.cn/mrb/html/2020-01/21/nbs.D110000remrb_01.htm</a> . WHO, "Novel Coronavirus (2019-nCoV) Situation Report—1," January 21, 2020, <a href="https://www.who.int/docs/default-source/coronavirus/situation-reports/20200121-sitrep-1-2019-ncov.pdf">https://www.who.int/docs/default-source/coronavirus/situation-reports/20200121-sitrep-1-2019-ncov.pdf</a> .
1/21/2020		The Wuhan Municipal Health Commission reports that 15 medical personnel in the city have been infected with the novel coronavirus.	Xinhua	"武汉市15名医务人员确诊为新型冠状病毒肺炎病例" ("15 Medical Personnel in Wuhan Have Been Confirmed as Cases of Novel Coronavirus Infection Pneumonia"), Xinhua, January 21, 2020, <a href="http://www.xinhuanet.com/politics/2020-01/21/c_1125487270.htm">http://www.xinhuanet.com/politics/2020-01/21/c_1125487270.htm</a> .
1/21/2020	Limited, misleading, delayed reporting	People's Daily, the newspaper of the Communist Party Central Committee, made no mention of the epidemic in its pages until January 21, when it carried six articles, including two on the front page. Chinese officials at all levels monitored the paper closely for signals about leadership priorities.	Xinhua, Peoples Daily	The People's Daily, <a href="http://paper.people.com.cn/mrb/html/2020-01/21/nbs.D110000remrb_01.htm">http://paper.people.com.cn/mrb/html/2020-01/21/nbs.D110000remrb_01.htm</a> . Myanmar Leaders Celebrate 70th Anniversary of Diplomatic Ties," Xinhua, January 18, 2020, <a href="http://www.xinhuanet.com/english/2020-01/18/c_138714325.htm">http://www.xinhuanet.com/english/2020-01/18/c_138714325.htm</a>
1/22/2020		"According to official reports, as of 11 p.m. Wednesday, the previously unknown coronavirus had killed 17 people and infected 541 others. Most of the infections and all of the deaths were in Hubei province where Wuhan is located, including 375 in the city itself. Many worked or lived near Huanan Wholesale Seafood Market, which experts believe is the source of the outbreak, with the virus jumping from wild animals on sale there."	OSG	"Why Wild Animals Are a Key Ingredient in China's Coronavirus Outbreak," Hong Kong South China Morning Post Online in English 1345 GMT 22 Jan 20

1/22/2020	Catastrophic missteps Promoting false sense of security	WHO holds emergency committee meeting, decides not to declare the novel coronavirus a "public health emergency of international concern (PHEIC)." WHO Director-General Tedros Adhanom Ghebreyesus says afterward that declaring a PHEIC is a decision he takes "extremely seriously" and is "only prepared to make with appropriate consideration of all the evidence." As usual, Taiwan and its reporting was excluded from the deliberations of the committee.	Robert Delaney	Robert Delaney, "China coronavirus: World Health Organization delays declaring virus 'spread an international emergency," January 22, 2020
1/22/2020		U.S. CDC issues a "Watch Level 2 Alert (Practice Enhanced Precautions)" for the pneumonia caused by the novel coronavirus. In addition to advice issued on January 6, U.S. CDC now also advises that older travelers and those with underlying health issues "should discuss travel to Wuhan with their healthcare provider."	US Embassy Beijing	U.S. Embassy and Consulates in China, "Health Alert Update—Novel Coronavirus in China—Level 2," January 22, 2020, <a href="https://china.usembassy-china.org.cn/health-alert-update-novel-coronavirus-in-china-3/">https://china.usembassy-china.org.cn/health-alert-update-novel-coronavirus-in-china-3/</a> .
1/23/2020		"[Li Weiliang] transferred to Respiratory and Critical Care on January 23 In the Medical Intensive Care Unit"	CCTV	<a href="http://m.news.cctv.com/2020/03/19/ARTI1E06u5wKzeVnNlyBgTM200319.shtml">http://m.news.cctv.com/2020/03/19/ARTI1E06u5wKzeVnNlyBgTM200319.shtml</a>   <a href="https://archive.vn/EYDe5">https://archive.vn/EYDe5</a>
1/23/2020		"[Patient admitted on 6 January and treated by Li Weiliang] died on January 23"	CCTV	<a href="http://m.news.cctv.com/2020/03/19/ARTI1E06u5wKzeVnNlyBgTM200319.shtml">http://m.news.cctv.com/2020/03/19/ARTI1E06u5wKzeVnNlyBgTM200319.shtml</a>   <a href="https://archive.vn/EYDe5">https://archive.vn/EYDe5</a>
1/23/2020	Catastrophic missteps Limited, misleading, delayed reporting	"The World Health Organization (WHO) today, in another split decision, held off on declaring a public health emergency of international concern (PHEIC) in response to China's novel coronavirus (2019-nCoV) outbreak, as lockdowns were ordered for five more Chinese cities, part of an unprecedented step to slow the spread of the virus. The WHO's emergency committee met yesterday but delayed making a PHEIC recommendation after learning about China's Wuhan travel ban. The group also said they needed more information about disease severity and transmission among humans. Also in its deliberations today, the experts made some temporary recommendations, including an international expert mission to China to review and support the investigation that will probe, among other key factors, the animal source of the outbreak."	Center for Infectious Disease Research & Policy	<a href="https://www.cidrap.umn.edu/news-perspective/2020/01/who-holds-ncov-emergency-declaration-cases-soar">https://www.cidrap.umn.edu/news-perspective/2020/01/who-holds-ncov-emergency-declaration-cases-soar</a>
1/23/2020	Delayed admitting human to human transfer	A pair of new studies confirm that 2019-nCoV can enter human cells through the ACE2 receptor, a finding that will help scientists explore the transmissibility of the virus. Both were published in the preprint server bioRxiv. The authors of the first study are Michael Letko, PhD, and Vincent Munster, PhD, both from NIAID labs. The other study is from a team based at the Wuhan Institute of Virology in China.	Center for Infectious Disease Research & Policy	<a href="https://www.cidrap.umn.edu/news-perspective/2020/01/who-holds-ncov-emergency-declaration-cases-soar">https://www.cidrap.umn.edu/news-perspective/2020/01/who-holds-ncov-emergency-declaration-cases-soar</a>
1/23/2020	Too little, too late	"Nearly all 2019-nCoV cases in China have links to Wuhan, as do all cases exported to other countries, which yesterday prompted China to take the unprecedented aggressive step to ban all travel in and out of Wuhan. Today similar bans were ordered for five more Chinese cities, all of them also located in Hubei province. They are Huanggang, Ezhou, Chibi, Lichuan, and Xiantao, according to a BBC report. The cities under lockdown excluding Wuhan have a total population of more than 10 million people, and the move comes just days before China's lunar New Year holiday. It noted that Chinese officials have banned all movement in and out of Wuhan, which is one of the country's major transportation hubs."	Center for Infectious Disease Research & Policy	<a href="https://www.cidrap.umn.edu/news-perspective/2020/01/who-holds-ncov-emergency-declaration-cases-soar">https://www.cidrap.umn.edu/news-perspective/2020/01/who-holds-ncov-emergency-declaration-cases-soar</a>
1/23/2020		"China's Center for Disease Control and Prevention (China CDC) said today that, as of yesterday there were 571 confirmed cases, up sharply from the 440 it reported yesterday. The number of affected provinces also rose steeply, rising from 13 to 25. It said 95 patients have severe infections and that the number of deaths held steady at 17. Throughout the day today, more cases were reported from across the country, with an online medical community tracking system from China reporting 644 cases and an additional death. The latest death appears to be the first reported outside of Hubei province, according to a report translated and posted by FluTrackers, an infectious disease news message board."	Center for Infectious Disease Research & Policy	<a href="https://www.cidrap.umn.edu/news-perspective/2020/01/who-holds-ncov-emergency-declaration-cases-soar">https://www.cidrap.umn.edu/news-perspective/2020/01/who-holds-ncov-emergency-declaration-cases-soar</a>
1/23/2020		The provinces of Zhejiang, Guangdong, and Hunan are the first to raise their public health emergency response levels to Level I ("extremely significant"), the highest of four levels in China's public health emergency management system. The Level I alert makes provincial governments responsible for coordinating emergency measures related to the epidemic undertaken by government, health authorities, medical institutions, centers for disease control and prevention, and border and quarantine authorities.	China Daily, Central Commission for Discipline Inspection, BMC Public Health	Ma Zhenhuan, "Highest Public Health Alert for 30 Provincial-Level Regions," China Daily, January 25, 2020, <a href="https://www.chinadaily.com.cn/a/202001/25/W55e2c02e3a31012821273375.html">https://www.chinadaily.com.cn/a/202001/25/W55e2c02e3a31012821273375.html</a> Mei Sun, Hingze Xu, Chengyue Li, et al., "The Public Health Emergency Management System in China: Trends from 2002 to 2012," BMC Public Health, vol. 18, issue 1, April 11, 2018. Central Commission for Discipline Inspection, "Behind the News: What Does It Mean for Multiple Provinces to Activate Major Public Health Emergency Level I Response?," January 25, 2020, <a href="http://www.ccdi.gov.cn/troutiao/202001/20200124_210321.html">http://www.ccdi.gov.cn/troutiao/202001/20200124_210321.html</a> .
1/23/2020		National Security Adviser Robert O'Brien briefs President Trump for the first time on "the potential pandemic threat" of the novel coronavirus.	CNN	Vivian Salama and Kylie Atwood, "Trump's National Security Adviser Out of Sight in Coronavirus Response," CNN, May 2, 2020, <a href="https://amp.cnn.com/cnn/2020/05/02/politics/robert-obrien-national-security-adviser-coronavirus-out-of-sight/index.html">https://amp.cnn.com/cnn/2020/05/02/politics/robert-obrien-national-security-adviser-coronavirus-out-of-sight/index.html</a> .
1/23/2020		The epidemic command centers of other cities in Hubei Province start ordering lockdowns.	Huanggang Municipal Government	See, for example, Huanggang Municipal Government, "黄冈市新型冠状病毒感染的肺炎疫情防控工作指挥部通告" ("Huanggang Municipal Novel Coronavirus Infection Pneumonia Prevention and Control Command Center Notice (No. 11)," 4:03 p.m., January 23, 2020, <a href="http://www.hg.gov.cn/art/2020/1/23/art_7082_892367.html">http://www.hg.gov.cn/art/2020/1/23/art_7082_892367.html</a>
1/23/2020		9:09 p.m. CST: Hubei Province's epidemic command center suspends all intra-provincial flights, trains, buses, and ferry travel in and out of the city of Wuhan.	Hubei Provincial People's Government	Hubei Provincial People's Government, "湖北省新型冠状病毒肺炎疫情防控工作指挥部通告" ("Hubei Provincial Novel Coronavirus Infection Pneumonia Epidemic Prevention and Control Command Center Notice"), January 23, 2020, <a href="https://www.hubei.gov.cn/shuanti/2020/01/23/0120200123_2014602.shtml">https://www.hubei.gov.cn/shuanti/2020/01/23/0120200123_2014602.shtml</a>
1/23/2020	Exporting the virus	NYT estimates seven million people left between Jan. 1 and Jan. 23. Before the lockdown, some 900 people flew from Wuhan to New York City per month on average, while some 2,200 flew to Sydney and 15,000 to Bangkok (site of the first overseas case of the novel coronavirus in mid-January). Some 85% of infected travelers went undetected.	NYT	Jin Wu et al., "How the Virus Got Out," The New York Times, March 22, 2020.
1/23/2020		Hubei Province's newly-established epidemic command center raises the province's public health emergency response level to Level I. Additional cities in the province impose travel and transport restrictions, putting tens of millions of residents under partial lockdowns.	NYT, Hubei Province Novel Coronavirus Infection Pneumonia Epidemic Prevention and Control Command Center	"湖北省新型冠状病毒肺炎疫情防控工作指挥部通告" ("Hubei Provincial Novel Coronavirus Infection Pneumonia Epidemic Prevention and Control Command Center Notice"), January 24, 2020, <a href="http://www.gov.cn/xinwen/2020-01/24/content_5471995.htm">http://www.gov.cn/xinwen/2020-01/24/content_5471995.htm</a> . Chris Buckley and Javier C. Hernández, "China Expands Virus Lockdown, Encircling 35 Million," New York Times, January 30, 2020, <a href="https://www.nytimes.com/2020/01/29/world/asia/china-coronavirus-outbreak.html">https://www.nytimes.com/2020/01/29/world/asia/china-coronavirus-outbreak.html</a> .
1/23/2020		3:55 p.m. CST: In an "urgent notice," China's Ministry of Transport orders transportation authorities across China to suspend passenger travel into Wuhan by road and waterway, and to bar transportation operators from taking passengers out of Wuhan.	PRC Min. of Transport	Ministry of Transport of the People's Republic of China, "交通运输部关于新型冠状病毒感染的肺炎疫情防控工作紧急通知" ("Urgent Notice: Central Well Transportation Into and Out of Wuhan, Put All Efforts into Epidemic Prevention and Control Work"), 3:55 p.m., January 23, 2020, <a href="http://www.mot.gov.cn/jiaotongyaowen/202001/20200123_3328008.html">http://www.mot.gov.cn/jiaotongyaowen/202001/20200123_3328008.html</a> .



1/23/2020		The State Department orders the mandatory departure of nonemergency U.S. personnel and their family members from the U.S. consulate in Wuhan.	US Embassy Beijing	U.S. Embassy and Consulates in China, "China Travel Advisory Update: Level 4 – Do Not Travel to Hubei Province," January 24, 2020, <a href="https://china.usembassy-china.org.cn/health-alert-012420/">https://china.usembassy-china.org.cn/health-alert-012420/</a> .
1/23/2020		A WHO Emergency Committee convened under the International Health Regulations (2005) is unable to reach consensus on whether the outbreak constitutes a Public Health Emergency of International Concern. The committee requests to reconvene in 30 days' time. The 15-member body includes a U.S. citizen, Dr. Martin Cetron of U.S. CDC, and a citizen of China, Wannan Jiang of China's National Health Commission.	WHO	World Health Organization, "Statement on the Meeting of the International Health Regulations (2005) Emergency Committee Regarding the Outbreak of Novel Coronavirus (2019-nCoV)," January 23, 2020, <a href="https://www.who.int/news-room/detail/23-01-2020-statement-on-the-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov)">https://www.who.int/news-room/detail/23-01-2020-statement-on-the-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov)</a> . World Health Organization, "List of Proposed Members and Advisers to International Health Regulations (IHR) Emergency Committee for Pneumonia Due to the Novel Coronavirus 2019-nCoV," January 22, 2020, <a href="https://www.who.int/ihr/procedures/novel-coronavirus-2019-ncov/ec-22012020-members/en/">https://www.who.int/ihr/procedures/novel-coronavirus-2019-ncov/ec-22012020-members/en/</a> .
1/23/2020	Catastrophic missteps	Chinese authorities lock down Wuhan, after letting some five million people leave the city without screening in the weeks prior, amid the growing outbreak.	WSJ	Jeremy Page et al, "How It All Started: China's Early Coronavirus Missteps," Wall Street Journal, March 6, 2020.
1/23/2020		2 a.m. CST, Wuhan Municipality's Novel Coronavirus Infection Pneumonia Epidemic Prevention and Control Command Center issues its first order. It states, "From 10 a.m. on January 23, 2020, the entire city's public transportation, subway, ferries, and long distance travel will be suspended. Without special reasons, city residents must not leave Wuhan. Channels for departing Wuhan from the airport and railway station are temporarily closed."	Xinhua, Wuhan Municipality Novel Coronavirus Infection Pneumonia Epidemic Prevention and Control Command Center	Wuhan Municipality Novel Coronavirus Infection Pneumonia Epidemic Prevention and Control Command Center, "Notice from the Municipal Novel Coronavirus Infection Pneumonia Epidemic Prevention and Control Command Center (No. 17)," January 23, 2020, <a href="https://www.gov.cn/xinwen/2020-01/23/content_5471751.htm">https://www.gov.cn/xinwen/2020-01/23/content_5471751.htm</a> "China's Wuhan Suspends Public Transportation, Outward Flights, Trains," Xinhua, January 23, 2020, <a href="http://www.xinhuanet.com/english/2020-01/23/c_138728667.htm">http://www.xinhuanet.com/english/2020-01/23/c_138728667.htm</a> .
1/24/2020	Too little, too late	China extends the lockdown to cover 36 million people and starts to rapidly build a new hospital in Wuhan. From this point, very strict measures continue to be implemented around the country for the rest of the epidemic.	Chicago Tribune	<a href="https://www.chicagotribune.com/nation-world/ct-nw-china-coronavirus-wuhan-china-20200124-cqwecc2stchzd3rse25pxqa-story.html">https://www.chicagotribune.com/nation-world/ct-nw-china-coronavirus-wuhan-china-20200124-cqwecc2stchzd3rse25pxqa-story.html</a>   <a href="https://archive.vry/DU515">https://archive.vry/DU515</a>
1/24/2020	Delayed admitting human to human transfer	The Lancet publishes a study noting that the first novel coronavirus case in Wuhan had no connection to the Huanan seafood market.	Lancet	Chaolin Huang et al., "Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China," The Lancet, Feb 15, 2020
1/24/2020	Too little, too late	Hubei upgraded its public health emergency response from Level II to Level I. Other provincial-level regions, such as Beijing, Shanghai, Tianjin, Chongqing, Guangdong, Zhejiang, Hunan, and Anhui have also activated the top-level response to the epidemic situation.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/24/2020		The country is mobilizing medical resources nationwide to aid Wuhan and control the epidemic. The first group of 135 medical workers from hospitals in Shanghai flew to Wuhan on the night of Jan 17.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/24/2020		Wuhan decided to build two makeshift hospitals Huoshenshan with 1,000 beds and Leishenshan with a capacity of 1,600 beds to treat the new pneumonia patients. The Huoshenshan and Leishenshan hospitals would be put into use on Feb 3 and Feb 5, respectively.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/24/2020	Too little, too late	Wuhan rolled out unprecedented measures to curb the spread of the deadly novel coronavirus. From 10 a.m. on Jan 23, all public transportation, including city buses, subways, ferries, and long-distance coaches have been suspended, and outbound channels at airports and railway stations have also been closed. Citizens should not leave the megacity without specific reasons and should wear masks in public places.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/24/2020	Catastrophic missteps	24-30 Jan: China celebrates the Lunar New Year holiday. Hundreds of millions of people are in transit around the country as they visit relatives.	The Star	<a href="https://www.thestar.com.my/news/regional/2020/02/06/wuhan-neighbourhood-sees-infections-after-4000-families-gather-for-pooluck">https://www.thestar.com.my/news/regional/2020/02/06/wuhan-neighbourhood-sees-infections-after-4000-families-gather-for-pooluck</a>
1/24/2020		President Trump tweets, "China has been working very hard to contain the Coronavirus. The United States greatly appreciates their efforts and transparency. It will all work out well. In particular, on behalf of the American People, I want to thank President Xi!"	Twitter	Tweet by Donald J. Trump, January 24, 2020, <a href="https://twitter.com/realDonaldTrump/status/1120618115354523000">https://twitter.com/realDonaldTrump/status/1120618115354523000</a> .
1/24/2020		The State Department raises its travel alert for Hubei Province to Level 4 ("Do not travel"), its highest alert level, due to the coronavirus outbreak.	US Embassy Beijing	U.S. Embassy and Consulates in China, "China Travel Advisory Update: Level 4 – Do Not Travel to Hubei Province," January 24, 2020, <a href="https://china.usembassy-china.org.cn/health-alert-012420/">https://china.usembassy-china.org.cn/health-alert-012420/</a> .
1/24/2020		WHO updates its advice for international travelers. Whereas on January 10 it advised against entry screening for travelers, it now notes that in the current outbreak "the majority of exported cases were detected through entry screening." It thus "advises that measures to limit the risk of exportation or importation of the disease should be implemented, without unnecessary restrictions of international traffic."	WHO	World Health Organization, "Updated WHO Advice for International Traffic in Relation to the Outbreak of the Novel Coronavirus 2019-nCoV," January 24, 2020, <a href="https://www.who.int/news-room/articles-detail/updated-who-advice-for-international-traffic-in-relation-to-the-outbreak-of-the-novel-coronavirus-2019-ncov-24-jan/">https://www.who.int/news-room/articles-detail/updated-who-advice-for-international-traffic-in-relation-to-the-outbreak-of-the-novel-coronavirus-2019-ncov-24-jan/</a>
1/24/2020	Censorship of health information	Officials in Beijing prevent the Wuhan Institute of Virology from sharing sample isolates of the novel coronavirus with the University of Texas Biotechnology lab, overruling an initial agreement by the Wuhan lab to share these samples.	WP	Yasmeen Abutaleb et al, "The U.S. was beset by denial and dysfunction as the coronavirus raged," Washington Post, April 4, 2020.
1/25/2020	Delayed admitting human to human transmission limited, misleading, delayed reporting	Wuhan's then-mayor, Zhou Xiaowang, blamed national regulations for the secrecy. "As a local government official, I could disclose information only after being authorized," Zhou told state media in late January. "A lot of people didn't understand this." As a result, top Chinese officials appear to have been left in the dark.	AP	<a href="https://apnews.com/article/68a9e1b91de4ffc166ac6012d82c2f9">https://apnews.com/article/68a9e1b91de4ffc166ac6012d82c2f9</a>
1/25/2020	Limited, misleading, delayed reporting	China stalled for at least two weeks more on providing WHO with detailed data on patients and cases, according to recordings of internal meetings held by the U.N. health agency through January — all at a time when the outbreak arguably might have been dramatically slowed.	AP	<a href="https://apnews.com/article/3c061794970661042618d5aeae69f9e">https://apnews.com/article/3c061794970661042618d5aeae69f9e</a>
1/25/2020		By 9 p.m. CST, 30 of mainland China's 31 provincial-level jurisdictions have raised their public health alerts to Level I. The only such jurisdiction not to do so is Tibet, which has not so far identified a suspected or confirmed case of novel coronavirus infection.	Beijing News, Global Times	"Updates on Coronavirus Outbreak (January 22-March 9)," Global Times, March 10, 2020, <a href="https://www.globaltimes.cn/content/1181093.shtml">https://www.globaltimes.cn/content/1181093.shtml</a> Ma Jinqian, "30个省市自治区、直辖市、新疆生产建设兵团(30个)省级(含)以上应急响应(Ⅰ级)启动," "30 Provincial-Level Level 1 Responses Activated. What Signal Did This Send?" Xin Jing Bao, January 25, 2020, <a href="http://www.bjnews.com.cn/news/2020/01/25/679868.html">http://www.bjnews.com.cn/news/2020/01/25/679868.html</a> .
1/25/2020	Catastrophic missteps	The Lunar New Year, also known as Spring Festival, is China's most important holiday. In 2020, it fell on January 25. Ahead of the holiday, millions of Wuhan residents left the city to return to their hometowns to spend the festival with their extended families. A smaller number of Wuhan residents got on planes to holiday destinations abroad.	CRS	<a href="https://crsreports.congress.gov/product/pdf/R/R46354/3">https://crsreports.congress.gov/product/pdf/R/R46354/3</a>
1/25/2020		The Standing Committee of the Political Bureau of the Communist Party of China Central Committee held a meeting on the prevention and control of the outbreak of pneumonia caused by the novel coronavirus. The meeting decided to set up a CPC Central Committee leading group to oversee the work. Groups would also be sent to Hubei province to direct work on the ground.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>

1/25/2020		China's Politburo Standing Committee meets for the third time since January 7. This is the first meeting at which the novel coronavirus is contemporaneously acknowledged to be on the agenda. State media reports the body discusses prevention and control of the outbreak and establishes a high-level working group, known as a central leading group, to oversee control efforts	Xinhua	"Xi Focus: CPC Leadership Meets to Discuss Novel Coronavirus Prevention, Control," January 25, 2020, <a href="http://www.xinhuanet.com/english/2020-01/25/c_138733753.htm">http://www.xinhuanet.com/english/2020-01/25/c_138733753.htm</a>
1/26/2020		Major General Chen Wei, the Chinese military's top epidemiologist and virologist, assumes a senior position at the Wuhan Institute of Virology overseeing coronavirus vaccine research	"SCMP WP"	Anna Fifield, " 'Wolf Warrior' strives to make China first with coronavirus vaccine," Washington Post, March 22, 2020. Also Minnie Chan and William Zheng, "Meet the major general on China's coronavirus scientific front line," South China Morning Post, March 3, 2020
1/26/2020		The Communist Party of China announces the establishment of the new top-level Party body focused on combating the epidemic, the Central Leading Small Group for Work to Counter the Novel Coronavirus Infection Pneumonia Epidemic. The Party names Premier Li Keqiang, the Communist Party's second-most senior official, to head the body	Jamestown Foundation	John Datson, "The CCP's New Leading Small Group for Countering the Coronavirus Epidemic—and the Mysterious Absence of Xi Jinping," Jamestown Foundation, February 5, 2020, <a href="https://jamestown.org/program/theccps-new-leading-small-group-for-countering-the-coronavirus-epidemic-and-the-mysterious-absence-of-xi-jinping/">https://jamestown.org/program/theccps-new-leading-small-group-for-countering-the-coronavirus-epidemic-and-the-mysterious-absence-of-xi-jinping/</a>
1/26/2020		Chinese authorities announced that trading of wild animals would be suspended nationwide to curb the spreading of COVID-19	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/26/2020		At a press conference in Beijing, a senior official says his ministry is working to divert personal protective equipment (PPE) that Chinese factories make for export—about 50,000 sets a day—to domestic use. Vice Minister Wang Jiangping of the Ministry of Industry and Information Technology presents the challenge as one of tweaking China's standards rules to allow PPE made to European and U.S. standards to be used in China. Wang says China has also begun procuring PPE from abroad, with 220,000 sets of PPE purchased on the international market currently on their way to China.	State Council Information Office	State Council Information Office, "中国为早日新型冠状肺炎感染防控取得阶段性成果召开新闻发布会" (State Council Information Office Holds Press Conference on Novel Coronavirus Infection Pneumonia Epidemic Joint Prevention and Control Work), January 26, 2020, <a href="http://www.mlit.gov.cn/w1146285/n1146347/n6104821/n6104876/c7651991/content.html">http://www.mlit.gov.cn/w1146285/n1146347/n6104821/n6104876/c7651991/content.html</a>
1/26/2020		China's National Institute for Viral Disease Control and Prevention, part of China CDC, announces it has confirmed the presence of the novel coronavirus in environmental samples collected from Wuhan's Huanan Seafood Wholesale Market earlier in the month. According to Xinhua, 33 of 585 samples from the market test positive. Of these, all but two were collected from an area of the market where wildlife vendors were concentrated. Xinhua says the results indicate "the virus stems from wild animals on sale at the market."	Xinhua	"China Detects Large Quantity of Novel Coronavirus at Wuhan Seafood Market," Xinhua, January 27, 2020, <a href="http://www.xinhuanet.com/english/2020-01/27/c_138735677.htm">http://www.xinhuanet.com/english/2020-01/27/c_138735677.htm</a>
1/26/2020	Delayed admitting human to human transfer	Chinese state media reports, Experts of the Chinese Center for Disease Control and Prevention (CDC) have successfully isolated the novel coronavirus (2019-nCoV) in the environmental samples of a seafood market in Wuhan, indicating that the virus stems from wild animals on sale at the market. Thirty-three of the 585 environmental samples collected from the Wuhan's Huanan Seafood Wholesale Market were found to contain the nucleic acid of the novel coronavirus, according to the National Institute for Viral Disease Control and Prevention under the China CDC. Earlier reports quoted experts as saying that the geographical distribution of the cases indicated a close relationship between the epidemic and the seafood market. Experts of the institute took the samples on Jan. 1 and Jan. 12 on instruction of the Chinese CDC. Thirty-one of the 33 positive samples were collected from the western zone of the market, where booths of wildlife trading concentrated. The result suggests that the novel coronavirus outbreak is highly relevant to the trading of the wild animals, experts said. The successful isolation of the novel coronavirus further substantiates that the Huanan Seafood Wholesale Market contains a large quantity of the novel coronavirus (2019-nCoV), according to the experts	Xinhua Net	<a href="http://www.xinhuanet.com/english/2020-01/27/c_138735677.htm">http://www.xinhuanet.com/english/2020-01/27/c_138735677.htm</a>   <a href="https://archive.is/22cnl">https://archive.is/22cnl</a>
1/27/2020	Limited, misleading, delayed reporting	In a nationally televised interview, Wuhan Mayor Zhou Xiaowang acknowledges having failed to disclose information "in a timely manner" and says China's Law on Prevention and Control of Infectious Diseases restricted Wuhan from sharing information without permission from higherups. Zhou also acknowledges that an estimated 5 million people left Wuhan before travel restrictions went into effect.	CCTV	"[Transcript] CCTV Dong Qian Interviews Wuhan Mayor Zhou Xiaowang," January 27, 2020, English translation available at <a href="https://gaodawei.wordpress.com/2020/01/27/wuhan-mayor-zhou-reporting-delays-caused-by-center-lacked-fast-incident-authorisation/">https://gaodawei.wordpress.com/2020/01/27/wuhan-mayor-zhou-reporting-delays-caused-by-center-lacked-fast-incident-authorisation/</a>
1/27/2020		U.S. CDC issues its highest-level travel health notice, Level 3, recommending that travelers avoid all nonessential travel to China.	CDC	U.S. CDC, "CDC Advises Travelers to Avoid All Nonessential Travel to China," Media Statement, January 28, 2020, <a href="https://www.cdc.gov/media/releases/2020/s0128-travelers-avoid-china.html">https://www.cdc.gov/media/releases/2020/s0128-travelers-avoid-china.html</a>
1/27/2020		China extended the Spring Festival holiday to Feb 2 and postponed school openings, while transport restrictions were adapted in various areas to further contain the coronavirus epidemic.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/27/2020		China's top economic planner allocated a total of 300 million yuan to support Wuhan's battle against the novel coronavirus. Chinese authorities also boosted financial aid for medical treatment of confirmed or suspected coronavirus-infected patients	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/27/2020		Premier Li Keqiang called for speeding up the construction of the makeshift hospital of Huoshenshan for treating patients infected with the novel coronavirus in his inspection to Wuhan	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/27/2020	US support & offers of support to PRC	President Trump tweets, "We are in very close communication with China concerning the virus. Very few cases reported in USA, but strongly on watch. We have offered China and President Xi any help that is necessary. Our experts are extraordinary!"	Twitter	Tweet by President Donald J. Trump, January 27, 2020, 9:56 a.m., <a href="https://twitter.com/realDonaldTrump/status/1221809170673958913?s=20">https://twitter.com/realDonaldTrump/status/1221809170673958913?s=20</a>
1/27/2020		The State Department raises its own travel advisory for all of China to Level 3 of 4, urging U.S. citizens to "reconsider travel" to China, while retaining its Level 4 travel advisory for Hubei Province.	US Embassy Beijing	U.S. Embassy and Consulates in China, "Travel Alert Level 4 Do Not Travel to China [sic]," January 28, 2020, <a href="https://china.usembassy-china.org.cn/travel-alert-level-4-do-not-travel-to-hubei/">https://china.usembassy-china.org.cn/travel-alert-level-4-do-not-travel-to-hubei/</a>
1/27/2020	US support & offers of support to PRC	HHS Secretary Azar speaks to the Chinese National Health Commission Director Ma Xiaowei, and repeats his offer to send a U.S. CDC team to China to assist with COVID-19 public health response efforts. ZDS Neither side discloses how Minister Ma responds, if at all, but no CDC team goes to China at this time. Weigong Zhou, an employee of U.S. CDC, and Clifford Lane, an employee of the U.S. National Institutes of Health (NIH), will, however, participate in a WHO-China Joint Mission to China from February 16 to 24.	WHO	World Health Organization, "Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19)," February 28, 2020, <a href="https://www.who.int/docs/default-source/coronavirus/who-china-joint-mission-on-covid-19-finalreport.pdf">https://www.who.int/docs/default-source/coronavirus/who-china-joint-mission-on-covid-19-finalreport.pdf</a>
1/27/2020	Censorship of health information	Wuhan Mayor Zhou Xiaowang says that rules imposed by Beijing limited what he could disclose about the threat posed by the virus: "As a local government official, after I get this kind of information I still have to wait for authorization before I can release it."	WSJ	Josh Chin, "Wuhan Mayor Says Beijing Rules Partially Responsible for Lack of Transparency," Wall Street Journal, January 27, 2020.
1/27/2020	Delayed admitting human to human transfer	Wuhan doctors suspected person-to-person transmission of the mysterious new pneumoniae early as late December. Dr. Zhang Jian of the Hubei Provincial Hospital of Integrated Chinese and Western Medicine later told China's state news agency that she reported a family cluster of cases to her superiors on December 27, 2019, because, "It is unlikely that all three members of a family caught the same disease at the same time unless it is an infectious disease."	Xinhua	"Xinhua Headlines: Chinese Doctor Recalls First Encounter with Mysterious Virus," April 16, 2020, <a href="http://www.xinhuanet.com/english/2020-04/16/c_138982435.htm">http://www.xinhuanet.com/english/2020-04/16/c_138982435.htm</a>

1/27/2020		Premier Li Keqiang, head of the Communist Party's Leading Group on Prevention and Control of the Novel Coronavirus Epidemic, visits Wuhan and thanks front-line workers.	Xinhua "Chinese Premier Inspects Novel Coronavirus Control Work in Wuhan," January 27, 2020, <a href="http://www.xinhuanet.com/english/2020-01/27/c_138737351.htm">http://www.xinhuanet.com/english/2020-01/27/c_138737351.htm</a> 204 "China Extends Holidays, Strengthens Control of Coronavirus Epidemic," Xinhua, January 27, 2020. <a href="http://www.xinhuanet.com/english/2020-01/27/c_138736600.htm">http://www.xinhuanet.com/english/2020-01/27/c_138736600.htm</a> .
1/27/2020		In an effort to reduce the movement of people across the country, China's government extends the Lunar New Year Holiday to February 2, 2020. It had originally been scheduled to last from January 24 to 30.204 The government will later extend the holiday to February 13, 2020, in Hubei Province	Xinhua, HHS "Hard-Hit Hubei Extends Spring Festival Holiday to Curb Coronavirus Spread," Xinhua, February 1, 2020, <a href="http://www.xinhuanet.com/english/2020-02/01/c_138748554.htm">http://www.xinhuanet.com/english/2020-02/01/c_138748554.htm</a> . 206 U.S. Department of Health and Human Services, "Remarks at Coronavirus Press Briefing," remarks by Alex M. Azar II, January 28, 2020, <a href="https://www.hhs.gov/about/leadership/secretary/speeches/2020-speeches/remarks-at-coronavirus-press-briefing.html">https://www.hhs.gov/about/leadership/secretary/speeches/2020-speeches/remarks-at-coronavirus-press-briefing.html</a> .
1/28/2020	Limited, misleading, delayed reporting	China's Supreme People's Court criticizes Wuhan Public Security Bureau officers for their reprimand of the eight Wuhan citizens accused of spreading rumors about the new disease. "It might have been a fortunate thing if the public had believed the 'rumors' then and started to wear masks and carry out sanitization measures, and avoid the wild animal market," the court posts on its WeChat account.	Caijin, Weifen "On the Issue of Handling Rumors Related to the Novel Coronavirus, This Article Speaks Clearly", Supreme People's Court on WeChat, January 28, 2020, <a href="https://mp.weixin.qq.com/s/ETgMYeHnZlC8cxzIDdUJg">https://mp.weixin.qq.com/s/ETgMYeHnZlC8cxzIDdUJg</a> Qin Jianhuang and Timmy Shen, "Whistleblower's Warning: There Should Be More Than One Voice in a Healthy Society," Caijin Global, February 6, 2020.
1/28/2020		Over 130,000 police officers were dispatched across China to ensure road safety and transportation support to the epidemic prevention and control during the holiday	PRC National Health Commission <a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/28/2020		The traffic management bureau of the Ministry of Public Security released a notification, urging the public to limit road travel amid intensifying efforts to battle the novel coronavirus outbreak	PRC National Health Commission <a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/28/2020	Limited, misleading, delayed reporting	Chinese authorities do not appear to have shared biological samples with WHO or other international partners as of January 28, 2020, and possibly as of April 25. A line in a January 28, 2020, WHO press release about WHO Director-General Dr. Tedros Adhanom Ghebreyesus' meeting with Chinese leader Xi Jinping indicates that China's government had yet to share biological samples with the organization. Among other things, Director-General Tedros and Xi discussed "continuing to share data, and for China to share biological material with WHO," the WHO press release stated.	Science, WHO, Twitter Jan Cohen and Devesh Nornale, "World on Alert for Potential Spread of New SARS-like Virus Found in China," Science, January 14, 2020, <a href="https://www.sciencemag.org/news/2020/01/world-alert-potential-spread-new-sars-virus-found-china">https://www.sciencemag.org/news/2020/01/world-alert-potential-spread-new-sars-virus-found-china</a> , GISAID, "History," <a href="https://www.gisaid.org/about-us/history/">https://www.gisaid.org/about-us/history/</a> The originating lab for three of the genomes is the National Institute for Viral Disease Control and Prevention, China CDC. The Institute of Pathogen Biology at the Chinese Academy of Medical Sciences and Peking University Medical College submits a fourth genome, and Wuhan Jinyintan Hospital submits a fifth. 41World Health Organization, "WHO, China Leaders Discuss Next Steps in Battle Against Coronavirus Outbreak," January 28, 2020, <a href="https://www.who.int/news-room/detail/28-01-2020-who-china-leaders-discuss-next-steps-in-battle-against-coronavirus-outbreak">https://www.who.int/news-room/detail/28-01-2020-who-china-leaders-discuss-next-steps-in-battle-against-coronavirus-outbreak</a> 42Tweet by Morgan Ortogus (@statedeptspox), April 25, 2020, <a href="https://twitter.com/statedeptspox/status/1254160319594856450">https://twitter.com/statedeptspox/status/1254160319594856450</a> .
1/28/2020	Lack of PRC transparency publicly covered up by WHO Limited, misleading, delayed reporting Promoting false sense of security	WHO Director-General Tedros visits Beijing and meets with Xi Jinping and other senior officials "The two sides agreed that WHO will send international experts to visit China as soon as possible," said the WHO afterward, adding that "the WHO delegation highly appreciated the actions China has implemented in response to the outbreak, its speed in identifying the virus and openness to sharing information with WHO and other countries."	WHO "WHO, China leaders discuss next steps in battle against coronavirus outbreak," WHO, January 28, 2020.
1/28/2020	Limited, misleading, delayed reporting	President Xi Jinping and WHO Director-General Tedros Adhanom Ghebreyesus meet in Beijing. According to WHO, they agree "that WHO will send international experts to visit China as soon as possible." (They will begin their mission to China nearly three weeks later, on February 16.) WHO also requests that China "share biological material with WHO," indicating that China has not yet shared biological samples with WHO. WHO quotes Tedros as saying, "We appreciate the seriousness with which China is taking this outbreak, especially the commitment from top leadership, and the transparency they have demonstrated, including sharing data and [the] genetic sequence of the virus."	WHO World Health Organization, "WHO, China Leaders Discuss Next Steps in Battle Against Coronavirus Outbreak," January 28, 2020, <a href="https://www.who.int/news-room/detail/28-01-2020-who-china-leaders-discuss-next-steps-in-battle-against-coronavirus-outbreak">https://www.who.int/news-room/detail/28-01-2020-who-china-leaders-discuss-next-steps-in-battle-against-coronavirus-outbreak</a> .
1/28/2020		WHO raises its global level risk assessment to "high," one rung below its risk assessment for China, which is "very high."	WHO World Health Organization, "Novel Coronavirus (2019-nCoV) Situation Report - 8," January 28, 2020, <a href="https://www.who.int/docs/default-source/coronavirus/situation-reports/20200128-sitrep-8-ncov-cleared.pdf">https://www.who.int/docs/default-source/coronavirus/situation-reports/20200128-sitrep-8-ncov-cleared.pdf</a>
1/28/2020		China had allocated 27.3 billion yuan to support the battle against the novel coronavirus in the country.	PRC National Health Commission <a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/28/2020		Lhasa, capital of Southwest China's Tibet autonomous region, reported the first suspected case of novel coronavirus pneumonia. The region then activated the top level emergency response to the epidemic. By Jan 29, all the provincial-level regions on the Chinese mainland have launched the top-level response to contain the epidemic	PRC National Health Commission <a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/29/2020		A U.S. State Department-organized charter flight leaves Wuhan carrying 195 U.S. government personnel and their family members, private U.S. citizens and their family members, and some third-country nationals. The flight will arrive in California the same day. The United States is the first country to evacuate its citizens from Wuhan. The State Department will organize four more evacuation flights from Wuhan before the end of February.	State Department Eric Wanner, David Nichols, Robert Godenkauf, "The Untold Coronavirus Story: How the Diplomatic Security Service Helped Evacuate Americans from China," U.S. Department of State, April 27, 2020, <a href="https://www.state.gov/the-untold-coronavirus-story">https://www.state.gov/the-untold-coronavirus-story</a> . U.S. Department of State, "Evacuation of Americans from Wuhan, China," January 29, 2020, <a href="https://www.state.gov/evacuation-of-americans-from-wuhan-china/">https://www.state.gov/evacuation-of-americans-from-wuhan-china/</a> .
1/29/2020		The State Department authorizes the voluntary departure of nonemergency personnel and family members of U.S. government employees from remaining diplomatic posts in mainland China: the Embassy in Beijing and Consulates in the Chinese Cities of Chengdu, Guangzhou, Shanghai, and Shenyang 217	State Department U.S. Department of State, "China Travel Advisory," February 2, 2020, <a href="https://travel.state.gov/content/travel/en/traveladvisors/traveladvisories/china-travel-advisory.html">https://travel.state.gov/content/travel/en/traveladvisors/traveladvisories/china-travel-advisory.html</a> .
1/29/2020		Secretary of State Michael R. Pompeo speaks by telephone with Yang Jiechi, a member of the Communist Party of China's 25-person Politburo, the country's second highest decision-making body. The call is the most senior-level U.S.-China conversation related to the novel coronavirus to date. According to the State Department, Pompeo "expressed condolences for the Chinese citizens who lost their lives as a result of the coronavirus outbreak." He also thanked Yang for assistance in evacuating Americans from Wuhan. According to China's state news agency, Xinhua, "Pompeo conveyed sympathy for the casualties" in China and "expressed appreciation for China's timely response to U.S. concerns after the outbreak of the epidemic."	Xinhua, State Department "U.S. Department of State, "Secretary Michael R. Pompeo's Call with People's Republic of China Politburo Member Yang Jiechi," January 29, 2020, <a href="https://www.state.gov/secretary-michael-r-pompeo-call-with-peoples-republic-of-china-politburo-member-yang-jiechi/">https://www.state.gov/secretary-michael-r-pompeo-call-with-peoples-republic-of-china-politburo-member-yang-jiechi/</a> . "China, U.S. Senior Diplomats Hold Phone Talks on Prevention of New Coronavirus Epidemic," Xinhua, January 30, 2020, <a href="http://www.xinhuanet.com/english/2020-03/30/c_138742016.htm">http://www.xinhuanet.com/english/2020-03/30/c_138742016.htm</a> ."

1/30/2020		Article in Lancet notes that "in spite of the importance of bats, several facts suggest that another animal is acting as an intermediate host between bats and humans. First, the outbreak was first reported in late December, 2019, when most bat species in Wuhan are hibernating. Second, no bats were sold or found at the Huanan seafood market, whereas various non-aquatic animals (including mammals) were available for purchase."	Lancet	<a href="https://www.thelancet.com/journals/lanct/article/PIIS0140-6736(20)30251-8/fulltext">https://www.thelancet.com/journals/lanct/article/PIIS0140-6736(20)30251-8/fulltext</a>
1/30/2020		At a campaign rally in Iowa, President Trump states, "maybe we've never had a better relationship [with China] and we're working with them very closely on the Coronavirus. We're working with them very, very closely. We only have five people [infected]. Hopefully everything's going to be great. They have somewhat of a problem, but hopefully it's all going to be great. But, we're working with China just so you know, and other countries very, very closely, so it doesn't get out of hand, but it's something that we have to be very, very careful with, right? We have to be very careful." 219	Rev.com	"Donald Trump Iowa Rally Transcript: Trump Holds Rally in Des Moines, Iowa," Rev, January 30, 2020, <a href="https://www.rev.com/blog/transcripts/donald-trump-iowa-rally-transcript-trump-holds-rally-in-des-moines-iowa">https://www.rev.com/blog/transcripts/donald-trump-iowa-rally-transcript-trump-holds-rally-in-des-moines-iowa</a> .
1/30/2020		The State Department elevates its travel advisory for all of China to Level 4 ("do not travel") and advises Americans in China to "consider departing using commercial means."	US Embassy Beijing	U.S. Embassy and Consulates in China, "China Travel Alert Level 4 Do Not Travel to China," January 31, 2020, <a href="https://china.usembassy-china.org.cn/travel-alert-level-4-do-not-travel-to-china/">https://china.usembassy-china.org.cn/travel-alert-level-4-do-not-travel-to-china/</a> .
1/30/2020		The President announces the formation of the President's Coronavirus Task Force, headed by HHS Secretary Azar, with coordination provided by the National Security Council.	White House	The White House, "Statement from the Press Secretary Regarding the President's Coronavirus Task Force," January 31, 2020, <a href="https://www.whitehouse.gov/briefings-statements/statement-press-secretary-regarding-presidents-coronavirus-task-force/">https://www.whitehouse.gov/briefings-statements/statement-press-secretary-regarding-presidents-coronavirus-task-force/</a>
1/30/2020	Promoting false sense of security	WHO Director-General Tedros reconvenes the Emergency Committee under the International Health Regulations (2005). The committee advises him that the novel coronavirus outbreak constitutes a "Public Health Emergency of International Concern" (PHEIC). Tedros declares the PHEIC. He states, "Let me be clear, this declaration is not a vote of no confidence in China. On the contrary, WHO continues to have confidence in China's capacity to control the outbreak." He also states, "WHO doesn't recommend limiting trade and movement."	WHO	World Health Organization, "WHO Director-General's Statement on the International Health Regulations (2005) Emergency Committee on the Novel Coronavirus (2019-nCoV)," January 30, 2020, <a href="https://www.who.int/dg/speeches/detail/who-director-general-statement-on-ihc-emergency-committee-on-novel-coronavirus-(2019-ncov)">https://www.who.int/dg/speeches/detail/who-director-general-statement-on-ihc-emergency-committee-on-novel-coronavirus-(2019-ncov)</a> .
1/30/2020	Exporting the virus Too little, too late	WHO declares a public-health emergency of international concern (PHEIC), after nearly 10,000 cases of the virus are confirmed, including in at least 18 countries outside of China. WHO special committee states that it "does not recommend any travel or trade restriction based on the current information available."	WSJ, The Nation, WHO	"Lanhee Chen, 'Lost in Beijing: The Story of the WHO,'" The Wall Street Journal, April 8, 2020; Wilfred Chan, "The WHO Ignores Taiwan. The World Pays the Price," The Nation, April 3, 2020; "Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of the novel coronavirus (2019-nCoV)," WHO, January 30, 2020.
1/31/2020	Lack of PRC transparency publicly covered up by WHO	"Throughout January, the World Health Organization publicly praised China for what it called a speedy response to the new coronavirus. It repeatedly thanked the Chinese government for sharing the genetic map of the virus 'immediately,' and said its work and commitment to transparency were 'very impressive, and beyond words.'... WHO officials were lauding China in public because they wanted to coax more information out of the government; the recordings obtained by the AP suggest. Privately, they complained in meetings the week of Jan. 6 that China was not sharing enough data to assess how effectively the virus spread between people or what risk it posed to the rest of the world, costing valuable time. 'We're going on very minimal information,' said American epidemiologist Mana Van Kerkhove, now WHO's technical lead for COVID-19, in one internal meeting. 'It's clearly not enough for you to do proper planning.' But behind the scenes, it was a much different story, one of significant delays by China and considerable frustration among WHO officials over not getting the information they needed to fight the spread of the deadly virus. The Associated Press has found."	AP	<a href="https://apnews.com/article/30c6179470661012b18d5aaeae6d9fae">https://apnews.com/article/30c6179470661012b18d5aaeae6d9fae</a>
1/31/2020		President Trump signs Proclamation 9984, effective February 2, suspending entry into the United States of most foreigners who were physically present in mainland China during the preceding 14-day period. The order does not apply to lawful permanent residents, most immediate relatives of U.S. citizens and lawful permanent residents, and some other groups.	Federal Register	"Suspension of Entry as Immigrants and Nonimmigrants of Persons Who Pose a Risk of Transmitting 2019 Novel Coronavirus and Other Appropriate Measures to Address This Risk," Proclamation 9984, Federal Register, February 5, 2020, <a href="https://www.federalregister.gov/documents/2020/02/05/2020-02424/suspension-of-entry-as-immigrants-and-nonimmigrants-of-persons-who-pose-a-risk-of-transmitting-2019">https://www.federalregister.gov/documents/2020/02/05/2020-02424/suspension-of-entry-as-immigrants-and-nonimmigrants-of-persons-who-pose-a-risk-of-transmitting-2019</a> .
1/31/2020		HHS Secretary Azar declares a public health emergency for the United States "to aid the nation's healthcare community in responding to 2019 novel coronavirus." He also announces that beginning February 2, all U.S. citizens returning to the United States who have been in Hubei Province in the previous 14 days will be subject to up to 14 days of mandatory quarantine. Atar states, "The United States appreciates China's efforts and coordination with public health officials across the globe and continues to encourage the highest levels of transparency."	HHS	Department of Health and Human Services, "Secretary Azar Declares Public Health Emergency for United States for 2019 Novel Coronavirus," January 31, 2020, <a href="https://www.hhs.gov/about/news/2020/01/31/secretary-azar-declares-public-health-emergency-us-2019-novel-coronavirus.html">https://www.hhs.gov/about/news/2020/01/31/secretary-azar-declares-public-health-emergency-us-2019-novel-coronavirus.html</a> .
1/31/2020	Limited, misleading, delayed reporting Too little, too late	"In a direct interview with Dr. Li Wenliang conducted by the New York Times shortly before his death, Li stated, 'If the officials had disclosed information about the epidemic earlier, I think it would have been a lot better. There should be more openness and transparency.'"	NY Times	<a href="https://www.nytimes.com/2020/02/07/world/asia/li-wenliang-china-coronavirus.html">www.nytimes.com/2020/02/07/world/asia/li-wenliang-china-coronavirus.html</a>
1/31/2020	Exporting the virus	U.S. shuts down entry from China for non-Americans. By this time, outbreaks were already growing in at least 30 cities across 26 countries.	NYT	Jin Wu et al., "How the Virus Got Out," The New York Times, March 22, 2020.
1/31/2020		Daily confirmed cases peak in areas of China outside Hubei, with 875 new confirmed cases reported outside the province.	Science	Huaiyu Tian, Yonghong Liu, Yidan Li, et al., "An Investigation of Transmission Control Measures During the First 50 Days of the COVID-19 Epidemic in China," Science, March 31, 2020
1/31/2020		The State Department orders the departure of all under-age-21 family members of U.S. personnel in China.	State Department	"U.S. Department of State, 'China Travel Advisory,' February 2, 2020, <a href="https://travel.state.gov/content/travel/en/traveladvisories/traveladvisories/china-travel-advisory.html">https://travel.state.gov/content/travel/en/traveladvisories/traveladvisories/china-travel-advisory.html</a> . See CRS Legal Sidebar, 'SB10415, COVID-19: Current Travel Restrictions and Quarantine Measures,' by Edward C. Liu."
1/31/2020		Acclaimed author and Wuhan resident Fang Fang writes online, "How many people have died in Wuhan and their families destroyed? ... But so far not a single person has said sorry or taken responsibility. I've even seen a writer use the phrase 'complete victory'! What are they talking about?" Her "Wuhan Diary" writings become an increasing target of scorn online, backed by state media outlets. In a campaign she says recalls the Cultural Revolution.	The Guardian	Helen Davidson, "Chinese writer faces online backlash over Wuhan lockdown diary," The Guardian, April 10, 2020 and Cao Siqi, "Wuhan diary"
1/31/2020		Dr. Li Wenliang posts to social media platform Weibo from his iPhone, recounting the details of his encounter with the law and his struggle with the virus. The next day, Li will share in his last-ever social media post that he has tested positive for the novel coronavirus. Li will die from COVID-19 on February 7, at age 33.	Weibo, Lancet	"Li Wenliang Weibo post, January 31, 2020, <a href="https://www.weibo.com/1139098205/h0XboARR7frompage_1005051139098205_profile&amp;wvr=6&amp;mod=wb_bottle&amp;type=normal&amp;_ruid=588710354267">https://www.weibo.com/1139098205/h0XboARR7frompage_1005051139098205_profile&amp;wvr=6&amp;mod=wb_bottle&amp;type=normal&amp;_ruid=588710354267</a> . Andrew Green, "Li Wenliang," obituary, The Lancet, February 18, 2020, <a href="https://www.thelancet.com/journals/lanct/article/PIIS0140-6736(20)30382-2/fulltext">https://www.thelancet.com/journals/lanct/article/PIIS0140-6736(20)30382-2/fulltext</a> .
1/31/2020		WHO's daily situation report reports a cumulative tally of 9,748 confirmed cases in mainland China and 78 cases in the rest of the world.	WHO	World Health Organization, "Novel Coronavirus (2019-nCoV) Situation Report—11," January 31, 2020, <a href="https://www.who.int/docs/default-source/coronavirus/situation-reports/20200131-sitrep-11-ncov.pdf">https://www.who.int/docs/default-source/coronavirus/situation-reports/20200131-sitrep-11-ncov.pdf</a> .
1/31/2020	Exporting the virus Promoting false sense of security	PRC state media criticize the U.S. travel advisory urging citizens not to travel to China due to health concerns. PRC Ministry of Foreign Affairs claims the U.S. action is "certainly not a gesture of goodwill."	Xinhua	"China criticizes 'unfriendly US comments' amid fight against novel coronavirus epidemic," Xinhua, Feb. 1, 2020

2/1/2020	Exporting the virus	Referring to travel restrictions, PRC Foreign Minister Wang Yi tells his Indian counterpart that China "opposes certain countries' actions that are creating tension and causing panic."	CGTN	"China opposes some countries' actions that create tension and panic," CGTN, Feb. 1, 2020.
2/1/2020		Authorities in Hubei announced that the Spring Festival holiday in the province would be extended to Feb 13 to curb the virus spread. All schools in the province would postpone the opening of the new semester until further notice.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/1/2020		Premier Li Keqiang called for greater efforts to speed up the manufacturing and secure the supply of key medical products to help curb the epidemic caused by the novel coronavirus	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/2/2020		A makeshift hospital of Huoshenshan Hospital was delivered after a 10-day construction in Wuhan to treat the infected	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/2/2020		China's finance authorities at all levels had allocated 47 billion yuan as of midnight Feb 2 for the coronavirus prevention and control work.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/3/2020	Delayed admitting human to human transfer	The headquarters for the control and treatment of the epidemic caused by the novel coronavirus in Hubei announced that it would conduct centralized isolation of all suspected infection cases	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/3/2020		Full-length genome sequences were obtained from five patients at an early stage of the outbreak. The sequences are almost identical and share 79.8% sequence identity to SARS-CoV. Furthermore, we show that 2019-nCoV is 96% identical at the whole-genome level to a bat coronavirus identified in Yunnan Province (Bat CoV RaTG13)	Nature	<a href="https://www.nature.com/articles/s41586-020-2012-785c3">https://www.nature.com/articles/s41586-020-2012-785c3</a>
2/3/2020		WIV study of full-length genome sequences from five patients at an early stage of the pandemic showed these sequences are almost identical and share 79.6% sequence identity to SARS-CoV. Furthermore, they showed that 2019-nCoV is 96% identical at the whole-genome level to a bat coronavirus from their previous work with Yunnan bat viruses	NIH	<a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7095418/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7095418/</a>
2/3/2020		Wuhan planned to convert three existing venues, including a gymnasium and an exhibition center, into hospitals to receive patients infected with the novel coronavirus	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/3/2020	Exporting the virus Lack of PRC transparency publicly covered up by WHO Promoting false sense of security	WHO chief Tedros calls on countries not to take measures that "unnecessarily interfere with international travel and trade," calling the spread outside of China "minimal and slow." He adds, "The chances of getting this going to anywhere outside China is very low, and even in China, when you go to other provinces, it's very low." These statements are amplified in PRC state media.	Rumors, Xinhua	"Stephanie Nebehay, "WHO chief says widespread travel bans not necessary to beat China virus." Reuters, February 3, 2020. Ai Heping and Bo Leung, "WHO chief holds his line against travel bans." Xinhua, February 5, 2020."
2/3/2020		The findings by ZHANG Yongzhen's team at the Shanghai Public Health Clinical Centre [Shanghai] were published in the scientific journal Nature on February 3. The research said the virus sample was collected from a patient who showed symptoms of fever, dizziness and coughing and was admitted to a Wuhan hospital on December 26	South China Morning Post	<a href="https://www.scmp.com/news/china/society/article/3052966/chinese-laboratory-first-shared-coronavirus-genome-world-ordered">https://www.scmp.com/news/china/society/article/3052966/chinese-laboratory-first-shared-coronavirus-genome-world-ordered</a>
2/3/2020	Limited, misleading, delayed reporting	Since the outbreak of the new crown pneumonia, General Secretary Xi Jinping has attached great importance to publicity and public opinion work, and emphasized the need to do a good job in publicity and public opinion every time he delivered an important speech. At the meeting of the Standing Committee of the Political Bureau of the Central Committee held on February 3, he specifically explained how to do a good job in publicity, education and public opinion guidance.	Study Times	<a href="http://www.qstheory.cn/zt/huanqiu/bk/jw/2020-03/10/c_1125690369.htm">http://www.qstheory.cn/zt/huanqiu/bk/jw/2020-03/10/c_1125690369.htm</a>
2/4/2020		The newly-built Huoshenshan Hospital in Wuhan began accepting patients infected with the virus.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/4/2020		Wuhan has set up 132 quarantine sites to cope with the surging number of patients confirmed or suspected to be infected with the novel coronavirus	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/4/2020	Efforts to prevent consideration of lab origin hypothesis	The early draft described "initial views of the experts" that "the available genomic data are consistent with natural evolution and that there is currently no evidence that the virus was engineered to spread more quickly among humans." The draft sentence posed a question, in parentheses: "ask experts to add specific re-binding sites?" It also included a footnote in parentheses: "[possibly add brief explanation that this does not preclude an unintentional release from a laboratory studying the evolution of related coronaviruses]." In one email, dated Feb. 4, infectious disease expert Trevor Bedford commented: "I wouldn't mention binding sites here, if you start weighing evidence there's a lot to consider for both scenarios." By "both scenarios," Bedford appears to refer to lab-origin and natural-origin scenarios.	U.S. Right to Know	<a href="https://usrtk.org/bo/hazards-blog/new-emails-show-scientists-deliberations-on-how-to-decuss-sars-cov-2-origins/">https://usrtk.org/bo/hazards-blog/new-emails-show-scientists-deliberations-on-how-to-decuss-sars-cov-2-origins/</a>
2/5/2020		The temporary hospital of Jiangnan, which was converted from the existing international exhibition center of Wuhan, started to take in virus-infected patients, providing over 1,500 beds.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/6/2020	Limited, misleading, delayed reporting	In China, scientists have only published retrospective testing data from two Wuhan flu surveillance hospitals — out of at least 18 in Hubei province alone and well over 500 across the country. The data includes just 520 samples out of the 330,000 collected in China last year. These enormous gaps in the research aren't due just to a lack of testing but also to a lack of transparency. Internal data obtained by the AP shows that by Feb. 5, the Hubei CDC had tested over 100 samples in Huanggang, a city southeast of Wuhan. But the results have not been made public.	AP	<a href="https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24f16dc58cee3a40bc2d4f7a14d2955">https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24f16dc58cee3a40bc2d4f7a14d2955</a>
2/6/2020	Limited, misleading, delayed reporting	The leaders of the U.S. National Academies of Sciences, Engineering and Medicine write to the White House Office of Science and Technology Policy on the importance of information-sharing and transparency "for managing the 2019-nCoV outbreak and for preventing future outbreaks." "Samples collected as early as possible in the outbreak in Wuhan and samples from wildlife would be particularly valuable," they write, adding that the president of the Chinese Academy of Sciences has indicated that the Wuhan National Biosafety Laboratory "is willing to share isolates of the 2019 nCoV with the international community." This transfer apparently never happened	NAS	Marcia McNutt, John L. Anderson and Victor J. Dzau to Kelvin Drozdenko et al., February 6, 2020. <a href="https://www.nationalacademies.org/news/2020/02/national-academies-provide-urgent-response-to-white-house-on-coronavirus-data-needs/">https://www.nationalacademies.org/news/2020/02/national-academies-provide-urgent-response-to-white-house-on-coronavirus-data-needs/</a>
2/6/2020	Behind the scenes, lab origin thought to be most likely	According to municipal reports and the testimonies of 31 residents and 28 visitors, the bat was never a food source in the city, and no bat was traded in the market. There was possible natural recombination or intermediate host of the coronavirus, yet little proof has been reported.	National Natural Science Foundation of China	<a href="https://web.archive.org/web/20200214144447/https://www.researchgate.net/publication/339070128_The_possible_origins_of_2019-nCoV_coronavirus">https://web.archive.org/web/20200214144447/https://www.researchgate.net/publication/339070128_The_possible_origins_of_2019-nCoV_coronavirus</a>
2/6/2020	Behind the scenes, lab origin thought to be most likely	We screened the area around the seafood market and identified two laboratories conducting research on bat coronavirus. Within ~280 meters from the market, there was the Wuhan Center for Disease Control & Prevention (WHCDC) (Figure 1, from Baidu and Google maps). WHCDC hosted animals in laboratories for research purpose, one of which was specialized in pathogens collection and identification 4-6. In one of their studies, 155 bats including <i>Rhinolophus affinis</i> were captured in Hubei province, and other 450 bats were captured in Zhejiang province 4. The expert in collection was noted in the Author Contributions (HT). Moreover, he was broadcasted for collecting viruses on nation-wide newspapers and websites in 2017 and 2019 7,8	National Natural Science Foundation of China	<a href="https://web.archive.org/web/20200214144447/https://www.researchgate.net/publication/339070128_The_possible_origins_of_2019-nCoV_coronavirus">https://web.archive.org/web/20200214144447/https://www.researchgate.net/publication/339070128_The_possible_origins_of_2019-nCoV_coronavirus</a>

2/5/2020	Behind the scenes, lab origin thought to be most likely	"Surgery was performed on the caged animals and the tissue samples were collected for DNA and RNA extraction and sequencing. The tissue samples and contaminated washes were source of pathogens. They were only ~280 meters from the seafood market. The WHCDC was also adjacent to the Union Hospital (Figure 3, bottom) where the first group of doctors were infected during this epidemic. It is plausible that the virus leaked around and some of them contaminated the initial patients in this epidemic, though solid proofs are needed in future study."	National Natural Science Foundation of China	<a href="https://web.archive.org/web/20200224144447/https://www.researchgate.net/publication/339070128_The_possible_origins_of_2019-nCoV_coronavirus">https://web.archive.org/web/20200224144447/https://www.researchgate.net/publication/339070128_The_possible_origins_of_2019-nCoV_coronavirus</a>
2/6/2020	Behind the scenes, lab origin thought to be most likely	The second laboratory was ~12 kilometers from the seafood market and belonged to Wuhan Institute of Virology, Chinese Academy of Sciences. The laboratory reported that the Chinese horseshoe bats were natural reservoirs for the severe acute respiratory syndrome coronavirus (SARS-CoV) which caused the 2002-3 pandemic. The principle investigator participated in a project which generated a chimeric virus using the SARS-CoV reverse genetics system, and reported the potential for human emergence. A direct speculation was that SARS-CoV or its derivative might leak from the laboratory	National Natural Science Foundation of China	<a href="https://web.archive.org/web/20200224144447/https://www.researchgate.net/publication/339070128_The_possible_origins_of_2019-nCoV_coronavirus">https://web.archive.org/web/20200224144447/https://www.researchgate.net/publication/339070128_The_possible_origins_of_2019-nCoV_coronavirus</a>
2/5/2020	Censorship of health information	Citizen journalist and former rights lawyer Chen Qiushi disappears in Wuhan after posting mobile-phone videos of packed hospitals and distraught families.	NYT	Wulan Wang, "They Documented the Coronavirus Crisis in Wuhan. Then They Vanished," New York Times, February 14, 2020.
2/6/2020	Exporting the virus	Chinese Vice Foreign Minister Qin Gang meets with Italy's ambassador to China and "requires" Italy to suspend its decision cancelling direct flights between Italy and China. PRC press release	PRC MFA	"Vice Foreign Minister Qin Gang Requires the Italian Side to Suspend the Decision to Cancel Direct Flights Between Italy and China. The Italian Side Agrees to Resume Some Commercial Flights," Ministry of Foreign Affairs of the People's Republic of China, Feb. 7, 2020.
2/5/2020	Censorship of health information Efforts to prevent consideration of a lab origin hypothesis	"Researchers from South China University of Technology publish a study concluding that "the killer coronavirus probably originated from a laboratory in Wuhan. Safety level may need to be reinforced in high risk biohazardous laboratories" -- The paper is soon withdrawn because it "was not supported by direct proofs," according to author Botao Xiao. -- "No scientists have confirmed or refuted the paper's findings," scholar Yanzhong Huang wrote on March 5."	Research Gate, WSJ, Foreign Affairs	"Botao Xiao and Lei Xiao, "The possible origins of 2019-nCoV coronavirus," ResearchGate, Feb. 5, 2020. James Areddy, "Coronavirus Epidemic Draws Scrutiny to Labs Handling Deadly Pathogens," The Wall Street Journal, March 5, 2020 Yanzhong Huang, "U.S.-Chinese Distrust Is Inviting Dangerous Coronavirus Conspiracy Theories," Foreign Affairs, March 5, 2020"
2/6/2020	Censorship of health information	China's internet watchdog tightens controls on social media platforms following Xi Jinping directive to strengthen online media control to maintain social stability.	SCMP	rick Deng, "Coronavirus: China tightens social media censorship amid outbreak," South China Morning Post, February 6, 2020. Also Kristin Huang, "China tries to contain outbreak of freedom of speech, closing critics' WeChat accounts," SCMP, February 26, 2020
2/6/2020	Efforts to prevent consideration of lab origin hypothesis	A statement in The Lancet authored by 27 prominent public health scientists condemning "conspiracy theories suggesting that COVID-19 does not have a natural origin" was organized by employees of EcoHealth Alliance, a non-profit group that has received millions of dollars of U.S. taxpayer funding to genetically manipulate coronaviruses with scientists at the Wuhan Institute of Virology. The emails obtained via public records requests show that EcoHealth Alliance President Peter Daszak drafted the Lancet statement, and that he intended it to "not be identifiable as coming from any one organization or person" but rather to be seen as "simply a letter from leading scientists". Daszak wrote that he wanted "to avoid the appearance of a political statement".	U.S. Right to Know	<a href="https://ustrk.org/wp-content/uploads/2020/03/The_Lancet_Emails_Daszak-2-6-20.pdf">https://ustrk.org/wp-content/uploads/2020/03/The_Lancet_Emails_Daszak-2-6-20.pdf</a>   <a href="https://archive.vn/4lBmqJ">https://archive.vn/4lBmqJ</a>   <a href="https://ustrk.org/biohazards-blog/ecohealth-alliance-orchestrated-key-scientists-statement-on-natural-origin-of-sars-cov-2/">https://ustrk.org/biohazards-blog/ecohealth-alliance-orchestrated-key-scientists-statement-on-natural-origin-of-sars-cov-2/</a>
2/7/2020		"[Li Wenliang] passed away on February 7"	CCTV	<a href="http://m.news.cctv.com/2020/03/19/ARTI606n25wKzeVnNlyBqTM200319.shtml">http://m.news.cctv.com/2020/03/19/ARTI606n25wKzeVnNlyBqTM200319.shtml</a>   <a href="https://archive.vn/EYDeS">https://archive.vn/EYDeS</a>
2/7/2020		"Li Wenliang, male, Miaoche, born in October 1985, from Jinzhou, Liaoning, member of the Communist Party of China, died on February 7, 2020 due to pneumonia caused by the novel coronavirus at work. He was an ophthalmologist at Wuhan Central Hospital during his lifetime"	CCTV	<a href="http://m.news.cctv.com/2020/03/19/ARTI606n25wKzeVnNlyBqTM200319.shtml">http://m.news.cctv.com/2020/03/19/ARTI606n25wKzeVnNlyBqTM200319.shtml</a>   <a href="https://archive.vn/EYDeS">https://archive.vn/EYDeS</a>
2/7/2020		PRC "State Supervision Commission established an investigation team to conduct investigations in accordance with the law on the situation reported by the masses involving Doctor Li Wenliang." They found that: Because the Zhongnan Road Police Station issued an improper admonition letter and irregular law enforcement procedures, the investigation team has recommended that the supervisory authority of Wuhan City, Hubei Province supervise and correct the matter, urge the public security agency to revoke the admonition letter and hold relevant personnel accountable, and promptly announce the results of the treatment to the public."	CCTV	<a href="http://m.news.cctv.com/2020/03/19/ARTI606n25wKzeVnNlyBqTM200319.shtml">http://m.news.cctv.com/2020/03/19/ARTI606n25wKzeVnNlyBqTM200319.shtml</a>   <a href="https://archive.vn/EYDeS">https://archive.vn/EYDeS</a>
2/7/2020		The Wuhan municipal government mourned Li Wenliang, a doctor who died of the coronavirus. He was infected while working at a local hospital.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/7/2020		Wuhan lured communities to ensure every confirmed or suspected patient was located and attended to. A senior official vowed to nail any official deserter "to history's pillar of shame".	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/7/2020		Dr. Li Wenliang dies of the novel coronavirus contracted from a patient, five weeks after his police detention for trying to alert fellow doctors to the outbreak. His death triggers an outpouring of grief and anger at Chinese authorities.	WSJ	Jeremy Page et al., "How It All Started: China's Early Coronavirus Missteps," Wall Street Journal, March 6, 2020
2/8/2020		The newly-built Leishenshan Hospital in Wuhan received the first batch of patients infected with the virus	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/9/2020	Censorship of health information	Citizen journalist and local businessman Fang Bin disappears after posting videos from Wuhan that circulated widely on Chinese social media.	NYT	Wulan Wang, "They Documented the Coronavirus Crisis in Wuhan. Then They Vanished," New York Times, February 14, 2020.
2/10/2020		"Pairing-up support for Hubei!" China stepped up its fight against the novel coronavirus as it released a plan for over half of provincial level regions to aid cities in Hubei	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/10/2020	Limited, misleading, delayed reporting	On February 10, when investigating and guiding epidemic prevention and control work in Beijing, two times emphasized the need to do a good job in propaganda and public opinion guidance. At the meeting to coordinate the prevention and control of the new crown pneumonia epidemic and the deployment of economic and social development, General Secretary Xi Jinping gave an in-depth explanation on the effectiveness of news and public opinion work. A series of important speeches made by General Secretary Xi Jinping set clear requirements and provided fundamental follow-up to publicity, education and public opinion guidance	Study Times	<a href="http://www.qstheory.cn/shuangqubkqj/2020-03/10/c_1125690369.htm">http://www.qstheory.cn/shuangqubkqj/2020-03/10/c_1125690369.htm</a>
2/11/2020		The Standing Committee of the Provincial People's Congress of Hubei decided to appoint Wang He-sheng as the new director of the provincial health commission. Wang would replace Jiu Yingri, the former head of the provincial health commission.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/13/2020	US support & offers of support to PRC	WIV submits RNA-Seq of Rhinolophus affinis - Fecal swab " Total RNA was extracted from bronchoalveolar lavage fluid using the QIAamp Viral RNA Mini Kit following the manufacturer's instructions. An RNA library was then constructed using the TruSeq Stranded mRNA Library Preparation Kit (Illumina, USA) Paired-end (150 bp) sequencing of the RNA library was performed on the HiSeq 3000 platform (Illumina)."	NCBI	<a href="https://www.ncbi.nlm.nih.gov/sra/SRR11085797">https://www.ncbi.nlm.nih.gov/sra/SRR11085797</a>
2/13/2020	Limited, misleading, delayed reporting	RNA Seq of Rhinolophus affinis fecal swab [SRR11085797] published in the Sequence Read Archive. Note: This sample may be controversial given it has significant variations from other bat fecal samples collected by the WIV in Yunnan. Additionally, PRONA analysis of this sample reveals 3% primate sequences in the RaTG13 sequence data which is allegedly consistent with contamination by the standard laboratory coronavirus cell culture system, the VERO monkey kidney cell line "SeQUAY "RaTG13 Manuscript 31 AUG 2020".	NCBI	<a href="https://trace.ncbi.nlm.nih.gov/Traces/sra/?run=SRR11085797">https://trace.ncbi.nlm.nih.gov/Traces/sra/?run=SRR11085797</a>

2/13/2020	Limited, misleading, delayed reporting	Xi Jinping fires the Communist Party chiefs of Hubei Province and Wuhan, replacing both with proteges of his with extensive backgrounds in public security.89	NYT	Steven Lee Myers, "China's Top Party Officials Amid Outrage About Coronavirus Response," New York Times, February 13, 2020
2/13/2020	Limited, misleading, delayed reporting	Hubei province reported 14,840 new confirmed cases and 242 new deaths, the highest daily increases, after the diagnosis criteria for confirmed COVID-19 cases were further loosened for timely treatment of more patients	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/13/2020		The city of Huanggang, hard hit by COVID-19 in Hubei, put all residential communities and areas on lockdown as the city upgraded virus prevention and control measures	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/13/2020		Two separate research groups led by China's top scientists said they had isolated novel coronavirus strains from samples of infected patient's feces.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/13/2020	Limited, misleading, delayed reporting Promoting false sense of security	"The political fallout from the outbreak also escalated on Thursday with the firing of party chief of Hubei province, the party chief of Wuhan and the head of China's Hong Kong and Macau Affairs office. Ying Yong, the new party chief of Hubei, came up through the ranks in Zhejiang, where the president, Xi Jinping, previously served as party secretary and was also part of anti-corruption campaigns, the president's signature initiative."	The Guardian	<a href="https://www.theguardian.com/world/2020/feb/13/coronavirus-china-purges-regional-leaders-hours-after-spike-in-deaths-and-new-cases">https://www.theguardian.com/world/2020/feb/13/coronavirus-china-purges-regional-leaders-hours-after-spike-in-deaths-and-new-cases</a>
2/13/2020	Promoting false sense of security	China purges regional leaders hours after spike in deaths and new cases. The political fallout from the outbreak also escalated with the firing of party chief of Hubei province, the party chief of Wuhan and the head of China's Hong Kong and Macau Affairs office. Ying Yong, the new party chief of Hubei, came up through the ranks in Zhejiang, where the president, Xi Jinping, previously served as party secretary and was also part of anti-corruption campaigns, the president's signature initiative.	The Guardian	<a href="https://www.theguardian.com/world/2020/feb/13/coronavirus-china-purges-regional-leaders-hours-after-spike-in-deaths-and-new-cases">https://www.theguardian.com/world/2020/feb/13/coronavirus-china-purges-regional-leaders-hours-after-spike-in-deaths-and-new-cases</a>
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2/14/2020		A gymnasium-converted makeshift hospital was put into use in Wuhan. It is the first makeshift hospital fully supported by doctors and medical workers of traditional Chinese medicine	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/15/2020	Censorship of health information	Xi's published speech also urges tightened control over online discussion and increased policing to ensure "positive energy" and social stability.	AFP	"China's Xi urges more policing as virus toll rises," AFP, February 15, 2020
2/15/2020	Limited, misleading, delayed reporting	Finance magazine Barron's finds that China's official coronavirus data fit a near-perfect model that is almost impossible to naturally occur, as the number of cumulative deaths reported could be predicted by a simple mathematical formula to a 99.99% accuracy.	Barron's	Jon Bellus, "China's Coronavirus Figures Don't Add Up: 'This Never Happens With Real Data,'" Barron's, Feb 15, 2020
2/15/2020	Censorship of health information	Activist Xu Zhiyong arrested after nearly two months on the run, and after publishing a Feb. 4 essay calling on Xi Jinping to step down for suppressing information about the virus.	NPR	Emily Feng, "Rights Activist Xu Zhiyong Arrested in China Amid Crackdown on Dissent," NPR, February 17, 2020.
2/16/2020	Censorship of health information	Tsinghua University Professor Xu Zhongrun is placed under house arrest, barred from social media, and cut off from the Internet after publishing an essay declaring that "The coronavirus epidemic has revealed the rotten core of Chinese governance."	Guardian	Verna Yu and Emma Graham-Harrison, "This may be the last piece I write": Plummet Xi Lintu has Internet cut after house arrest," The Guardian, February 16, 2020.
2/16/2020	Censorship of health information Poor safety practices Efforts to prevent consideration of a lab origin hypothesis	The Wuhan Institute of Virology issues a public denial that its former researcher Huang Yanling is "patient zero," as speculated on Chinese social media based on the disappearance of Huang's biographical information from the institute's website and Huang's unknown whereabouts.	SCMP	Jun Mai, "Chinese research lab denies rumours of links to first coronavirus patient," South China Morning Post, February 16, 2020.
2/16/2020	Limited, misleading, delayed reporting	A group of 12 WHO officials and 13 PRC officials began a nine-day "WHO-China Joint Mission on Coronavirus Disease 2019," led by Canadian Bruce Aylward of WHO and Wannian Liang of the PRC National Health Commission.	WHO	"Report of the WHO China Joint Mission on Coronavirus Disease 2019 (COVID-19). 16-24 Feb 2020," Feb. 28, 2020.
2/16/2020		"WV issues statement (translated using google translate): "Recently, false information has been circulating on the Internet, claiming that our graduate Huang Yanling is the so-called 'patient zero' who was the first to be infected with the new coronavirus. After verification, our firm solemnly declares as follows: Classmate Huang Yanling graduated from our institute in 2015 with a master's degree. During her studies, she studied the function and antibacterial broad-spectrum of phage lyase. After graduation, she has been working and living in other provinces and has never returned to Wuhan. Infection, good health. At this critical moment in the fight against the epidemic, related rumors have greatly interfered with the scientific research work of our institute. We reserve the right to pursue legal liabilities according to law. I sincerely thank all sectors of society for their care, support and help to me!"	WV Official Website	<a href="https://archive.vv1enEo#selection-599-2-571-80">https://archive.vv1enEo#selection-599-2-571-80</a>
2/16/2020	Censorship of health information Poor safety practices Efforts to prevent consideration of a lab origin hypothesis	Institute researcher Shi Zhengli writes on social media that she "guaranteed with her own life" that the outbreak was unrelated to the lab. She instructs "those who believe and spread malicious media rumors to close their stinky mouths."	WSJ	James T. Aveddy, "China Bat Expert Says Her Wuhan Lab Wasn't Source of New Coronavirus," The Wall Street Journal, April 21, 2020.
2/17/2020		"Chen Qianjiao, a researcher with the Wuhan Institute of Virology, has refuted an online rumor that claimed the novel coronavirus was leaked from the institute, according to a statement published on its official website on Monday evening. Someone faked her identity, she said. The statement came after a rumor went viral on Chinese social media platform Weibo, saying Chen reported Wang Yanli, director of the institute, for leaking the virus. Her ID number was included in the fabricated post on Weibo. Chen has been working on influenza viruses at the institute since 2001, according to the official website."	CGTN News	<a href="https://news.cgtn.com/news/2020-02-17/Wuhan-based-researcher-refutes-rumor-about-COVID-19-source-QaemKa1hU/index.html">https://news.cgtn.com/news/2020-02-17/Wuhan-based-researcher-refutes-rumor-about-COVID-19-source-QaemKa1hU/index.html</a>
2/17/2020	Poor safety practices History of lab outbreaks Efforts to prevent consideration of a lab origin hypothesis	"Biosafety guideline issued to fix chronic management loopholes at virus labs 1 2020-02-17 08:52:08 Global Times Editor : Li Yan Special: Battle Against Novel Coronavirus Rules address chronic virus lab loopholes: experts The Ministry of Science and Technology issued new rules over the weekend, requiring laboratories nationwide to boost their biosafety in a move that experts said could fix chronic inadequate management issues during the campaign against the coronavirus. The guideline stressed the importance of strengthening the management of bio labs, especially on viruses, to ensure biosafety, ministry official Wu Yuanbin said at a press conference on Saturday. The release of the guideline deals with chronic loopholes at laboratories, Yang Zhanou, a deputy director of the pathogen biology department at Wuhan University in Hubei Province, told the Global Times on Sunday. "The mention of biosafety at labs by the ministry has nothing to do with some saying that the coronavirus leaked from the Wuhan Institute of Virology of the Chinese Academy of Sciences," Yang said. Laboratories in China have paid insufficient attention to biological disposal, Yang said. Lab trash can contain man-made viruses, bacteria or microbes with a potentially deadly impact on human beings, animals or plants. Some researchers discharge laboratory materials into the sewer after experiments without a specific biological disposal mechanism, Yang explained."	ECNS.cn	<a href="http://www.ecns.cn/news/sci-tech/2020-02-17/detail-f4fztrw9821649.shtml">http://www.ecns.cn/news/sci-tech/2020-02-17/detail-f4fztrw9821649.shtml</a>
2/17/2020	Poor safety practices	ECNS published article on 2/17/2020 that referenced "A top academician at the Chinese Academy of Engineering earned 10.17 million yuan (\$1.46 million) by illegally selling off lab animals and experimental milk, according to a report in the Shanghai-based Paper at an unknown date	ECNS.cn	<a href="http://www.ecns.cn/news/sci-tech/2020-02-17/detail-f4fztrw9821649.shtml">http://www.ecns.cn/news/sci-tech/2020-02-17/detail-f4fztrw9821649.shtml</a>
2/17/2020	Exporting the virus	PRC ambassador Cheng Jingye publicly pressures Australia to ease travel restrictions, saying: "We have expressed our strong wish and hope that the Australian government in their review will take a balanced approach and remove these harsh restrictions"	Reuters	"Coronavirus: Beijing urges Australia to ease travel ban on China travelers," Reuters, February 17, 2020.

2/17/2020	Censorship of health information	"Statement by CHEN Qianjiao: "Regarding the so-called whistle-blowing statements published in my name on the Internet today, I solemnly declare: I have never released any relevant reporting information, and expressed great indignation at the act of using my identity to fabricate the reporting information. I will pursue the legal responsibility of the rumors according to law. Hereby declare. Recently, a series of rumors have affected our front-line researchers' scientific research. Please be careful to prevent related conspiracy and sabotage activities. Chen Qianjiao, Researcher, Wuhan Institute of Virology, Chinese Academy of Sciences"	WIV Website	<a href="http://www.whiov.ac.cn/tzgg_105342/202002/20200217_5500447.html">http://www.whiov.ac.cn/tzgg_105342/202002/20200217_5500447.html</a>
2/18/2020		February 2020 Nature Paper authored by WIV scientists describes RaTG13 genome was identified by "We then found that a short region of RNA-dependent RNA polymerase (RdRp) from a bat coronavirus (BatCoV RaTG13) which was previously detected in Rhinolophus affinis from Yunnan province—showed high sequence identity to 2019 nCoV. We carried out full length sequencing on this RNA sample (GISAID accession number EPI_ISL_402131). SnpIplot analysis showed that 2019-nCoV was highly similar throughout the genome to RaTG13 (Fig. 1C), with an overall genome sequence identity of 96.2%."	Nature	<a href="https://www.nature.com/articles/s41586-020-1212-7#Sec13">https://www.nature.com/articles/s41586-020-1212-7#Sec13</a>
2/18/2020	Censorship of health information	On Monday, Wang Yanyu, director of the research center, denied allegations that animals used in lab experiments were sold at Huanan Seafood Market, which Chinese authorities have said is ground zero for COVID-19. The institute had previously denied the outbreak began among lab technicians, including a woman identified as Huang Yanling. Huang was rumored to be "patient zero" on Chinese social media. Wang's statement came after messages on Chinese social media claimed the doctor had been "frequently" reselling lab animals to Huanan market vendors. Chen Qianjiao was the named author of the social media messages, and the posts included photos of Chen, according to NTD television and other Chinese dissident news services. Chen is a researcher at the lab. On Tuesday she made a public statement claiming her identity had been stolen. Chen may have been detained, according to Chinese-language news service Sound of Hope. Social media posts about the institute were scrubbed by Tuesday. Wang Gaofei, chief executive of social media platform Weibo, condemned the posts as "fake news" and said the messages originated from an overseas IP address, according to multiple press reports.	UPI	<a href="https://www.upi.com/Top_News/World-News/2020/02/18/WHO-confirms-experts-presence-at-coronavirus-epicenter-in-China/8271582041808/">https://www.upi.com/Top_News/World-News/2020/02/18/WHO-confirms-experts-presence-at-coronavirus-epicenter-in-China/8271582041808/</a>
2/19/2020		China's daily number of newly recovered novel coronavirus patients surpassed that of newly confirmed infections for the first time.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/19/2020		President Xi called for great attention to the protection and care for medical workers to make sure they are healthy and stay focused on winning the battle against the outbreak.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/19/2020	Efforts to prevent consideration of lab origin hypothesis	"Statement in support of the scientists, public health professionals, and medical professionals of China combating COVID-19" published in the Lancet by EcoHealth Alliance's Peter Daszak	U.S. Right to Know	<a href="https://ustrk.org/biohazards-blog/ecohealth-alliance-orchestrated-key-scientists-statement-on-natural-origin-of-sars-cov-2/">https://ustrk.org/biohazards-blog/ecohealth-alliance-orchestrated-key-scientists-statement-on-natural-origin-of-sars-cov-2/</a> <a href="https://www.thelancet.com/journals/lanctot/article/PIIS0140-6736(20)30418-9/fulltext#%20">https://www.thelancet.com/journals/lanctot/article/PIIS0140-6736(20)30418-9/fulltext#%20</a>
2/19/2020	Censorship of health information	Beijing revokes press credentials of three Wall Street Journal reporters who had widely covered the outbreak, including one that was reporting from Wuhan.	WSJ	"China Expels Three Wall Street Journal Reporters," Wall Street Journal, February 19, 2020.
2/20/2020		Non-peer-reviewed study by ZHANG Zhigang, ZHANG Tao, and WU Qunfun from the State Key Laboratory for Conservation and Utilization of Bio-Resources in Yunnan, School of Life Sciences, published paper identifying illegally imported pangolins as potential source of COVID-19. "Based on published metagenomic data, this study provides the first report on a potential closely related kin (Pangolin-CoV) of 2019 nCoV, which was discovered from dead Malayan Pangolins after extensive rescue efforts. Aside from RaTG13, the Pangolin-CoV is the most closely related to 2019-nCoV. Due to original sample unavailable, we did not perform further experiments to confirm our findings, including PCR validation, serological detection, and even the isolation of virus particle etc. However, on 7 February, researchers from the South China Agricultural University in Guangzhou reported pangolin would be the potential candidate host of 2019-nCoV for isolating a virus 99% similar to 2019 nCoV in genome (Data unpublished). Our discovered Pangolin-CoV genome showed 91.02% at identity with 2019 nCoV, implying Pangolin-CoV could be different from that unpublished. Whether pangolin species is a good candidate for 2019-nCoV still need to be further investigated. Considering the wide spread of SARS-CoV in their natural reservoirs, our findings would be meaningful to find novel intermediate hosts of 2019-nCoV for blocking interspecies transmission."	Cold Spring Harbor Laboratory BioRxiv	<a href="https://www.biorxiv.org/content/10.1101/2020.02.19.950253v1.full">https://www.biorxiv.org/content/10.1101/2020.02.19.950253v1.full</a>
2/20/2020	Exporting the virus Delayed admitting human to human transfer	At a meeting with ASEAN foreign ministers, PRC Foreign Minister Wang Yi pressures countries to ease travel restrictions, saying: "In light of the conditions on the ground, countries need to resume people-to-people ties and cooperation."	SCMP	Dewey Sim, "Coronavirus: China's top diplomat Wang Yi urges world to resume links with Beijing, says it's taken 'forceful action,'" South China Morning Post, Feb. 20, 2020
2/21/2020		President Xi chaired a leadership meeting on the prevention and control of the novel coronavirus disease and the coordination between the epidemic control and economic and social development.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/23/2020		Xi Jinping delivers speech to PRC officials calling virus "a crisis for us and also a major test." He stresses "social stability" and states that "the effectiveness of the prevention and control work has once again demonstrated the significant advantages of the leadership of the Communist Party of China and the socialist system with Chinese characteristics."	South China Morning Post	William Zheng, "Coronavirus is China's fastest-spreading public health crisis, President Xi Jinping says," South China Morning Post, Feb. 23, 2020.
2/24/2020		China's top legislature adopted a decision on thoroughly banning the illegal trading of wildlife and eliminating the consumption of wild animals to safeguard people's lives and health	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/24/2020	Limited, misleading, delayed reporting	Weigang Zhou, an employee of U.S. CDC, and Clifford Lane, an employee of the U.S. National Institutes of Health (NIH), did participate in a WHO-China Joint Mission to China from February 16 to 24, 2020	WHO	World Health Organization, "Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19)," February 28, 2020, <a href="https://www.who.int/docs/default-source/coronavirus/who-china-joint-mission-on-covid-19-final-report.pdf">https://www.who.int/docs/default-source/coronavirus/who-china-joint-mission-on-covid-19-final-report.pdf</a>
2/25/2020	Limited, misleading, delayed reporting Coverup measures	No one can, under their own name or in the name of their research team, provide other institutions and individuals with information related to the COVID-19 epidemic on their own, including data, biological specimens, pathogens, culture, etc. Anyone who violates the above regulations shall be dealt with severely in accordance with discipline, laws and regulations.	CCDC	<a href="https://www.documentcloud.org/documents/7340336-China-CDC-Sup-Regs.html">https://www.documentcloud.org/documents/7340336-China-CDC-Sup-Regs.html</a>
2/25/2020	Limited, misleading, delayed reporting Coverup measures	The launch of scientific research projects related to the COVID-19 epidemic must undergo preliminary review by the Science and Technology Group/Department. According to the research subject, experts should be organized to conduct scientific and ethical reviews, and, if necessary, the project must be submitted to the emergency leading group of the Department of Science and Education of the National Health Commission for approval. The research projects authorized by higher authorities must be examined and approved by the emergency leading group via the Science and Technology Group/Department and be kept on record. Anyone who violates the above regulations shall be dealt with severely in accordance with discipline, laws and regulations.	CCDC	<a href="https://www.documentcloud.org/documents/7340336-China-CDC-Sup-Regs.html">https://www.documentcloud.org/documents/7340336-China-CDC-Sup-Regs.html</a>



2/25/2020	Limited, misleading, delayed reporting Coverup measures	Before publishing papers and research results related to the COVID-19 epidemic, you must first report them to the Science and Technology Group/Department for preliminary review, and if necessary, submit it to the Emergency Leading Group or the Department of Science and Education of the National Health Commission for approval. Papers that have been submitted but not yet reviewed by the Science and Technology Group/Department should be withdrawn as soon as possible and redone according to these regulations... Anyone who violates the above regulations shall be dealt with severely in accordance with discipline, laws and regulations.	CCDC	<a href="https://www.documentcloud.org/documents/7340336-China-CDC-Sup-Regs.html">https://www.documentcloud.org/documents/7340336-China-CDC-Sup-Regs.html</a>
2/26/2020		President Xi chaired a leadership meeting on COVID-19 control and made donation.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/26/2020	Censorship of health information	Citizen, journalist Li Zehua, who quit his job at state broadcaster CCTV to report independently from Wuhan, is detained and disappears. With security officers at his door, Li records a video testament to free speech, truth, and the memory of the Tiananmen movement.	The Guardian	"Opening the Door," China Media Project, February 28, 2020. See also Lily Kuo, "They're chasing me: The journalist who wouldn't stay quiet on Covid-19," The Guardian, March 1, 2020.
2/27/2020		President Xi held talks with Mongolian President Khaltmaa Battulga at the Great Hall of the People in Beijing. The Mongolian president said it will send additional 30,000 sheep apart from the previous donations.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/27/2020	Delayed admitting human to human transfer	Last week, Zhong Nanshan, one of China's most highly regarded epidemiology experts and the leader of the National Health Commission's task force on the epidemic, said officials had identified a coronavirus by Dec. 31 and took too long to publicly confirm human-to-human transmission. If action had been taken earlier, in December or even early January, "the number of sick would have been greatly reduced," he said.	Wall Street Journal	<a href="https://www.wsj.com/articles/how-it-all-started-chinas-early-coronavirus-mistake-11583508932">https://www.wsj.com/articles/how-it-all-started-chinas-early-coronavirus-mistake-11583508932</a>
2/28/2020	Limited, misleading, delayed reporting Behind the scenes, lab origin thought to be most likely Coverup measures	Chinese scientists quickly started testing potential animal hosts. Records show that Xia Xueshan, an infectious diseases expert, received a 1.4 million RMB (\$214,000) grant to screen animals in Yunnan for COVID-19. State media reported in February that his team collected hundreds of samples from bats, snakes, bamboo rats and other animals, and ran a picture of masked scientists in white lab coats huddled around a large, caged porcupine. Then the government restrictions kicked in. Data on the samples still has not been made public, and Xia did not respond to requests for an interview. Although Xia has co-authored more than a dozen papers this year, an AP review shows, only two were on COVID-19, and neither focused on its origins.	AP	<a href="https://apnews.com/article/limited-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbdc58cee3a40bca2d7a34d2955">https://apnews.com/article/limited-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbdc58cee3a40bca2d7a34d2955</a>
2/28/2020	Limited, misleading, delayed reporting Promoting false sense of security	The WHO-China Joint Mission on Coronavirus Disease 2019 publishes its report after a "huge back and forth" between PRC and non-PRC officials over wording. PRC officials refused to call the virus "dangerous" or include reference to a possible "second wave" of infections (preferring "resurgence" instead).	Financial Times	"Taiwan says WHO failed to act on coronavirus transmission warning," Financial Times, March 19, 2020.
2/29/2020	Lack of PRC transparency publicly covered up by WHO	The WHO-China Joint Mission released a report about its recent nine-day field study trip on COVID-19 in Beijing and provinces of Guangdong, Sichuan, and Hubei, saying China provides vital lessons of COVID-19 containment for a global response.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/29/2020		Chinese pathologists concluded autopsies on 11 patients who died from the disease, which have shown various degrees of pulmonary mutations.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/29/2020	Exporting the virus Promoting false sense of security	WHO announces that it "continues to advise against the application of travel or trade restrictions to countries experiencing COVID-19 outbreaks."	WHO	"Updated WHO recommendations for international traffic in relation to COVID-19 outbreak," WHO, February 29, 2020.
3/1/2020		Chinese doctors completed a double lung transplant surgery on a COVID-19 patient.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/1/2020		Wuhan closed a gymnasium-turned temporary hospital, for the first time in the city, as the number of patients dropped.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/2/2020		China's daily output of face masks reached 11G million, 12 times the figure on Feb 1, as production expansion inured into top gear.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/3/2020	Limited, misleading, delayed reporting Coverup measures	on March 2, he emphasized "coordination" on coronavirus research, state media reported. The next day, China's cabinet, the State Council, centralized all COVID-19 publication under a special task force. The notice, obtained by the AP and marked "not to be made public," was far more sweeping in scope than the earlier CDC notices, applying to all universities, companies and medical and research institutions. The order said communication and publication of research had to be orchestrated like "a game of chess" under instructions from Xi, and propaganda and public opinion teams were to "guide publication." It went on to warn that those who publish without permission, "causing serious adverse social impact, shall be held accountable." After the secret orders, the tide of research papers slowed to a trickle. Although China CDC researcher Liu Jun returned to the market nearly 20 times to collect some 2,000 samples over the following months, nothing was released about what they revealed.	AP	<a href="https://apnews.com/article/limited-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbdc58cee3a40bca2d7a34d2955">https://apnews.com/article/limited-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbdc58cee3a40bca2d7a34d2955</a>
3/3/2020	Limited, misleading, delayed reporting Coverup measures	("This document is not public") In accordance with the principles of "following laws and regulations, being scientific and objective, centralized management, and precise publications", all publication work on epidemic prevention research and information related to COVID-19, including medication, vaccines, virus origins, virus transmission routes, testing reagents, etc. will be taken over by the Joint Prevention and Control Mechanism of the State Council's scientific research group (hereinafter referred to as "the scientific research group") for coordinated deployment. The scientific research group will coordinate the publication of information on emergency scientific research, and guide and coordinate the publication of information on scientific research by all work units in all locations... Those who fail to apply for approval in accordance with the prescribed procedures and publish unconfirmed false information on scientific research, thereby causing serious adverse social impacts, shall be held accountable.	State Council Novel Coronavirus Pneumonia Epidemic Joint Prevention and Control Mechanism Scientific Research Task Force	<a href="https://www.documentcloud.org/documents/7340337-State-Research-regulations.html">https://www.documentcloud.org/documents/7340337-State-Research-regulations.html</a>
3/3/2020	Promoting false sense of security	WHO chief Tedros plays down the risk of asymptomatic silent carriers, citing official PRC data: "COVID-19 does not transmit as efficiently as influenza, from the data we have so far. With influenza, people who are infected but not yet sick are major drivers of transmission, which does not appear to be the case for COVID-19. Evidence from China is that only 1% of reported cases do not have symptoms, and most of those cases develop symptoms within two days." Later reports cited classified PRC data showing up to 33% of cases were asymptomatic (see March 22).	WHO, March 3	"WHO Director-General's opening remarks at the media briefing on COVID-19 - 3 March 2020," WHO, March 3, 2020.
3/4/2020		China has added the antibody diagnosis method for COVID-19 and its relevant criteria in the country's first diagnosis and treatment scheme, which also includes warning against transmission via aerosol or contact due to environmental pollution caused by the excretion and urine of patients.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>

3/4/2020		Chinese health authority unveiled the latest version of the national diagnosis and treatment plan for COVID-19 which includes the results of autopsies of two victims and pathological observation based on needle biopsies	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/5/2020		A team of Chinese doctors successfully 3D-printed the model of the nidus of a patient infected with the coronavirus	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/5/2020		Chinese doctors proved for the first time that the novel coronavirus can cause damage to patients' central nervous system.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/5/2020		The daily count of newly cured and discharged cases in Hubei exceeded the number of newly confirmed cases for 15 consecutive days since Feb 19	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/5/2020		The People's Bank of China said that more than 7 million payment transactions related to the prevention and control of the epidemic had been handled through its payment and clearing system, involving an aggregate amount of 6 billion yuan as of March 2	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/6/2020		China has continued to optimize the utilization of drugs and therapies in the treatment of the disease to block the conversion of mild cases to severe cases and save critically ill patients.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/6/2020		The number of newly COVID-19 cases in China dropped to double digits for the first time since Jan 20	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/6/2020	Censorship of health information	Wuhan residents shout from windows "It's all over!" as senior official Sun Chunlan visits. After this goes viral on Chinese social media, PRC state media doctor and re-distribute the footage to claim that only one person had yelled this.	Reuters	<a href="https://www.reuters.com/article/us-health-coronavirus-china-socialmedia/with-cities-of-11-lake-wuhan-citizens-volunteer-discontent-idUSKBN207215">https://www.reuters.com/article/us-health-coronavirus-china-socialmedia/with-cities-of-11-lake-wuhan-citizens-volunteer-discontent-idUSKBN207215</a>
3/7/2020		A rapid testing kit for the COVID-19 antibody with results available in 29 minutes was approved by the National Medical Products Administration.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/7/2020		Wuhan has renovated and built 48 designated hospitals and 16 temporary hospitals, with more than 60,000 beds. No one has contracted the virus among over 40,000 medical workers who were sent to aid Hubei from across China.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/8/2020		China has sent 415 psychological counselors to Central China's Hubei province, the epicenter of the epidemic in China, to offer mental counseling services to patients and medical workers	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/9/2020	Lack of PRC transparency publicly covered up by WHO	China pledged \$20 million donation to the World Health Organization (WHO) to support the global fight, and the reconstruction of public health systems in developing countries.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/9/2020	Limited, misleading, delayed reporting	Most of the more than 50,000 COVID-19 patients in China who have recovered and been discharged from hospital received traditional Chinese medicine (TCM) treatment. TCM has been involved in the treatment of 74,603 confirmed COVID-19 cases nationwide, accounting for 92.5 percent of the total	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/10/2020		Over 74 million members of the Communist Party of China (CPC) voluntarily made donations totaling 7.68 billion yuan (about \$1.1 billion) for the COVID-19 prevention and control	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/10/2020		President Xi Jinping inspected Wuhan, pledging a continuous fight toward victory as prevention and control efforts have "turned the tide"	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/10/2020		Wuhan closed all of its 16 public facility-turned temporary hospitals amid a continuous drop of patients in the city	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/10/2020	Limited, misleading, delayed reporting	In the past few days, the main news units of the central government have conscientiously implemented the deployment requirements of the Central Propaganda Department, coordinated online and offline, domestic and international, major and minor matters, in-depth publicity of the Party Central Committee's major decisions and deployments, in-depth publicity of the spirit of General Secretary Xi Jinping's important speech, and in-depth reports on the joint defense of various regions and departments. The effectiveness of the joint control measures vividly tells the moving stories of the front line of epidemic prevention and anti-epidemic, and creates a large number of news works with strong confidence, warmth, and people's heart, which brings together a strong mainstream thought and public opinion force.	Study Times	<a href="http://www.qstheory.cn/zhuantiqu/bk/s/2020-03/10/c_1125690369.htm">http://www.qstheory.cn/zhuantiqu/bk/s/2020-03/10/c_1125690369.htm</a>
3/11/2020	Catastrophic mistakes Too little, too late	Researchers at the University of Southampton (UK) estimate that had Beijing owned up to the coronavirus outbreak and responded with significant measures just one week before it did, 66% of cases could have been avoided, and had Beijing responded three weeks sooner, 95% could have been avoided	University of Southampton	Shengjie Lai, "Early and Combined Interventions Crucial in Taming Covid-19 Spread in China," University of Southampton, March 11, 2020.
3/11/2020	Too little, too late	WHO declares the novel coronavirus a "pandemic," after the official worldwide case count is 138,000 people in 114 countries.	WSJ	Ianhee Chen, "Lost in Beijing: The Story of the WHO," The Wall Street Journal, April 8, 2020.
3/12/2020	Limited, misleading, delayed reporting	ZHANG Jian tweets article titled, "COVID-19: Further Evidence that the Virus Originated in the U.S." Which was then retweeted by Chinese ambassadors in 12 countries	German Marshall Fund of the United States	<a href="https://securingdemocracy.gmfus.org/analysis-chinas-coronavirus-propaganda-messaging-in-europe/">https://securingdemocracy.gmfus.org/analysis-chinas-coronavirus-propaganda-messaging-in-europe/</a>
3/12/2020		Eight newly confirmed cases were reported on the Chinese mainland, the first time for the figure to drop to a single digit.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>

3/13/2020		In a March 2020 report, the Hong Kong based South China Morning Post, citing Chinese "government data seen by the Post," indicates that the first known patient was a 55-year-old from Hubei Province who became ill on November 17. Asked in March 2020 about the Post report, China CDC Director Gao Fu states, "There is no solid evidence to say we already had clusters in November."	SCMP, Sientific	Josephine Ma, "China's First Confirmed Covid-19 Case Traced Back to November 17," South China Morning Post, March 13, 2020, <a href="https://www.scmp.com/news/china/society/article/3074991/coronavirus-chinas-first-confirmed-covid-19-case-traced-back">https://www.scmp.com/news/china/society/article/3074991/coronavirus-chinas-first-confirmed-covid-19-case-traced-back</a> . Jon Cohen, "Not Wearing Masks to Protect Against Coronavirus Is a 'Big Mistake,' Top Chinese Scientist Says," Science, March 27, 2020, <a href="https://www.sciencemag.org/news/2020/03/not-wearing-masks-protect-against-coronavirus-big-mistake-top-chinese-scientist-says">https://www.sciencemag.org/news/2020/03/not-wearing-masks-protect-against-coronavirus-big-mistake-top-chinese-scientist-says</a> .
3/14/2020	Censorship of health information	Entrepreneur and activist Ren Zhiqiang disappears in Beijing after criticizing Xi Jinping's coronavirus response 109 PRC officials announce a corruption investigation into Ren on April 7.	NYT	Javier C. Hernandez, "Chinese Tycoon Who Criticized Xi's Response to Coronavirus Has Vanished," New York Times, March 14, 2020. Javier C. Hernandez, "China Investigates Cause of Xi's Coronavirus Response," New York Times, April 7, 2020.
3/16/2020		Chinese companies have mobilized to aid the anti-coronavirus battle in numerous countries including Italy, the Republic of Korea, Laos, Pakistan and Iran by donating medical supplies.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/17/2020		The proximal origin of SARS-CoV-2: "Our comparison of alpha- and betacoronaviruses identifies two notable genomic features of SARS-CoV-2: (i) on the basis of structural studies <sup>7,8,9</sup> and biochemical experiments <sup>1,9,10</sup> , SARS-CoV-2 appears to be optimized for binding to the human receptor ACE2; and (ii) the spike protein of SARS-CoV-2 has a functional polybasic (furin) cleavage site at the S1-S2 boundary through the insertion of 12 nucleotides <sup>8</sup> , which additionally led to the predicted acquisition of three O-linked glycans around the site." <sup>11</sup> "While the analyses above suggest that SARS-CoV-2 may bind human ACE2 with high affinity, computational analyses predict that the interaction is not ideal <sup>7</sup> and that the RBD sequence is different from those shown in SARS-CoV to be optimal for receptor binding <sup>7,11</sup> . Thus, the high-affinity binding of the SARS-CoV-2 spike protein to human ACE2 is most likely the result of natural selection on a human or human-like ACE2 that permits another optimal binding solution to arise. This is strong evidence that SARS-CoV-2 is not the product of purposeful manipulation <sup>12</sup> . " "It is improbable that SARS-CoV-2 emerged through laboratory manipulation of a related SARS-CoV-like coronavirus. As noted above, the RBD of SARS-CoV-2 is optimized for binding to human ACE2 with an efficient solution different from those previously predicted <sup>7,11</sup> . Furthermore, if genetic manipulation had been performed, one of the several reverse-genetic systems available for betacoronaviruses would probably have been used <sup>19</sup> . However, the genetic data irrefutably show that SARS-CoV-2 is not derived from any previously used virus backbone <sup>20</sup> . Instead, we propose two scenarios that can plausibly explain the origin of SARS-CoV-2: (i) natural selection in an animal host before zoonotic transfer, and (ii) natural selection in humans following zoonotic transfer. We also discuss whether selection during passage could have given rise to SARS-CoV-2." <sup>21</sup> "Malayan pangolins (Manis javanica) illegally imported into Guangdong province contain coronaviruses similar to SARS-CoV-2.1. Although the RaTG13 bat virus remains the closest to SARS-CoV-2 across the genome <sup>1</sup> , some pangolin coronaviruses exhibit strong similarity to SARS-CoV-2 in the RBD, including all six key RBD residues <sup>2,3</sup> (Fig. 4). This clearly shows that the SARS-CoV-2 spike protein optimized for binding to human-like ACE2 is the result of natural selection." <sup>22</sup> "Although the evidence shows that SARS-CoV-2 is not a purposefully manipulated virus, it is currently impossible to prove or disprove the other theories of its origin described here. However, since we observed all notable SARS-CoV-2 features, including the	Nature Medicine	<a href="https://www.nature.com/articles/s41591-020-0820-9">https://www.nature.com/articles/s41591-020-0820-9</a>
3/17/2020	Limited, misleading, delayed reporting	Experts in a Wuhan hospital held a video conference with their peers in 14 hospitals in the Netherlands, sharing experience of COVID 19 prevention and treatment.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/17/2020		The first batch of medical assistance teams started leaving Hubei province as the epidemic outbreak in the hard-hit province has been subdued. Over 42,000 medical workers from across the country were dispatched to aid Hubei in fighting the epidemic since the virus outbreak.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/19/2020		CCTV publishes findings from State Supervision Commission investigation into Di Lu - Wenliang.	CCTV	<a href="http://m.news.cctv.com/2020/03/19/AR1rE06n25wkzeVnHlydGTm200319.shtml">http://m.news.cctv.com/2020/03/19/AR1rE06n25wkzeVnHlydGTm200319.shtml</a>   <a href="https://archive.vn/EY6es">https://archive.vn/EY6es</a>
3/19/2020		Chinese mainland reported zero increase in domestically transmitted COVID-19 cases for March 18. Wuhan, which was once worst hit by the coronavirus outbreak, reported no newly confirmed cases for the same day.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
3/22/2020	Limited, misleading, delayed reporting	Experts worldwide call for expanded testing and greater transparency regarding asymptomatic "silent carriers," as evidence mounts from countries such as Iceland that as many as 50% of positive cases may be asymptomatic.	Bloomberg	Jaron Gale, "Coronavirus Cases Without Symptoms Spur Call for Wider Tests," Bloomberg, March 22, 2020
3/22/2020	Limited, misleading, delayed reporting	Reports emerge of classified PRC government data showing a far higher rate of asymptomatic illness in China than previously disclosed. Per South China Morning Post, the classified data show some 43,000 people in China tested positive without symptoms by the end of February, representing one-third of cases. But PRC officials excluded these cases from their public count. When epidemiologists from the Chinese CDC published a paper on Feb. 24, they cited only 889 asymptomatic patients out of 44,572 confirmed cases as of Feb. 11, a rate of only 2%.	SCMP	Josephine Ma et al, "A third of coronavirus cases may be silent carriers," classified Chinese data suggests," South China Morning Post, March 22, 2020
3/24/2020	Limited, misleading, delayed reporting	WHO publishes RaTG13 complete genome.	NCBI	<a href="https://www.ncbi.nlm.nih.gov/nucleotide/MN989653.1">https://www.ncbi.nlm.nih.gov/nucleotide/MN989653.1</a>
3/26/2020	Exporting the virus	China bans entry of all foreigners in attempt to limit virus spread. This measure is harsher than the travel restrictions of other countries that Beijing had criticized just weeks before.	Politico	Doug Palmer, "China closes border to foreign travelers," Politico, March 26, 2020.
3/27/2020	Limited, misleading, delayed reporting	Photographs and reports surface of many thousands of urns at Wuhan funeral homes, raising doubts about government claims that the virus caused only about 2,500 deaths in Wuhan and 3,200 in China. Local Wuhan social media users estimate, based on the daily capacity of incinerators, that more than 40,000 may have died there.	Radio Free Asia	"Urn in Wuhan Prompt New Questions of Virus's Toll," Bloomberg News, March 27, 2020 "Estimates Show Wuhan Death Toll Far Higher Than Official Figure," Radio Free Asia, March 27, 2020."
3/31/2020	Limited, misleading, delayed reporting Promoting false sense of security	Chinese National Health Commission announces for the first time that it excluded from its national tally people who had the virus but without symptoms, and that as of April 1 it would begin including these in the tally "in order to respond to society's concern in a timely manner."	WSJ	Chong Koh Ping, "China's Coronavirus Count Excluded Infected People With No Symptoms," The Wall Street Journal, March 31, 2020.
4/3/2020	Censorship of health information	CCP admits Wuhan law enforcement actions against whistleblower doctor Li Wenliang was "irregular" and "improper" and declared Li a "martyr."	Business Insider	<a href="https://www.businessinsider.com/coronavirus-china-li-wenliang-whistleblower-doctor-martyr-2020-4">https://www.businessinsider.com/coronavirus-china-li-wenliang-whistleblower-doctor-martyr-2020-4</a>
4/3/2020	Censorship of health information	China on Thursday awarded Li Wenliang, the doctor who sounded an early alarm about the novel coronavirus, the title of "martyr." In December, police in Wuhan made Li admit to lying about the existence of a worrying new virus discovered in the city. Li died on February 7 after contracting the virus. An investigation by the Chinese Communist Party found on March 19 that the actions of law enforcement in Wuhan was "irregular" and "improper." "Martyr" is the highest honor the Communist Party of China can bestow on a citizen killed working to serve the country. The country will honor him with three minutes of silence on Saturday.	Business Insider	<a href="https://www.businessinsider.com/coronavirus-china-li-wenliang-whistleblower-doctor-martyr-2020-4">https://www.businessinsider.com/coronavirus-china-li-wenliang-whistleblower-doctor-martyr-2020-4</a>
4/3/2020	Censorship of health information Delayed admitting human to human transfer Limited, misleading, delayed reporting	While lifting lockdown restrictions in Wuhan, officials limit funerals of those who died from the coronavirus, suppress online discussions of fatalities, scrub images of funeral homes from social media, assign minders to families in mourning, and face questions from families such as why it took the government weeks to inform the public that the virus could spread among humans.	NYT	Amy Qin and Cao Li, "China Pushes for Quiet Burials as Coronavirus Death Toll is Questioned," New York Times, April 3, 2020.
4/3/2020	Censorship of health information	China's Ministry of Science and Technology announces that ongoing clinical research on the coronavirus must be reported to authorities within three days or be halted.	The Guardian	Stephanie Kirchgaessner et al, "China clamping down on coronavirus research, deleted pages suggest," The Guardian, April 11, 2020. <a href="https://www.theguardian.com/world/2020/apr/11/china-clamping-down-on-coronavirus-research-deleted-pages-suggest">https://www.theguardian.com/world/2020/apr/11/china-clamping-down-on-coronavirus-research-deleted-pages-suggest</a>
4/7/2020	Censorship of health information Limited, misleading, delayed reporting	Human rights activists report, citing public records online, that Chinese police punished nearly 900 people for online speech or information-sharing about the virus over three months.	Daily Telegraph	Sophia Yan, "Inside Wuhan as city at heart of coronavirus outbreak tries to return to normal," Daily Telegraph, April 7, 2020.

4/9/2020	Censorship of health information	The Guardian reports that "Another notice, which appears to have been published on 9 April by the school of information science and technology at Fudan University in Shanghai, called for "strict and serious" management of papers investigating the source of the outbreak." Papers could only be submitted for publication after being approved by a special office. Email, names and phone numbers provided on the notice suggested that office was part of China's ministry of education	The Guardian	<a href="https://www.theguardian.com/world/2020/apr/11/china-clamping-down-on-coronavirus-research-deleted-pages-suggest">https://www.theguardian.com/world/2020/apr/11/china-clamping-down-on-coronavirus-research-deleted-pages-suggest</a>
4/11/2020	Censorship of health information	The Guardian publishes article reports that "China is cracking down on publication of academic research about the origins of the novel coronavirus, in what is likely to be part of a wider attempt to control the narrative surrounding the pandemic; documents published online by Chinese universities appear to show." "Two webinars for leading Chinese universities appear to have recently published and then removed pages that reference a new policy requiring academic papers dealing with Covid-19 to undergo extraveiling before they are submitted for publication." "China University of Geosciences (Wuhan) appears to have published and then deleted new requirements that academic papers dealing with the origins of the virus be approved by China's ministry of science and technology before publication." and "A separate document obtained by the Guardian, which could not be independently verified, appears to be from the Renmin Hospital of Wuhan University and also said publication of research into the origins of Covid 19 would need approval from the science and technology ministry."	The Guardian	<a href="https://www.theguardian.com/world/2020/apr/11/china-clamping-down-on-coronavirus-research-deleted-pages-suggest">https://www.theguardian.com/world/2020/apr/11/china-clamping-down-on-coronavirus-research-deleted-pages-suggest</a>
4/14/2020	Censorship of health information Poor safety practices Efforts to prevent consideration of a lab origin hypothesis	On 4/14/2020 the Washington Post publishes article on 2018 US State Department visits to WIV and the resulting cable about safety concerns, noting that "Last week, WIV erased that statement (acknowledging the visit from U.S. Diplomats) from its website, though it remains archived on the internet." Further, "Sources familiar with the cables said they were meant to sound an alarm about the grave safety concerns at the WIV lab, especially regarding its work with bat coronaviruses. The embassy officials were calling for more U.S. attention to this lab and more support for it, to help it fix its problems."	Washington Post (Opinions)	<a href="https://www.washingtonpost.com/opinions/2020/04/14/state-department-cables-warned-safety-issues-wuhan-lab-studying-bat-coronaviruses/">https://www.washingtonpost.com/opinions/2020/04/14/state-department-cables-warned-safety-issues-wuhan-lab-studying-bat-coronaviruses/</a>
4/15/2020	Limited, misleading, delayed reporting	The early story of the pandemic in China shows mixed opportunities at every step, the documents and AP interviews reveal. Under Xi, China's most authoritarian leader in decades, increasing political repression has made officials more hesitant to report cases without a clear green light from the top. "It really increased the stakes for officials, which made them reluctant to step out of line," said Mattingly, the Yale professor. "I made it harder for people at the local level to report bad information."	AP	<a href="https://apnews.com/article/68a9e1b91de4ffc166acd5012d82c2f9">https://apnews.com/article/68a9e1b91de4ffc166acd5012d82c2f9</a>
4/17/2020	Limited, misleading, delayed reporting	Wuhan raises its official tally of Covid-19 fatalities by 1,290, to nearly 3,900, blaming the initial undercount on cases unrecognized, untreated, or underreported by overstressed hospitals	AP	"Chinese epicenter Wuhan raises number of virus cases by 1,290," Associated Press, April 17, 2020
4/17/2020		Our academic genomic scientists reviewed the annotations question on arXiv preprint 2004.02021v1 [cs.LG] and updated with link to 13 May 2020 Arxiv article awaiting peer-review. Nikolai PETROVSKY, professor in College of Medicine and Public Health at Flinders University and Research Director at Xayne Pty Ltd stated, "An extremely important but still unanswered question is what was the source of COVID-19 virus. While COVID-19 has close similarities to SARS and other bat viruses no natural virus matching to COVID-19 has been found in nature despite an intensive search to find its origins. This raises the very legitimate question of whether the COVID-19 virus might be the result of human intervention. Certainly, our and other analyses of the genomic sequence of the virus do not reveal any artificial gene inserts that would be the hallmark of a gene, plucked, genetic engineers who manipulate or even create viruses by splicing in artificial inserts into their genome. These are generally easily recognisable and hence clear signatures of human intervention in the creation of a virus. The fact that these artificial inserts are not present has been interpreted by some to mean this virus is not the result of human manipulation. However, this logic is incorrect as there are other ways in which humans can manipulate viruses and that is caused by natural selection. What do I mean? All viruses and bacteria mutate and adapt to their environment over time, with selection of the fittest individuals for survival in that particular environment. Take a bat coronavirus that is not infectious to humans, and force its selection by culturing it with cells that express human ACE2 receptor, such cells having been created many years ago to culture SARS coronaviruses and you can force the bat virus to adapt to infect human cells via mutations in its spike protein, which would have the effect of increasing the strength of its binding to human ACE2, and inevitably reducing the strength of its binding to bat ACE2. Viruses in prolonged culture will also develop other random mutations that do not affect its function. The result of these experiments is a virus that is highly virulent in humans but is sufficiently different that it no longer resembles the original bat virus. Because the mutations are acquired randomly by selection there is no signature of a human gene jockey, but this is clearly a virus still created by human intervention. My group in collaboration with other Australian researchers have been using a modelling approach to study the possible evolutionary origins of COVID-19 by modelling interactions between its spike protein and a broad variety of ACE2 receptors from many animals and humans. This work which was US Secretary of State Mike Pompeo on Friday called on China to grant the United States access to the Wuhan laboratory that has emerged as a flashpoint between the two nations in a clash over the origin and handling of the coronavirus. "We are still asking the Chinese Communist Party to allow experts to get into that virology lab so that we can determine precisely where this virus began," said Pompeo on Fox News	Sciencex	<a href="https://www.sciencex.org/newsfeed/expert-reaction-did-covid-19-come-from-a-lab-in-wuhan">https://www.sciencex.org/newsfeed/expert-reaction-did-covid-19-come-from-a-lab-in-wuhan</a> <a href="https://archive.is/EM9g3">https://archive.is/EM9g3</a>
4/17/2020	Limited, misleading, delayed reporting Efforts to prevent consideration of a lab origin hypothesis	the Wuhan laboratory that has emerged as a flashpoint between the two nations in a clash over the origin and handling of the coronavirus. "We are still asking the Chinese Communist Party to allow experts to get into that virology lab so that we can determine precisely where this virus began," said Pompeo on Fox News	South China Morning Post	<a href="https://www.scmp.com/news/china/politics/article/3080513/coronavirus-us-secretary-state-mike-pompeo-seeks-access">https://www.scmp.com/news/china/politics/article/3080513/coronavirus-us-secretary-state-mike-pompeo-seeks-access</a>
4/18/2020	Poor safety practices	Yuan Zhiming, vice director of the Wuhan Institute of Virology and director of the Wuhan National Biosafety Laboratory, tells state broadcaster CGTN, "There is absolutely no way that the virus originated from our institute. . . . I hope such a conspiracy theory will not affect cooperation among scientists around the world."	Bloomberg	"Wuhan Lab Denies Any Link to First Coronavirus Outbreak," Bloomberg News, April 20, 2020.
4/20/2020	Limited, misleading, delayed reporting Efforts to prevent consideration of a lab origin hypothesis	WIV Communist Party chief claims "The WIV does not have the intention and the ability to design and construct a new coronavirus," he said in written responses to questions from Reuters "Moreover, there is no information within the SARS-CoV-2 genome indicating it was manmade." . . . Yuan also rejected theories that the lab had accidentally released a coronavirus. It had harvested from bats for research purposes, saying the lab's biosecurity procedures were strictly enforced. "High-level biosafety labs have sophisticated protective facilities and strict measures to ensure the safety of laboratory staff and protect the environment from contamination," he said.	Reuters	<a href="https://www.reuters.com/article/us-health-coronavirus-china-lab/dwns-lab-rejects-covid-19-conspiracy-theories-but-virus-origins-still-a-mystery-idUSKCN22A0MM">https://www.reuters.com/article/us-health-coronavirus-china-lab/dwns-lab-rejects-covid-19-conspiracy-theories-but-virus-origins-still-a-mystery-idUSKCN22A0MM</a>
4/21/2020	Limited, misleading, delayed reporting Promoting false sense of security	A study published in the Lancet by researchers from Hong Kong estimates that China might have had tens of thousands more coronavirus cases than officials have disclosed.	Lancet	Tim K. Tsang et al. "Effect of changing case definitions for COVID-19 on the epidemic curve and transmission parameters in mainland China: a modelling study." Lancet, April 21, 2020.
4/22/2020	Censorship of health information	Citizen journalist Li Zehua surfaces for the first time since February, saying that his detention included a quarantine in Wuhan and another in his hometown, after which he was reunited with his family. He says in a video: "During the whole process, the police enforced law in a civilized manner, secured my rest time and food. They also cared about me very much" . . . I'm grateful to all the people who looked after me and cared about me. I wish all people suffering the epidemic can pull through. God bless China. I wish the world can unite together."	BBC	"Li Zehua: Journalist who 'disappeared' after Wuhan chase reappears," BBC, April 23, 2020
4/22/2020	Limited, misleading, delayed reporting	Australian Prime Minister Scott Morrison has sought support for an international investigation into the coronavirus pandemic in phone calls with US President Donald Trump, and the German and French leaders overnight, the government said on Wednesday. Australia's push for an independent review of the origins and spread of the pandemic, including the response of the World Health Organization (WHO), has drawn sharp criticism from China, which has accused Australian lawmakers of taking instructions from the United States. . . . Senior Australian lawmakers have also called for an inquiry into the origins of the coronavirus, and questioned Beijing's transparency over a pandemic now paralysing the world	South China Morning Post	<a href="https://www.scmp.com/news/asia/australasia/article/308102/australia-wants-international-probe-coronavirus-origins">https://www.scmp.com/news/asia/australasia/article/308102/australia-wants-international-probe-coronavirus-origins</a>
4/22/2020	Poor safety practices	The Times published an article claiming, "China prevented French experts from overseeing safety at its first high-security virus laboratory, which is now facing claims that it was the origin of the coronavirus pandemic, according to French officials. . . . French specialists have knowledge in building and running BSL-4 laboratories, which were described by a senior civil servant in Paris as a "bacteriological atomic bomb". But French firms got only minor roles in the building of the laboratory, according to Le Figaro and France Inter, the state broadcaster. . . . France Inter said that Technip, the French company supposed to certify that the building complied with safety standards, refused to do so after pulling out of the project in 2015."	The Times	<a href="https://a.com/raRQM7MED">https://a.com/raRQM7MED</a> <a href="https://www.thetimes.co.uk/edition/news/coronavirus-china-bars-safety-experts-from-wuhan-lab-brim9wrm">https://www.thetimes.co.uk/edition/news/coronavirus-china-bars-safety-experts-from-wuhan-lab-brim9wrm</a>

4/24/2020	Limited, misleading, delayed reporting	Under pressure from Beijing, the European Union softens a published report on Covid-19 disinformation. The final text removed a draft reference to Beijing's "global disinformation" campaign and struck mention of the diplomatic dispute between China and France over Chinese PPE exports and the aggressive rhetoric of China's ambassador in Paris	NYT	Matt Apuzzo, "Pressured by China, E.U. Softens Report on Covid-19 Disinformation," New York Times, April 24, 2020.
4/25/2020	Censorship of health information	SCMP reports Chinese police have detained three Beijing residents (Cai Wei, a woman nicknamed Tang, and Chen Mei) who helped publish articles about Covid-19 on open-source website Github that were previously censored from mainstream PRC media and social media, including material about Wuhan doctor Ai Fei.	SCMP	Phoebie Zhang, "Chinese activists detained after sharing censored coronavirus articles on crowdsourcing site Github," South China Morning Post, April 25, 2020
4/27/2020	Censorship of health information	PRC ambassador to Australia Cheng Jingye threatens economic harm if Australia continues pushing for an independent investigation into the coronavirus "Maybe the ordinary [Chinese] people will say 'Why should we drink Australian wine?' Eat Australian beef?," Cheng said, also citing the tourism and higher-education sectors. Australian Foreign Minister Marise Payne answered: "We reject any suggestion that economic coercion is an appropriate response to a call for such an assessment, when what we need is global cooperation."	Reuters	Kirsty Needham, "Australia rejects Chinese 'economic coercion' threat amid planned coronavirus probe," Reuters, April 27, 2020.
4/27/2020	Censorship of health information	"China threatens economic consequences if Australia launches investigation of Beijing's handling of coronavirus Chinese Ambassador to Australia Cheng Jingye said Beijing could encourage Chinese citizens to boycott Australian exports and products if Australia was to initiate the probe, the news outlet reported... Australian Foreign Minister Marise Payne called the Chinese threats "economic coercion" and repeatedly called for an investigation into the early handling of the outbreak, which is thought to have originated in the Chinese city of Wuhan "Australia has made a principled call for an independent review of the COVID-19 outbreak, an unprecedented global crisis with severe health, economic and social impacts," she reportedly said. "We reject any suggestion that economic coercion is an appropriate response to a call for such an assessment, when what we need is global co-operation."	The Hill	<a href="https://thehill.com/policy/international/494860-china-threatens-economic-consequences-if-australia-launches">https://thehill.com/policy/international/494860-china-threatens-economic-consequences-if-australia-launches</a>
4/28/2020	Limited, misleading, delayed reporting	Yuan Zhiming, the Wuhan Institute of Virology's Communist Party chief, lies to the Reuters, "The WHO does not have the intention and the ability to design and construct a new coronavirus"	Reuters	<a href="https://www.reuters.com/article/us-health-coronavirus-china-lab/china-lab-rejects-covid-19-conspiracy-claims-but-virus-origins-still-a-mystery-idUSKCN22A0MM">https://www.reuters.com/article/us-health-coronavirus-china-lab/china-lab-rejects-covid-19-conspiracy-claims-but-virus-origins-still-a-mystery-idUSKCN22A0MM</a>
4/29/2020	Censorship of health information	China "resolutely opposes" any international inquiry into the coronavirus pandemic that presumes its guilt, said Le Yucheng, a vice-foreign minister, in comments published on Thursday. Citing an interview Le gave to NBC, the Ministry of Foreign Affairs said on its website that Beijing firmly opposes a "politicised" international investigation aimed at stigmatising China.	Reuters	<a href="https://www.reuters.com/article/us-health-coronavirus-china/china-opposes-international-covid-19-probe-that-presumes-its-guilt-vice-foreign-minister-idUSKBN22C00J">https://www.reuters.com/article/us-health-coronavirus-china/china-opposes-international-covid-19-probe-that-presumes-its-guilt-vice-foreign-minister-idUSKBN22C00J</a>
5/1/2020	Limited, misleading, delayed reporting	Australia's longest serving foreign minister says not since the Cold War has he seen an ambassador behave as "recklessly" as China's ambassador to Australia did this week. The (Australian) Federal Government has described Ambassador Jingye Cheng's comments in an interview with the Australian Financial Review as "threats of economic coercion"... "not since the days of the Soviet Union have I seen an ambassador behave in such a reckless, undiplomatic way. And what is the problem? I mean the Prime Minister has just said that there should be an investigation." (former Australian foreign minister Alexander Downer) told ABC RN's Between The Lines.	ABC	<a href="https://www.abc.net.au/news/2020-04-30/china-ambassador-reckless-over-coronavirus-inquiry-downer-says/12200534">https://www.abc.net.au/news/2020-04-30/china-ambassador-reckless-over-coronavirus-inquiry-downer-says/12200534</a>
5/1/2020	Limited, misleading, delayed reporting	China has refused repeated requests by the World Health Organisation to take part in investigations into the origins of COVID-19, the WHO representative in China has told Sky News "We know that some national investigation is happening but at this stage we have not been invited to join." Dr Gaudes Galea said... Asked by Sky News whether there was a good reason not to include the WHO, Dr Galea replied: "From our point of view, no."	Sky News	<a href="https://news.sky.com/story/coronavirus-who-not-invited-to-join-chinas-covid-19-investigations-11981193">https://news.sky.com/story/coronavirus-who-not-invited-to-join-chinas-covid-19-investigations-11981193</a>
5/1/2020	Limited, misleading, delayed reporting	The European Union has urged China to cooperate with an investigation into the origin of the coronavirus, increasing diplomatic pressure on Beijing for greater transparency. The call from European Commission President Ursula von der Leyen came a day after her foreign policy aide Josep Borrell confirmed that China attempted to put pressure on the EU ahead of a report detailing the Chinese government's disinformation campaigns. Earlier this week, the Swedish government said it planned to ask the EU to launch an investigation into the origin of the new coronavirus, and into the World Health Organisation's handling of the pandemic. The deadly virus so far has infected more than 1.3 million people in Europe over a third of cases worldwide. Other European leaders have also called for more transparency from China, including French President Emmanuel Macron and German Chancellor Angela Merkel, though their exhortations fell short of von der Leyen's stern message for China to cooperate. Macron's office has dismissed US claims that the virus could have come from a virology lab in Wuhan. Washington floated the possibility after a Chinese foreign ministry spokesman accused the US Army of creating the virus.	South China Morning Post	<a href="https://www.scmp.com/news/china/diplomacy/article/3062526/european-union-adds-pressure-china-call-cooperate-coronavirus">https://www.scmp.com/news/china/diplomacy/article/3062526/european-union-adds-pressure-china-call-cooperate-coronavirus</a>
5/13/2020		In silico comparison of spike protein-ACE2 binding affinities across species, significance for the possible origin of the SARS-CoV-2 virus published on 13 May 2020 and awaiting peer-review. "The fact that SARS-CoV-2 has also not been found in any likely intermediate hosts raises questions of the origins of theoretical SARS-CoV-2 viruses that infected human case zero in late 2019 Wuhan, the epicentre of the outbreak, hosts China's only BSL4 facility and is the site of considerable bat coronavirus research. Identification of an intermediate animal host in which SARS-CoV-2 might have adapted to a human ACE2 permissiveness would go a long way to alleviating concerns that SARS-CoV-2 is not a natural virus. Lani et al 4 made confused public claims of finding SARS-CoV-2 in Malaysian pangolins, suggesting that pangolins were an intermediate vector for SARS-CoV-2. However, further sequence analysis of these claims by Zhang et al established that Pangolin-CoV was a very different coronavirus that had modest at best ~90% sequence similarity to SARS-CoV-2. While Pangolin-CoV spike RBD shared some similarity to SARS-CoV-2, its spike protein did not share the furin cleavage site that was a prominent feature of SARS-CoV-2 spike protein. Hence, any similarity of Pangolin-CoV to SARS-CoV-2 was restricted to the residues in the RBD and RBM. Overall, Pangolin-CoV is only a distant relative of SARS-CoV-2 ..."	Arxiv	<a href="https://arxiv.org/abs/2005.06199">https://arxiv.org/abs/2005.06199</a>   <a href="https://arxiv.org/pdf/2005.06199.pdf">https://arxiv.org/pdf/2005.06199.pdf</a>
5/19/2020		WHO publishes amplicon sequences of K161G13	NCBI	<a href="https://www.ncbi.nlm.nih.gov/sra/SRR8357956">https://www.ncbi.nlm.nih.gov/sra/SRR8357956</a>
5/21/2020	Limited, misleading, delayed reporting	CGTN publishes mis/dis-information article titled: "U.S. operates over 200 military biological laboratories worldwide"	CGTN News	<a href="https://news.cgtn.com/news/2020-05-21/U-S-operates-over-200-military-biological-laboratories-worldwide-QFLtqkbuVv/index.html">https://news.cgtn.com/news/2020-05-21/U-S-operates-over-200-military-biological-laboratories-worldwide-QFLtqkbuVv/index.html</a>
5/25/2020	Limited, misleading, delayed reporting	On May 25, CDC chief Gao finally broke the silence around the market in an interview with China's Phoenix TV. He said that, unlike the environmental samples, no animal samples from the market had tested positive. The announcement surprised scientists who didn't even know Chinese officials had taken samples from animals. It also ruled out the market as the likely source of the virus, along with further research that showed many of the first cases had no ties to it. With the market proving a dead end, scientists turned more attention to hunting for the virus at its likely source: bats	AP	<a href="https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbdc58c9e3ad40bca2dd7a14d2955">https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbdc58c9e3ad40bca2dd7a14d2955</a>
5/25/2020	Limited, misleading, delayed reporting	China is not opposed to a comprehensive assessment and summary of the international epidemic. Chinese Foreign Ministry spokesperson Zhao Lijian said on the 19th that China supports a comprehensive assessment of the global response to the epidemic, summing up experience and remedying shortcomings after the global epidemic is brought under control. This work requires a scientific and professional attitude, the leadership of the WHO, and the adherence to the principle of objectiveness and fairness. Gao Fu also said this time that China is willing to cooperate with countries around the world under the framework of the WHO on the issue of virus traceability	Observer Network News	<a href="https://web.archive.org/web/20201217141502/https://news.sina.cn/2020-05-26/detail-ircuyiv5002958.d.html">https://web.archive.org/web/20201217141502/https://news.sina.cn/2020-05-26/detail-ircuyiv5002958.d.html</a>

5/26/2020		The Huanan seafood market in Wuhan, Hubei Province which has come under the spotlight over suspicions that it was the origin of the novel coronavirus, is more like a victim of COVID-19, said the director of the Chinese Center for Disease Control and Prevention (CCDC), as the search for the origin of the outbreak continues. "At first, we assumed the seafood market might have the virus, but now the market is more like a victim. The novel coronavirus had existed long before," Gao Fu, director of the center and member of the National Committee of the 13th Chinese People's Political Consultative Conference, said on Monday. Gao said he had gone to Wuhan to collect samples for COVID-19 researchers in early January, but no viruses were detected in the animal samples. Viruses were only found in environmental samples, including sewage.	Global Times China	<a href="https://www.globaltimes.cn/content/1189506.shtml">https://www.globaltimes.cn/content/1189506.shtml</a>
5/26/2020		"China rules out Animal Market and Lab as Coronavirus Origin" published by the WSJ	Wall Street Journal	<a href="https://www.wsj.com/articles/china-rules-out-animal-market-and-lab-as-coronavirus-origin-11590517508">https://www.wsj.com/articles/china-rules-out-animal-market-and-lab-as-coronavirus-origin-11590517508</a>
6/12/2020	Collecting, handling, storing potentially lethal pathogens	In June 2012, in Mojiang Hani Autonomous County, Yunnan Province, China, severe pneumonia without a known cause was diagnosed in 3 persons who had been working in an abandoned mine, all 3 patients died.	Emerging Infectious Diseases	<a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4036791/#_ftn_7ecititle">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4036791/#_ftn_7ecititle</a>
6/19/2020		Preprint study titled "No evidence of coronaviruses or other potentially zoonotic viruses in Sunda pangolins (Manis javanica) entering the wildlife trade via Malaysia" published finds that "in light of recent reports of coronaviruses including a SARS-CoV-2 related virus in Sunda pangolins in China, the lack of any coronavirus detection in our 'upstream' market chain samples suggests that these detections in 'downstream' animals more plausibly reflect exposure to infected humans, wildlife or other animals within the wildlife trade network" Study conducted by EcoHealth Alliance, National Wildlife Forensic Laboratory (Malaysian Department of Wildlife and National Parks), Sabah Wildlife Department, Universiti Malaysia Sabah Biotechnology Research Institute, and Universiti Malaysia Sabah Faculty of Medicine and Health Sciences.	(Preprint)	<a href="https://www.biorxiv.org/content/biorxiv/early/2020/06/19/2020.06.19.158717.full.pdf">https://www.biorxiv.org/content/biorxiv/early/2020/06/19/2020.06.19.158717.full.pdf</a>
7/31/2020	Limited, misleading, delayed reporting. Efforts to prevent consideration of a lab origin hypothesis	WV Scientist Dr Shi describes how the RaTG13 genome was identified. The following description is inconsistent with the February 2020 Nature paper (according to Dr QUAY) "We detected the virus by pan coronavirus RT-PCR in a bat fecal sample collected from Tongguan town, Mojiang county in Yunnan province in 2013, and obtained its partial RdRp sequence. Because the low similarity of this virus to SARS-CoV, we did not pay special attention to this sequence. In 2018, as the NGS sequencing technology and capability in our lab was improved, we did further sequencing of the virus using our remaining samples, and obtained the full length genome sequence of RaTG13 except the 15 nucleotides at the 5' end. As the sample was used many times for the purpose of viral nucleic acid extraction, there was no more sample after we finished genome sequencing, and we did not do virus isolation and other studies on it. Among all the bat samples we collected, the RaTG13 virus was detected in only one single sample. In 2020, we compared the sequence of SARS-CoV-2 and our unpublished bat coronavirus sequences and found it shared a 96.2% identity with RaTG13. RaTG13 has never been isolated or cultured."	Science Magazine	<a href="https://www.sciencemag.org/sites/default/files/Shi%20Zhenqin%20Q&amp;A.pdf">https://www.sciencemag.org/sites/default/files/Shi%20Zhenqin%20Q&amp;A.pdf</a>
7/31/2020	Limited, misleading, delayed reporting	WV scientist Dr Shi, discloses BtCoV/4991 and RaTG13 are the same coronavirus "Some people who suspect a lab accident occurred have suggested that BtCoV/4991, a bat virus you described in 2016, is SARS-CoV-2. When you published, you only had the sequence of one protein, RNA dependent RNA polymerase (RdRp). A blast analysis on GenBank shows that the RdRp of BtCoV/4991 and RaTG13 are 100% homologous. Is BtCoV/4991 actually RaTG13, which would be consistent with your 2020 report that described how you did the full sequence of a virus you only had done the RdRp sequence for earlier? If so, why did you rename the virus? What does "TG" stand for in RaTG13? A. Ra4991 is the ID for a bat sample while RaTG13 is the ID for the coronavirus detected in the sample. We changed the name as we wanted it to reflect the time and location for the sample collection. 13 means it was collected in 2013, and TG is the abbreviation of Tongguan town, the location where the sample was collected."	Science Magazine	<a href="https://www.sciencemag.org/sites/default/files/Shi%20Zhenqin%20Q&amp;A.pdf">https://www.sciencemag.org/sites/default/files/Shi%20Zhenqin%20Q&amp;A.pdf</a>
10/13/2020	Limited, misleading, delayed reporting	WV publishes updated RaTG13 complete genome	NCBI	<a href="http://www.ncbi.nlm.nih.gov/nuccore/MN96532.2">http://www.ncbi.nlm.nih.gov/nuccore/MN96532.2</a>
10/20/2020		Frontiers in Public Health article titled "Lethal Pneumonia Cases in Mojiang Miners (2012) and the Mineshaft Could Provide Important Clues to the Origin of SARS-CoV-2" finds that "A Master's thesis (in the Chinese language) was found on the cnki.net website which described in detail the severe illness in miners. The thesis concluded that a SARS-like CoV originating from Chinese horseshoe bats (Minotomonas) was the predicted causative agent. The cases were remotely monitored by a prominent pulmonologist in China. Retrospective analysis of the pneumonia cases shows striking similarities with COVID-19. Bilateral pneumonia, vascular complications like pulmonary thromboembolism, and secondary infections are the main similarities. The treatment regimes were similar to the current treatments for COVID-19. We propose that the Mojiang mineshaft miners' illness could provide important clues to the origin of SARS-CoV-2. These cases should be studied by various academic classes, researchers, and medical professionals as many important questions are raised in this context."	Frontiers in Public Health	<a href="https://www.frontiersin.org/articles/10.3389/fpubh.2020.581569/full">https://www.frontiersin.org/articles/10.3389/fpubh.2020.581569/full</a>
10/23/2020		Preprint study titled "Single source of pangolin CoVs with a near identical Spike RBD to SARS-CoV-2" that identified "Multiple publications have independently described pangolin CoV genomes from the same batch of smuggled pangolins confiscated in Guangdong province in March, 2019. We analyzed the three metagenomic datasets that sampled this batch of pangolins and found that the two complete pangolin CoV genomes, GD_1 by Xina et al. Nature and MP289 by Liu et al. PLoS Pathogens, were both built primarily using the 2019 dataset first described by Ju et al. Viruses. Other publications, such as Zhang et al. Current Biology and Lam et al. Nature, have also relied on this same dataset by Liu et al. Viruses for their assembly of the Guangdong pangolin CoV sequences and comparisons to SARS-CoV-2. To our knowledge, all of the published pangolin CoV genome sequences that share a highly similar Spike receptor binding domain with SARS-CoV-2 originate from this singular batch of smuggled pangolins. This raises the question of whether pangolins are truly reservoirs or hosts of SARS-CoV-2 related coronaviruses in the wild, or whether the pangolins may have contacted the CoV from another host species during trafficking. Our observations highlight the importance of requiring authors to publish their complete genome assembly pipeline and all contributing raw sequence data, particularly those supporting epidemiological investigations, in order to empower peer review and independent analysis of the sequence data. This is necessary to ensure both the accuracy of the data and the conclusions presented by each publication."	(Preprint)	<a href="https://www.biorxiv.org/content/10.1101/2020.07.07.184374v2">https://www.biorxiv.org/content/10.1101/2020.07.07.184374v2</a>
11/11/2020	Limited, misleading, delayed reporting	Nature editor posted "11 November 2020 Editor's Note: Readers are alerted that concerns have been raised about the identity of the pangolin samples reported in this paper and their relationship to previously published pangolin samples. Appropriate editorial action will be taken once this matter is resolved." on 7 May 2020 paper titled "Isolation of SARS-CoV-2-related coronavirus from Malayan pangolins"	Nature	<a href="https://www.nature.com/articles/41586-020-2313-x">https://www.nature.com/articles/41586-020-2313-x</a> <a href="https://archive.vn/fyue">https://archive.vn/fyue</a>
11/28/2020	Hypocrisy	Even as they controlled research within China, Chinese authorities promoted theories that suggested the virus came from elsewhere.	AP	<a href="https://apnews.com/article/limited-nations-coronavirus-pandemic-china-only-on-ap-bats-24f6dc58c9e3a40bca2dd77a14d2955">https://apnews.com/article/limited-nations-coronavirus-pandemic-china-only-on-ap-bats-24f6dc58c9e3a40bca2dd77a14d2955</a>
12/30/2020	Limited, misleading, delayed reporting. Coverup measures	Famed virologist Zhang, who received a 1.5 million RMB (\$230,000) grant to search for the virus' origins, said partnering scientists are sending him samples from all over, including from bats in Guizhou in southern China and rats in Henan hundreds of miles north... Zhang declined to confirm or comment on reports that his lab was briefly closed after publishing the virus' genetic sequence ahead of authorities. He said he hasn't heard of any special restrictions on publishing papers, and the only review his papers go through is a routine scientific one by his institution. But scientists without state backing complain that getting approval to sample animals in southern China is now extremely difficult, and that little is known about the findings of government-sponsored teams.	AP	<a href="https://apnews.com/article/limited-nations-coronavirus-pandemic-china-only-on-ap-bats-24f6dc58c9e3a40bca2dd77a14d2955">https://apnews.com/article/limited-nations-coronavirus-pandemic-china-only-on-ap-bats-24f6dc58c9e3a40bca2dd77a14d2955</a>

12/30/2020	Limited, misleading, delayed reporting Behind the scenes, lab origin thought to be most likely	Today, the caves that scientists once surveyed are under close watch by the authorities. Security agents tailed the AP team in three locations across Yunnan, and stopped journalists from visiting the cave where researchers in 2017 identified the species of bats responsible for SARS. At an entrance to a second location, a massive cave teeming with tourists taking selfies, authorities shut the gate on the AP.	AP	<a href="https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbad58cee3a40bca2dd7a14d2955">https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbad58cee3a40bca2dd7a14d2955</a>
12/30/2020	Limited, misleading, delayed reporting Behind the scenes, lab origin thought to be most likely	Today, the caves that scientists once surveyed are under close watch by the authorities... Particularly sensitive is the mine shaft where the closest relative of the COVID-19 virus — called "RaTG13" — was found. RaTG13 was discovered after an outbreak in 2012, when six men cleaning the bat-filled shaft fell ill with mysterious bouts of pneumonia, killing three. The Wuhan Institute of Virology and the China CDC both studied bat coronaviruses from this shaft. And although most scientists believe the COVID-19 virus had its origins in nature, some say it or a close relative could have been transported to Wuhan and leaked by mistake. Wuhan Institute of Virology bat expert Shi Zhengli has repeatedly denied this theory, but Chinese authorities haven't yet allowed foreign scientists in to investigate.	AP	<a href="https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbad58cee3a40bca2dd7a14d2955">https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbad58cee3a40bca2dd7a14d2955</a>
12/30/2020	Coverup measures Behind the scenes, lab origin thought to be most likely	With the virus firmly contained - Wuhan has had no locally transmitted cases since May - there's a growing push to dispel the idea that China was the ultimate source of the virus, known officially as SARS-CoV-2. A foreign ministry spokesman has been espousing theories that link the virus to the U.S. military, and after a spate of cases in Chinese port and cold storage workers, state-backed media are claiming the virus could have entered the country on imported frozen food. They've also seized on research that suggests there were infections in the U.S. and Italy that pre-date those in Wuhan.	Bloomberg	<a href="https://www.ndtv.com/world-news/china-is-making-it-harder-to-solve-the-mystery-of-how-covid-began-2345876">https://www.ndtv.com/world-news/china-is-making-it-harder-to-solve-the-mystery-of-how-covid-began-2345876</a>
12/30/2020	Coverup measures Behind the scenes, lab origin thought to be most likely	China has ignored appeals for an independent investigation into the virus's origin, hammering Australia with trade restrictions after it called for one. It's also stalled efforts by the World Health Organization to get top infectious diseases experts into Wuhan this year. That's prevented the painstaking epidemiological detective work - from probing samples of the city's wastewater, to checking patient specimens collected months before the outbreak appeared for early traces of the pathogen and undertaking tests at the food market itself - that could provide insight into the chain of events that brought the virus to the bustling capital of Hubei province, and how to stop it from happening again.	Bloomberg	<a href="https://www.ndtv.com/world-news/china-is-making-it-harder-to-solve-the-mystery-of-how-covid-began-2345876">https://www.ndtv.com/world-news/china-is-making-it-harder-to-solve-the-mystery-of-how-covid-began-2345876</a>
12/30/2020		China's reluctance to be transparent about those initial weeks has also left gaping holes in what the world knows about the coronavirus. Scientists have little insight into where and how the virus emerged, in part because Beijing has delayed an independent investigation into the animal origins of the outbreak. "They're missing a good opportunity to learn," said Yanzhong Huang, a senior fellow at the Council on Foreign Relations who studies Chinese health policy. "There's no serious discussion on what actually went wrong."	NYT	<a href="https://www.nytimes.com/2020/12/30/world/asia/china-coronavirus.html">https://www.nytimes.com/2020/12/30/world/asia/china-coronavirus.html</a>
1/11/2021	Behind the scenes, lab origin thought to be most likely	Internal China CDC data obtained by the AP shows that by Jan. 10 and 11, researchers were sequencing dozens of environmental samples from Wuhan. Gary Kobinger, a Canadian microbiologist advising WHO, emailed his colleagues to share his concerns that the virus originated at the market. "This coronavirus is very close to SARS," he wrote on Jan. 13. "If we put aside an accident... then I would look at the bats in these markets (old and 'wild')." "	AP	<a href="https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbad58cee3a40bca2dd7a14d2955">https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbad58cee3a40bca2dd7a14d2955</a>
11/25/2021	Limited, misleading, delayed reporting Coverup measures	Deep in the lush mountain valleys of southern China lies the entrance to a mine shaft that once harbored bats with the closest known relative of the COVID-19 virus... A bat research team visiting recently managed to take samples but had them confiscated, two people familiar with the matter said. Specialists in coronaviruses have been ordered not to speak to the press. And a team of Associated Press journalists was tailed by plainclothes police in multiple cars who blocked access to roads and sites in late November.	AP	<a href="https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbad58cee3a40bca2dd7a14d2955">https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbad58cee3a40bca2dd7a14d2955</a>
12/20/2021	Limited, misleading, delayed reporting Behind the scenes, lab origin thought to be most likely Coverup measures	The Chinese government is also limiting and controlling the search for patient zero through the re-testing of old flu samples. Chinese hospitals collect thousands of samples from patients with flu-like symptoms every week and store them in freezers. They could easily be tested again for COVID-19, although politics could then determine whether the results are made public, said Ray Yip, the founding director of the U.S. CDC office in China. "They'd be crazy not to do it," Yip said. "The political leadership will wait for that information to see, does this information make China look stupid or not? If it makes China look stupid, they won't."	AP	<a href="https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbad58cee3a40bca2dd7a14d2955">https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbad58cee3a40bca2dd7a14d2955</a>

Time/Date	Topic	Details	Source	URL/Ref
4/25/2012	Collecting/handling, storing potentially lethal pathogens	Patient Xu, Male, 42 years old, was admitted to the hospital on April 25, 2012. He had fever and been coughing for half of a month and for the past three days had difficulties in breathing. He worked in the mining hole before and was exposed to large amount of feces of bats. Half of month ago, he started to have fever. His body temperature was 38.5 Celsius at first. Occasionally when he coughed, there was rusty colored sputum with blood clots. He lost his appetite, had stomach ache and hiccup. He initially went to the small clinic for transfusion but it was not helpful. Then, he was transferred to Xu Xi People's Hospital for treatment. During hospitalization, his body temperature was 40 Celsius and the fever did not follow any pattern. His cough still had bloody mucus and blood clots. Difficultly in breathing has been continuing for three days, especially after moving around. Chest tightness but no chest pain. No problem lying down. No sign of paroxysmal dyspnea at night. No abdominal pain.	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
4/26/2012	Collecting/handling, storing potentially lethal pathogens	Patient Xu, male, 42 year old, was admitted to the hospital on 2012/4/25. He had sign of coughing, coughing with mucus, fever and difficulty in breathing for five days. He worked in the mining hole before and was exposed to large amount of bats and their feces. Two days ago, he started to show sign of coughing, coughing with rusty colored mucus and blood clots. He smelted rusty blood color when he coughed. His temperature went up to 39 Celsius. When he coughed, he had difficulty in breathing. No chest pain or coughing up blood. No sign of paroxysmal dyspnea at night. No stomach ache or diarrhea. He went to a local hospital for treatment but had no documentation. His symptoms did not improve but wanted further treatment. He was healthy.	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
4/26/2012	Collecting/handling, storing potentially lethal pathogens	Patient Zhou, male, age 62, was admitted to the hospital on April 26, 2012. He had signs of fever, coughing, difficulty in breathing, chest pain, and hiccup for five or more than ten days. 24 days prior to the hospitalization, he was working in the mining well for half of a month. After exposure to the mining well where there were many bats and bats' feces, he started to show signs of coughing and fever and had a 38 Celsius body temperature. He immediately went to the local hospital. His fever went up and/or down in the next five consecutive days. The actual treatment remained unknown. The highest body temperature was 40 Celsius and the lowest is 37 Celsius. He also experienced headache, dizziness, ear congestion and dry cough. There was no pattern of his illness in daytime or night time, along with chest pain. Difficulty in breathing was getting worse. Occasionally, having hiccup. No sign of nausea, vomiting, or diarrhea.	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
4/28/2012	Collecting/handling, storing potentially lethal pathogens	Patient Mr. Liu, male, 46 years old. He had sign of rough coughing and mucus from the 10 days and difficulty in breathing for three days. He was admitted to the hospital on 2012/4/28. He worked in the mining well 30 days ago and was exposed to large amount of bats and their feces. He had cough, productive cough and hemoptysis (one lumen), fever (fluctuate) to 39 Celsius 10 days ago. He denied chest pain. He started to feel difficulty in breathing three days ago and went to the local hospital for treatment. The actual prescription was not clear. For further treatment, he was admitted to our hospital.	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
4/27/2012	Collecting/handling, storing potentially lethal pathogens	Patient, Mr. Guo, male, 45 years old, was admitted to the hospital. He had signs of coughing, productive cough, shortness of breath, and fever for two weeks. The patient went into a 150 meter deep cave 24 days ago. He continuously inhaled some unknown gas for 30 days. About two weeks ago, started having signs of coughing, tightness in chest, shortness of breath, fever, yellow and greenish mucus (about 2-3 times a day, about 5 ml each time). When he wakes, he feels tightness in chest, shortness of breath and fever around 38-40 Celsius. Before the fever, there are no other signs. Along with headache and soreness in limbs. After taking some antibiotics (not sure what kind), the body temperature went back to normal, 30 days ago. The mucus turned white and with some blood string (light red) 2-3 times a day. Went to the local clinic for treatment and was prescribed antibiotics (not sure what kind). The coughing with blood stopped three days after but other symptoms remained the same. 2 days ago came to the emergency and was admitted by us.	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
5/2/2012	Collecting/handling, storing potentially lethal pathogens	Patient Mr. Wu, male, 38 year old, was admitted to the hospital on May 2, 2012. He has signs of coughing, coughing with mucus, fever, chest tightness and shortness of breath for five days. Dry cough most of the time sometimes with white stringy mucus. The mucus is same as usual. One's are dry floor. There was no observable pattern for the fever. The highest is 39.8 Celsius, accompany with headache, soreness in limbs, chest tightness are short of breath after some light exercise. No symptoms of hemoptysis, distress and dyspnoea, sweating, conjunctivitis, loss of strength, sign of paroxysmal dyspnea at night and edema. No specific treatment other than rest of 1 week. Admitted to our ER last night for further treatment.	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
5/7/2012	Collecting/handling, storing potentially lethal pathogens	Patient Zhou, male, age 63 dies of "severe lung infection, sepsis, septic shock and necrotic in abdominal cavity and aortic and stop breathing"	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
5/28/2012	Collecting/handling, storing potentially lethal pathogens	Patient X, male, 42 year old, was discharged from hospital after 24 days. Cause of recovery: "the patient was young with a stronger immune system. He did not spend a long time in the mining well. The air pollution in his home town, and untreated environment was unavoidable and effective."	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
5/26/2012	Collecting/handling, storing potentially lethal pathogens	Patient Mr. Wu, male, 30 years old released from hospital after 26 days. Cause of recovery: "The patient's younger with stronger immune system. In addition, he did not spend a long time in the mining well. The land pollution (acid rain and hormones) was immediate and effective."	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
6/1/2012	Collecting/handling, storing potentially lethal pathogens	Patient Mr. Mao, 42 year old died of "Acute and fatal bacterial pneumonia type I (Legionella pneumophila, septic, and hepatitis B"	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
6/2/2012	Collecting/handling, storing potentially lethal pathogens	Patient Mr. Liu, male 46 years old was subject to a thymectomy	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
9/14/2012	Collecting/handling, storing potentially lethal pathogens	Patient Mr. Guo, Male, 45 years old, after being hospitalized for 103 days of "Severe pneumonia, multiple organ failure, ARDS, multiple lung infections, interstitial pneumonia, and invasive pulmonary aspergilliosis (secondary infection)".	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
9/10/2012	Collecting/handling, storing potentially lethal pathogens	Patient Mr. Liu, male, 46 years old released from the hospital after 107 days	Independent Science News	<a href="https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/">https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/</a>
12/12/2012	Collecting/handling, storing potentially lethal pathogens	"Half a year later, we investigated the presence of novel zoonotic pathogens in natural hosts in this cave. For the investigation, we collected anal swab samples from 20 bats (19 <i>Rhinolophus ferrumequinum</i> , 9 <i>R. horsfieldi</i> ), and 5 musk shrews ( <i>Civettus zibethicus</i> ) from the mine for genetic analysis."	CDC E D	<a href="http://www.cdc.gov/eid/article/20/12/2022_article.html">www.cdc.gov/eid/article/20/12/2022_article.html</a>
2/7/2013	Collecting/handling, storing potentially lethal pathogens	WHO scientist Tian Junhua was one of multiple scientists affiliated with other Chinese labs that published a study on phylogeny and origins of hantaviruses harbored by bats, insectivores, and rodents. "A total of 450 bats of eight different species were captured in Longquan city and Wenzhou City, Zhejiang Province in the spring of 2011. Similarly, 195 bats representing eight species were captured in Anshao Province in the spring of 2012. A total of 81 insectivores (representing five species - <i>Aneurhynchus septentrionalis</i> and <i>Sturnus vulgaris</i> ) were captured in Lianghe county, Yunnan Province in the spring of 2010 and autumn of 2011. In 2006, two shrews ( <i>Civettus zibethicus</i> and <i>Sturnus vulgaris</i> ) were collected from Yashou city, Inner Mongolia Autonomous Region."	PEOS	<a href="https://journals.plos.org/plospathogens/article?id=10.1371/journal.ppat.1002919">https://journals.plos.org/plospathogens/article?id=10.1371/journal.ppat.1002919</a>
2/12/2014	Collecting/handling, storing potentially lethal pathogens	LIU published a classic titled "Analysis of 6 patients with Severe Pneumonia Caused by Unknown Virus". The abstract reads: "In April and May 2012, our hospital admitted 6 patients with severe pneumonia caused by unknown virus. The 6 patients were all workers in the same mine, and they were exposed to a lot of bats in the underground in the working environment. In viral culture, 3 patients and 4 patients' sputum were cultured. According to the clinical course of the <i>Campylobacter</i> of 2006-07, CP 2004 (Academy of Sciences), the bats in the work environment of the 6 patients are Chinese long-eared fruit bats. However, Chinese scientists have cultured SARS-like coronaviruses from the Chinese long-eared fruit bats, or the process of working for it SARS pathogen (SARS-like-CoV). This article will analyze and discuss the diagnostic and treatment process of 6 patients with unknown virus-related severe pneumonia and the possible causes and etiology."	CNEI	<a href="https://arxiv.org/abs/1408.2822v1">https://arxiv.org/abs/1408.2822v1</a>
18/12/2015	Collecting/handling, storing potentially lethal pathogens	End of five-year longitudinal study of SARS-CoV in bats from a single habitat in proximity to Kunming city, Yunnan province, China, which was mainly inhabited by horseshoe bats. A total of 802 elementary specimens (anal swabs or feces) were collected. 84 tested positive for CoV	PEOS	<a href="https://arxiv.org/abs/1508.06622">https://arxiv.org/abs/1508.06622</a>
2/18/2016	Collecting/handling, storing potentially lethal pathogens	Air-Cell: Coexistence of Multiple coronaviruses in several bat colonies in an abandoned mine shaft appears in virologia or carabite	NCSI	<a href="https://www.ncbi.nlm.nih.gov/pubmed/26920707">https://www.ncbi.nlm.nih.gov/pubmed/26920707</a>
7/18/2016	Collecting/handling, storing potentially lethal pathogens	WIV affiliated scientists publish peer-reviewed study on BCoV4991 titled "Coexistence of multiple coronaviruses in several bat colonies in an abandoned mine shaft". They identified that "BBOCV4991 showed minor divergence from human SARS-CoV but other bat S1-CoV and could be considered as a new strain of this virus lineage"	Virologica Sinica	<a href="https://pubmed.ncbi.nlm.nih.gov/26920707/">https://pubmed.ncbi.nlm.nih.gov/26920707/</a>
3/2/2016	Collecting/handling, storing potentially lethal pathogens	W V published "Hantavirus bat coronavirus BBOCV4991 RNA-dependent RNA polymerase (RdRp) gene, part of a bat cDNA library Bank reference article "Case study of Multiple coronaviruses in several bat colonies in an abandoned mine shaft" 2016 Virologica Sinica Article	NCSI	<a href="https://www.ncbi.nlm.nih.gov/pubmed/26920707">https://www.ncbi.nlm.nih.gov/pubmed/26920707</a>
2/22/2017	Collecting/handling, storing potentially lethal pathogens	WV posted to study world's most dangerous pathogens in its BSL-4 lab. It will focus on the control of emerging diseases, store purified viruses and act as a World Health Organization reference laboratory. Related to similar labs around the world. It will be a key node in the global biosafety lab network." say lab director Yuan Zhiming	Nature	<a href="https://www.nature.com/news/inside-the-chinese-lab-poised-to-study-world-s-most-dangerous-pathogens-1.21487">https://www.nature.com/news/inside-the-chinese-lab-poised-to-study-world-s-most-dangerous-pathogens-1.21487</a>
11/30/2017	Collecting/handling, storing potentially lethal pathogens	13 WIV scientists, including 5 foreign scientists from Yunnan Institute of Zoonotic Diseases Control and Prevention publish findings of 2 year longitudinal observation of Yunnan cave finding that variants of SARS-CoV in the cave that carry to ACE2 receptors (human coronavirus)	P-US	<a href="https://arxiv.org/abs/1711.00111">https://arxiv.org/abs/1711.00111</a>
3/5/2018	Collecting/handling, storing potentially lethal pathogens	"Being bat severe acute respiratory syndrome (SARS) like coronavirus (CoV) WIV as a zoonotic pathogen. [WIV] extensively evaluated the disinfection efficacy of 5% MCP in the first BSL-diagnostics in China. In addition, WIV used a disinfectant for BSL-4 labs. Using bat severe acute respiratory syndrome (SARS) like coronavirus (CoV) WIV as a zoonotic pathogen. We extensively evaluated the disinfection efficacy of 5% MCP in the first BSL-4 laboratory in China."	Applied Biosafety	<a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7949854/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7949854/</a>
3/15/2018	Collecting/handling, storing potentially lethal pathogens	W V affiliated scientists publish study on research into the efficacy of Micro-Chem P as a disinfectant for BSL-4 labs. Using bat severe acute respiratory syndrome (SARS) like coronavirus (CoV) WIV as a zoonotic pathogen. We extensively evaluated the disinfection efficacy of 5% MCP in the first BSL-4 laboratory in China."	Applied Biosafety	<a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7949854/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7949854/</a>
4/6/2018	Collecting/handling, storing potentially lethal pathogens	WIV paper documents their research involving live animals and bat coronaviruses	Wuhan Institute of Virology	<a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7949854/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7949854/</a>
7/28/2019	Collecting/handling, storing potentially lethal pathogens	Researchers in Hengjiang University publish a study of bat coronaviruses, warning "bat-animal and bat-human interactions, such as the presence of the bats in the wildlife markets and restaurants in Southern China, are important for investigating the origins of 'coronaviruses' and may lead to devastating global outbreaks."	V-	<a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6739561/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6739561/</a>
11/2/2019	Collecting/handling, storing potentially lethal pathogens	As recently as November 2019, WIV was conducting research on MLRS-CoV, which is a direct relative to SARS-CoV-1.	Journal of Virology	<a href="https://jvi.asm.org/content/94/5/e02015-19">https://jvi.asm.org/content/94/5/e02015-19</a>
11/18/2019	Collecting/handling, storing potentially lethal pathogens	W V advertises to postdoctoral candidates for "Taking bat as the research object, answer the molecular mechanism that can interact with Ebola and SARS-like coronavirus for a long time without disease, and its relationship with flight and immunity, virology, immunology, cell biology and multiple other fields to explore the differences between human and other animals."	W V Website	<a href="http://www.wiv.org.cn/cn/EN/10541/20191118/193191118_5476008.html">http://www.wiv.org.cn/cn/EN/10541/20191118/193191118_5476008.html</a>
12/11/2019	Collecting/handling, storing potentially lethal pathogens	Two WIV affiliated scientists (SHE Zheng and CHEN Jime), along with numerous US based scientists published a study that "investigated how a neutralizing monoclonal antibody (mAb), which targets the receptor-binding domain (RBD) of Middle East respiratory syndrome (MERS) coronavirus spike, mediates viral entry and blocks viral entry and biochemical activity. Our study reveals a novel molecular mechanism for antibody-antiviral entry and can guide future vaccination and antiviral strategies"	American Society of Microbiology, Journal of Virology	<a href="https://jvi.asm.org/content/94/5/e02015-19">https://jvi.asm.org/content/94/5/e02015-19</a>
12/14/2019	Collecting/handling, storing potentially lethal pathogens	W V advertises to postdoctoral candidates for research on "bat virus cross-species infection and its pathogenicity"	W V Website	<a href="http://www.wiv.org.cn/cn/EN/10541/201912/20191224_5471614.html">http://www.wiv.org.cn/cn/EN/10541/201912/20191224_5471614.html</a>
12/30/2019	Collecting/handling, storing potentially lethal pathogens	SHE Zheng called by WIV director telling her novel coronavirus had been detected in two hospital patients with atypical pneumonia. Her studies had shown that the southern, subtropical areas of Guangdong, Guangxi and Yunnan have the greatest risk of coronaviruses jumping to humans from animals-particularly bats, a known reservoir for many viruses. If coronaviruses were the culprit, she remembers thinking, "could they have come from our lab?"	Scientific America	<a href="https://www.sciencemag.com/article/2020-01-23-how-china-bat-woman-buried-down-virus-from-sars-to-the-new-coronavirus">https://www.sciencemag.com/article/2020-01-23-how-china-bat-woman-buried-down-virus-from-sars-to-the-new-coronavirus</a>
1/12/2020	Collecting/handling, storing potentially lethal pathogens	In June 2012, in Maiziwan Autonomous County, Yunxi City, Province Yunnan severe pneumonia without any other cause was diagnosed in 3 patients who had been working in an abandoned mine, all 3 patients died.	Emerging Infectious Diseases	<a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4032917/#:~:text=1998,">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4032917/#:~:text=1998,</a>



Time/Date	Page	Excerpts	Source(s)	Search/URL/Ref
1989	History of lab outbreaks	Kanjanapantakorn [Foster] analyzed [two epidemics of hemorrhagic fever that swept the region around a Chinese nuclear test site and biological weapons laboratory] were caused by an accident in a lab where Chinese scientists were weaponizing viral diseases."	NY Times	<a href="https://www.nytimes.com/1993/04/05/world/east-asia-defence-says-china-lab-accident-at-a-plant.html">https://www.nytimes.com/1993/04/05/world/east-asia-defence-says-china-lab-accident-at-a-plant.html</a>
2003	Mismanaged WIV 35.4	CF rose Academy of Sciences approved construction of BSL-4 laboratory at WIV	Nature	<a href="https://www.nature.com/news/inside-the-27-rese-lab-posed-to-study-world-s-most-dangerous-pathogens-1.21487">https://www.nature.com/news/inside-the-27-rese-lab-posed-to-study-world-s-most-dangerous-pathogens-1.21487</a>
2004	Mismanaged WIV 65.4	Construction of WIV 65.4 Lab began (National Bio Safety Lab, Wuhan)	Nature	<a href="https://www.nature.com/news/inside-the-chinese-lab-posed-to-study-world-s-most-dangerous-pathogens-1.21487">https://www.nature.com/news/inside-the-chinese-lab-posed-to-study-world-s-most-dangerous-pathogens-1.21487</a>
2004	Historical lab outbreaks	In 2004, China suffered a SARS outbreak due to a lab leak that killed one person and infected nine. PRC authorities learned from scientist officials at the Chinese Centre for Disease Control and Prevention.	SCMP	Lu, Mai "CI - virus released: lab disaster: hundreds of links to first coronavirus patient." South China Morning Post, February 16, 2020.
2015	Dangerous GOF research	"In a 2015 paper, WIV documented how they... found a virus in bats called SHC014 CoV that is similar to SARS -> constructed a chimeric virus using SHC014-CoV as a basis that could also infect mice -> found the same virus can infect "human airway cells" and infect them the same way as "epidemic strain SARS-CoV" in vitro. [paraphrased: "It's as bad as SARS"] -> tested the same virus on real mice ("in vivo"), and found it could infect their lungs. -> tried to fight the virus using antibodies and vaccines that help fight SARS, and couldn't find anything that helped ("poor efficacy") -> synthetically closed the chimeric virus and tested it both in vitro and in vivo, and found it works well."	UNC, WIV, et al	<a href="https://www.ncbi.nlm.nih.gov/pubmed/26552008">https://www.ncbi.nlm.nih.gov/pubmed/26552008</a>
3/25/2004	History of lab outbreaks	A 26 year old female laboratory researcher from Anhui Province working for the Chinese National Institute of Virology in Beijing, which is part of China's Center for Disease Control, developed symptoms on 23 March 2004 and was clinically diagnosed with SARS coronavirus.	WHO	<a href="http://www.who.int/csr/don/2004_04_23/en/">http://www.who.int/csr/don/2004_04_23/en/</a>
4/8/2004	History of lab outbreaks	26 year old researcher's mother became ill in Anhui on 8 April and died on 19 April. She had provided bedside care to her daughter at the Beijing hospital.	WHO	<a href="http://www.who.int/csr/don/2004_04_23/en/">http://www.who.int/csr/don/2004_04_23/en/</a>
4/11/2004	History of lab outbreaks	31 year old male laboratory researcher who also worked at the Beijing hospital initially. Developed symptoms on 13 April and was hospitalized in outbreak on 22 April. Health authorities have diagnosed him as a suspected SARS case.	WHO	<a href="http://www.who.int/csr/don/2004_04_23/en/">http://www.who.int/csr/don/2004_04_23/en/</a>
4/22/2004	History of lab outbreaks	26-year-old nurse in Beijing, reported to be diagnosed with SARS coronavirus yesterday (article published 4/23/2004), who remains in intensive care. Care for the original 26 year old female researcher "in" the Beijing hospital.	WHO	<a href="https://www.who.int/csr/don/2004_04_23/en/">https://www.who.int/csr/don/2004_04_23/en/</a>
4/22/2004	History of lab outbreaks	26 year old male laboratory researcher who also worked at the Beijing hospital yesterday is hospitalized in isolation on 21 April 2004.	WHO	<a href="http://www.who.int/csr/don/2004_04_23/en/">http://www.who.int/csr/don/2004_04_23/en/</a>
4/26/2004	History of lab outbreaks	"The latest outbreak of severe acute respiratory syndrome (SARS) in China, with eight confirmed or suspected cases so far and hundreds quarantined, has two researchers who were involved in the virus as being researchers that the World Health Organization (WHO) said on Monday (April 26). "We suspect two people, a 25 year old female postgraduate student and a 31 year old male pediatric, were both infected, apparently in two separate incidents," Bob Diets, WHO spokesman in Beijing, told The Scientist. The woman was admitted to hospital on April 4, but the man apparently became infected independently 2 weeks later, being hospitalized on April 17. Both worked at the Chinese Institute of Virology in Beijing, part of China's Center for Disease Control. China has level three research guidelines and rules in place for handling the SARS virus, which are "of acceptable quality" to WHO, Diets told The Scientist. But "it's a question of procedure and equipment. Frankly we are going to go in now to take a very close look," he said."	The Scientist	<a href="https://archive.who.int/bulletin/issue-855-0896-121">https://archive.who.int/bulletin/issue-855-0896-121</a>
7/2/2004	Poor safety practices	Five top officials of the Chinese Centre for Disease Control and Prevention (CDC) yesterday were punished to take blame for this year's outbreak of SARS. These officials, including former Director Lu Ningbo, should take responsibility for the outbreak by not starting with the infection of two laboratory researchers by the SARS (severe acute respiratory syndrome) virus, Vice Premier Wu said Friday at a work group conference. Official investigations showed that a scientist admitted negligence. The case: Lin Aowen linked to epidemic in Guangdong and inactiv SARS vaccine in the CDC. Virology and diagnostic cultures were transferred early research on the SARS virus was conducted. The CDC's mistakes also include allowing researchers to experiment with biological materials infect with SARS in common laboratories, and the failure to immediately report the abnormal health conditions of its researchers.	China Daily	<a href="http://www.chinadaily.com.cn/world/2004/07/02/content_344755.htm">http://www.chinadaily.com.cn/world/2004/07/02/content_344755.htm</a>
12/12/2007	Dangerous GOF research	WIV associated scientists publish study on SARS-like CoV in horseshoe bats. Scientists succeed in making a CoV transmissible to humans by combining with HIV pseudovirus (provided by WIV) with S1-CoV.	American Society of Microbiology, Journal of Virology	<a href="https://jvi.asm.org/content/82/4/1899">https://jvi.asm.org/content/82/4/1899</a>
9/15/2012	History of lab outbreaks	"On the heels of a campus laboratory outbreak that sickened 27 students, leaders at China's Nanchang Agricultural University last week dismissed two graduate students, apologized for insufficient safety practices, and offered thousands of dollars in compensation to the students, who contracted hantavirus while dissecting organs in an anatomy course last December. University administrators vowed that the goals were not properly guaranteed prior to reaching the lab and that instructors did not follow standard safety procedures. Infected students told The Chinese press that they did not receive safety training ahead of the outbreak. One said the newspaper Southern Weekend that after a classmate reported about safety equipment, a instructor discouraged them from wearing gloves, pointing out that he had dissected pig animals with his bare hands for 30 years. Several students then died of wear gloves. If the students were to have safety equipment, they would have offered. In a survey of 231 fourth-year medical students, two died in the 20-year-old Northeast Medical Education Center. 2010, 15% were familiar with the term "laboratory biosafety." Seventy nine percent had heard the term but weren't completely sure what it meant. Some Chinese commentators now say nothing short of an overhaul of the country's higher education system is necessary. They are urging that universities place too much emphasis on research and that officials who publish in prestigious journals and that official administrative status should pay more attention to enabling students and scientists to safely carry out their research."	Science	<a href="https://www.sciencemag.org/news/2011/09/16/hantavirus-university-fires-administrators-offers-compensation-after-lab-leak">https://www.sciencemag.org/news/2011/09/16/hantavirus-university-fires-administrators-offers-compensation-after-lab-leak</a>
1/1/2014	Mismanaged WIV 65.4	WIV 65.4 Lab reportedly completed in 2014 (National Bio Safety Lab, Wuhan)	Nature	<a href="https://www.nature.com/news/inside-the-chinese-lab-posed-to-study-world-s-most-dangerous-pathogens-1.21487">https://www.nature.com/news/inside-the-chinese-lab-posed-to-study-world-s-most-dangerous-pathogens-1.21487</a>
6/1/2014	Dangerous GOF research	Start of six-year NIMH/NIH-funded study. Understanding the Risk of Bat Coronavirus in Emergency projects. NIMH/NIH. Project description: NIMH has only been on in China as a significant risk to human health and food security, as in the case of SARS. China's 2009 flu pandemic outbreak of MERS, and of a newly emerged Swine Aortic Diarrhea Syndrome in China. In a previous NIH we found that bats in southern China harbor an extraordinary diversity of SARS-CoV-like coronaviruses, with at least 100 bat coronavirus genomes. We found that people living close to bat habitats are at the primary risk groups for spillover, that all of one diverse SARS-CoV exists in an entirely new genetic element of the SARS-CoV genome, and identified serologic evidence of human exposure among people living nearby. These findings have led to 18 published peer-reviewed papers, eight of two papers in Nature, and a review in Cell. We collected quantitative information on the diversity, capacity to cause illness, and risk of spillover of these viruses.	Grantome	<a href="https://grantome.com/grant/NIH/R01-AI11964-06">https://grantome.com/grant/NIH/R01-AI11964-06</a>
1/1/2016	Mismanaged WIV 65.4	The WIV 65.4 facility opened in 2015 after being built in partnership with France, which was meant to supply the technical expertise with 50 high-level French researchers due to work there between 2017 and 2022. They did not do so as the Chinese came to dominate the arrangements, according to the officials.	The Times	<a href="https://t.co/nvaR0TMwEd">https://t.co/nvaR0TMwEd</a> <a href="https://www.thetimes.co.uk/article/how-the-chinese-run-wuhan-lab-biosafety-exports-from-wuhan-lab-to-birmingham">https://www.thetimes.co.uk/article/how-the-chinese-run-wuhan-lab-biosafety-exports-from-wuhan-lab-to-birmingham</a>
1/1/2015	Mismanaged WIV 35.4	In the same year Alain Abruzzo, the French pharmaceutical tycoon, resigned from the joint chairmanship of the committee heading the WIV 65.4 project.	The Times	<a href="https://www.thetimes.co.uk/article/how-the-chinese-run-wuhan-lab-biosafety-exports-from-wuhan-lab-to-birmingham">https://www.thetimes.co.uk/article/how-the-chinese-run-wuhan-lab-biosafety-exports-from-wuhan-lab-to-birmingham</a>
6/10/2015	Dangerous GOF research	Ralph Baric, SHL and other Chinese scientists publish "Two Mutations Were Critical for Bat-to-Human Transmission of Middle East Respiratory Syndrome Coronavirus" finding that "The authors said how Middle East respiratory syndrome coronavirus (MERS-CoV) transferred from bats to humans, we compared the virus surface spikes of MERS-CoV and a related bat coronavirus, HKU4. Although HKU4 spike cannot mediate viral entry into human cells, two mutations enabled it to do so by allowing it to be activated by human proteases. These mutations are present in MERS-CoV spike, explaining why MERS-CoV infects human cells. These mutations therefore played critical roles in the bat to human transmission of MERS-CoV, either directly or through intermediate hosts."	American Society of Microbiology, Journal of Virology	<a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4524054/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4524054/</a> <a href="https://archive.nytimes.com">https://archive.nytimes.com</a>
11/9/2015	Dangerous GOF research	Two WIV scientists Xiangyuan Shi Zhenhui, along with colleagues UNC-Chapel Hill, Harvard, the US FDA, and Smithsonian Institute for Microbiology, published study on SHC014-CoV which was circulating in horseshoe bat population at the time of publication. WIV was able to synthetically derive an infectious full length SHC014 recombinant virus that demonstrated robust viral replication in vivo and in vitro.	Nature	<a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2653008">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2653008</a>
11/9/2015	Dangerous GOF research	Researchers from the Wuhan Institute of Virology and several U.S. labs (including the FDA's National Center for Zoonotic Disease Research) publish a study in Nature Medicine entitled "A SARS-like cluster of circulating bat coronaviruses shows potential for human emergence." It stated: "To examine the emergence potential (that is, the potential to infect humans) of circulating bat CoVs, we built a chimeric virus encoding a novel, avianCoV spike protein from the SHC014-CoV sequence that was isolated from Chinese horseshoe bats—the content of the SARS-CoV genome—adapted backbone."	Nature Medicine	Shi Zhenhui et al, "A SARS-like cluster of circulating bat coronaviruses shows potential for human emergence," Nature Medicine, online Nov. 9, 2015.
11/12/2015	Dangerous GOF research	"I would question whether the interval on placement from WIV's experiment, just has the potential risk. A virologist at the Pasteur Institute says, points out that the researchers have created a novel virus, that "grows remarkably well" in human cells. "The virus escapes antibody, evades the detection," he says. WIV authors in their paper, conclude that funding that they do not fear about allowing that experimental in the future. "So as still remain just very early, some similar studies building chimeric viruses based on circulating strains too risky to pursue," they write, adding that a discussion is needed as to whether these types of chimeric virus studies warrant further investigation versus a full virus research protocol."	Nature	<a href="https://www.nature.com/news/engineered-bat-virus-strikes-dead-over-sexy-research-1.17815">https://www.nature.com/news/engineered-bat-virus-strikes-dead-over-sexy-research-1.17815</a>
5/3/2017	Poor safety practices	A May 2017 Changming Times article described Tian Junhua (DOB 1980-1990), a WHO CDC based expert that has captured almost 10,000 bats for research, began research on bats. Due to his lacking knowledge he didn't take protective measures and " urine of the bat dripped like raindrops on to his head." The bat bit is easy to go through and after being injured by the clip several times the bat blood is directly sprayed on Tianjunhua's skin. It is infected, the consequences will be unimaginable. But Tian Junhua did not finish at all, and fortunately he escaped the infection. These bats were used in the study published on 2/27/17 by PLOS.	Changming Times	<a href="https://archive.nytimes.com">https://archive.nytimes.com</a>   <a href="http://www.changmingtimes.com/2017/05/26/7057.html">http://www.changmingtimes.com/2017/05/26/7057.html</a>
1/19/2012	Poor safety practices	State Department category created by two officials from the U.S. Embassy in Beijing's Vietnam section. Science and health section of either with WIV or various allegories reports that "During interactions with scientists at the WIV laboratory, they noted that the new lab has a serious shortage of appropriately trained technicians and investigators needed to safely operate this high-containment laboratory."	Washington Post (Opinions)	<a href="https://www.washingtonpost.com/wp-content/uploads/2012/01/18/state-department-creates-wuhan-lab-https://www.washingtonpost.com/archive/local/2012/01/18/">https://www.washingtonpost.com/wp-content/uploads/2012/01/18/state-department-creates-wuhan-lab-https://www.washingtonpost.com/archive/local/2012/01/18/</a>
3/5/2019	Promoting false sense of security WHO key measures ignored	Gao Fu, director of the PRC's CDC, says in a speech "Viruses like SARS could emerge anytime, but there'll never be another SARS incident. That's thanks to how well our national contagious disease surveillance system works."	NYT	Stewart Lee Myers, "China Created a Full-Scale System to Track Contagions, It Failed," New York Times, March 29, 2020.
7/24/2015	Dangerous GOF research	Understanding the Risk of Bat Coronavirus: Emergency Budgeted period start. Project description: Novel coronavirus (bat origin CoV) are a significant threat to global health and food security, as the cause of SARS in China in 2002, the ongoing outbreak of MERS, and of a newly emerged Swine Aortic Diarrhea Syndrome in China. In a previous NIH we found that bats in southern China harbor an extraordinary diversity of SARS-CoVs, some of which can use human ACE2 to infect mice, which is a validated mouse model for testing SARS-CoV-like coronaviruses. We found that people living close to bat habitats are at the primary risk groups for spillover, that all of one diverse SARS-CoV exists in an entirely new genetic element of the SARS-CoV genome, and identified serologic evidence of human exposure among people living nearby. These findings have led to 18 published peer-reviewed papers, including two papers in Nature, and a review in Cell. Our salient questions remain on the origin, diversity, capacity to cause illness, and risk of spillover of these viruses... Aim 1: In vitro and in vivo characterization of SARS-CoV-like CoV, coupled with spatial and phylogenetic analyses to identify the regions and viruses of public health concern. We will use 5 previous sequence data 1) further fine-tune technology in vitro and in vivo in future experiments at U.S. labs of receptor binding to test the hypothesis that ACE2 divergence thresholds in 3 protein sequences predict spillover potential. We will combine these data with bat host distribution, viral diversity and phylogeny, human surveys of bat behaviors and illness, and serology to identify SARS-CoV-like CoV hotspots across southern China. Together these data and analyses will be critical for the future development of public health interventions and enhance surveillance to prevent the re-emergence of SARS or the emergence of a novel SARS-CoV	Grantome	<a href="https://grantome.com/grant/NIH/R01-AI11964-06">https://grantome.com/grant/NIH/R01-AI11964-06</a>
12/7/2019	History of lab outbreaks	The Lanzhou Veterinary Research Institute in central China confirmed on 7 December that 96 staff and students have tested positive for the infection. In a statement, the institute said most of the infected people are not experiencing signs of brucellosis, the illness caused by the bacterium, which can include fever and flu like symptoms.	Nature	<a href="https://www.nature.com/articles/d41586-019-03863-z">https://www.nature.com/articles/d41586-019-03863-z</a>
17/10/2019	History of lab outbreaks	On 20 December, the PRC transmission for the province of Heilongjiang confirmed that 33 students at the Harbin Veterinary Research Institute, around 2,800 kilometers to the northwest of Lanzhou, also had the infection. The 17 students were among 49 students who had previously worked at virus 3 institute Lanzhou institute. The Harbin institute also is also investigating the outbreak.	Nature	<a href="https://www.nature.com/articles/d41586-019-03863-z">https://www.nature.com/articles/d41586-019-03863-z</a>
12/14/2019	Poor safety practices	A 14 December 2019 The Paper/Guangdong Communist Youth League Article describes Tian Junhua as a "Vector Biological Control Technician at the WHCDC. The paper notes that "bat excrement (often containing) large amounts of unknown virus (left on Tian Junhua's body like rain." The article notes that Tian's team "identified the jingmen and Huang viruses.	The Paper	<a href="https://archive.nytimes.com">https://archive.nytimes.com</a>
17/10/2019	History of lab outbreaks Poor safety practices	Two Chinese agricultural researchers in Heilongjiang said they got it from more than 100 studies and staff became infected with it at Lanzhou. In a lab in which are typically found in farms or open fields also major potentially fatal complications in people. The Beijing News also reported that students at the institute often force emergency drills, and follow other procedures. The research institute in Harbin and Lanzhou did not respond to Reuters' questions about how the outbreak occurred, or their lab's safety procedures.	Nature	<a href="https://www.nature.com/articles/d41586-019-03863-z">https://www.nature.com/articles/d41586-019-03863-z</a>

12/24/2019	Dangerous GDF research	<p>WIV job posting for "Postdoctoral Recruitment Notice of Shi Zhongli, Discipline Group of Wuhan Virology Institute" describes responsibilities as "1. Recruitment position: 1-2 postdoctoral/fellow recruitment discipline: 1. Ecological study of host migration and virus transmission. Prospective direction: 2. bat virus virus-species infections and its pathogenicity. Shi Zhongli, Ph.D., researcher, team leader of the Department of Emerging Viruses, Wuhan Institute of Virology, Chinese Academy of Sciences, director of the Center for Emerging Infectious Diseases, Wuhan Institute of Virology, Chinese Academy of Sciences. Director of the Key Laboratory of Pathogen Biology and Biosafety, Chinese Academy of Sciences. Editor-in-chief of "Virology Sinica" magazine. Long-term research on the pathogenic biology of bats carrying important viruses has confirmed the origin of bats for major human and animal infectious diseases such as SARS and SARS-CoV-2, and discovered and identified a large number of new viruses in bats and rodents... The New Virus Discipline Group focuses on the etiology of new viruses and their infection mechanisms, including bat and rodent virus discovery, early warning and transmission mechanisms, host-specific infection mechanism and pathogenesis of coronavirus and other important bat virus research, new virus etiology and molecular diagnostic technology."</p>	WIV Website	<p><a href="http://www.wiv.ac.cn/105241/201912/20191224_5473624.html">http://www.wiv.ac.cn/105241/201912/20191224_5473624.html</a>   <a href="https://archive.is/g49Gd">https://archive.is/g49Gd</a></p>
12/30/2019	Dangerous GDF research	<p>Wuhan Institute of Virology researcher Shi Zhongli (known as "bat-woman" for her research) is called by the institute's director and summoned back to Wuhan from a conference in Shanghai to study samples of the novel coronavirus. "Could they have come from our lab?" Shi feared.</p>	Scientific American	<p>June Dai, "How China's 'Bat Woman' Hunted Down Viruses from SARS to the New Coronavirus," Scientific American, March 31, 2023</p>
12/30/2019	History of lab outbreaks Poor safety practices Efforts to prevent consideration of a lab origin hypothesis	<p>BEIJING—The mysterious patient samples arrived at Wuhan Institute of Virology at 7 P.M. on December 30, 2019. Moments later, Shi Zhongli's cell phone rang. It was her boss, the institute's director. The Wuhan Center for Disease Control and Prevention had detected a novel coronavirus in two hospital patients with atypical pneumonia, and it wanted Shi's renowned laboratory to investigate. Shi... walked out of the conference the next morning in Shanghai and hopped on the next train back to Wuhan. "I wondered if [the municipal health authority] got it wrong," she says. "I had never expected this kind of thing to happen in Wuhan, in central China." Her studies had shown that the southern, subtropical areas of Guangdong, Guangxi and Yunnan have the greatest risk of zoonotic diseases jumping to humans from animals—particularly bats, a known reservoir for many viruses. If corona viruses were the culprits, the re- members thinking, "could they have come from our lab?"</p>	Scientific American	<p><a href="https://www.scientificamerican.com/article/how-chinas-bat-woman-hunted-down-viruses-from-sars-to-the-new-coronavirus/">scientificamerican.com/article/how-chinas-bat-woman-hunted-down-viruses-from-sars-to-the-new-coronavirus/</a></p>
1/2/2020	History of lab outbreaks Poor safety practices Efforts to prevent consideration of a lab origin hypothesis	<p>"Biosafety guideline issued to fix chronic management loopholes at virus labs   2020-02-17 08:52   Global Times Editor: Li Yan Special: Battle Against Novel Coronavirus Rules address chronic virus lab loopholes: experts The Ministry of Science and Technology issued new rules over the weekend, requiring laboratories nationwide to boost their biosafety in a move that experts said could fix chronic inadequate management issues during the campaign against the coronavirus. The guideline stressed the importance of strengthening the management of bio labs, especially on viruses, to ensure biosafety, ministry official Wu Yuanbin said at a press conference on Saturday. The release of the guideline deals with chronic loopholes at laboratories, Yang Zhongli, a deputy director of the pathogen biology department at Wuhan University in Hubei Province, told the Global Times on Sunday. "The mention of biosafety at labs by the ministry has nothing to do with some saying that the coronavirus leaked from the Wuhan Institute of Virology of the Chinese Academy of Sciences," Yang said. Laboratories in China have paid insufficient attention to biological disposal, Yang said. Lab trash can contain man-made viruses, bacteria or microbes with a potentially deadly impact on human beings, animals or plants. Some researchers discharge laboratory materials into the sewer after experiments without a specific biological disposal mechanism, Yang explained."</p>	Global Times	<p>"Serry Shi et al. "Early mistakes and state secrecy in China probably slowed the coronavirus to spread farther and faster," Washington Post, Feb. 3, 2020. Global Times tweet Jan. 2, 2020, 1:26am Beijing time (<a href="https://twitter.com/globaltimesnews/status/1212409844684886995">https://twitter.com/globaltimesnews/status/1212409844684886995</a>)."</p>
2/17/2020	Poor safety practices History of lab outbreaks Efforts to prevent consideration of a lab origin hypothesis	<p>"Biosafety guideline issued to fix chronic management loopholes at virus labs   2020-02-17 08:52   Global Times Editor: Li Yan Special: Battle Against Novel Coronavirus Rules address chronic virus lab loopholes: experts The Ministry of Science and Technology issued new rules over the weekend, requiring laboratories nationwide to boost their biosafety in a move that experts said could fix chronic inadequate management issues during the campaign against the coronavirus. The guideline stressed the importance of strengthening the management of bio labs, especially on viruses, to ensure biosafety, ministry official Wu Yuanbin said at a press conference on Saturday. The release of the guideline deals with chronic loopholes at laboratories, Yang Zhongli, a deputy director of the pathogen biology department at Wuhan University in Hubei Province, told the Global Times on Sunday. "The mention of biosafety at labs by the ministry has nothing to do with some saying that the coronavirus leaked from the Wuhan Institute of Virology of the Chinese Academy of Sciences," Yang said. Laboratories in China have paid insufficient attention to biological disposal, Yang said. Lab trash can contain man-made viruses, bacteria or microbes with a potentially deadly impact on human beings, animals or plants. Some researchers discharge laboratory materials into the sewer after experiments without a specific biological disposal mechanism, Yang explained."</p>	FONS.cn	<p><a href="http://www.fons.cn/news/tech/2020-02-17/detail-427m4e623693.shtml">http://www.fons.cn/news/tech/2020-02-17/detail-427m4e623693.shtml</a></p>
2/17/2020	Poor safety practices	<p>ECNS published article on 2/17/2020 that referenced "A top academician at the Chinese Academy of Engineering earned 16.47 million yuan (\$1.46 million) illegally selling off lab animals and experimental milk, according to a report in the Shanghai-based Paper at an unknown date."</p>	FONS.cn	<p><a href="http://www.ecns.cn/news/tech/2020-02-17/detail-427m4e623648.shtml">http://www.ecns.cn/news/tech/2020-02-17/detail-427m4e623648.shtml</a></p>
4/18/2020	Poor safety practices	<p>Yuan Zhiming, vice director of the Wuhan Institute of Virology and director of the Wuhan National Biosafety Laboratory, tells state broadcaster CGTN, "There is absolutely no way that the virus originated from our institute... I hope such a conspiracy theory will not affect cooperation among scientists around the world."</p>	Bloomberg	<p>"Wuhan Lab Denies Any Link to First Coronavirus Outbreak," Bloomberg News, April 20, 2020</p>
4/23/2020	Poor safety practices	<p>The Times published an article claiming, "China prevented French experts from overseeing safety at its first high-security virus laboratory, which is now facing claims that it was the origin of the coronavirus pandemic, according to French officials... French specialists have knowledge in building and running 65-4 laboratories, which were described by a senior civil servant in Paris as a 'biotechnological atomic bomb'... But French firms got only minor roles in the building of the laboratory, according to Le Figaro and France Inter, the state broadcaster... France Inter said that Technip, the French company supposed to certify that the building complied with safety standards, refused to do so after pulling out of the project in 2015."</p>	The Times	<p><a href="https://t.co/vsRQTMwfdJ">https://t.co/vsRQTMwfdJ</a>   <a href="https://www.thetimes.co.uk/edition/news/coronavirus-china-bats-safety-experts-from-wuhan-lab-lab-leaked">https://www.thetimes.co.uk/edition/news/coronavirus-china-bats-safety-experts-from-wuhan-lab-lab-leaked</a></p>

Timeframe	Topic	Example	Source/Agency	Serial/URL/Ref
1/4/2020	US support & offers of support to PRC	The U.S. CDC offers to send technical experts to China. U.S. CDC Director Robert Redfield emails China CDC Director General Gao Fu, saying, "I would like to offer [U.S.] CDC technical experts in laboratory and epidemiology of respiratory infectious diseases to assist you and China CDC in identification of this unknown and possibly novel pathogen." Neither the United States nor China has disclosed how Gao responds, if at all, but no U.S. CDC team goes to China at this time.	WP	Glenn Kessler, "Did Trump Offer Experts to China to Help with the Coronavirus?" Washington Post, April 3, 2020. <a href="https://www.washingtonpost.com/patients/2020/04/03/how-much-pressure-did-trump-put-china-access-concerning-coronavirus/">https://www.washingtonpost.com/patients/2020/04/03/how-much-pressure-did-trump-put-china-access-concerning-coronavirus/</a> .
1/6/2020	US support & offers of support to PRC	US CDC offers Beijing technical expertise to help with the virus. Beijing ignores this offer for more than a month, along with repeated additional offers from HHS Secretary Alex Azar and other senior U.S. officials.	NYT	Donald G. McNeil Jr. and Zolan Kanno-Youngs, "C.D.C. and W.H.O. Offers to Help China Have Been Ignored for Weeks," New York Times, February 7, 2020.
1/6/2020	US support & offers of support to PRC. Limited, misleading, delayed information transfer	HHS Secretary Azar and CDC Director Robert Redfield renew Redfield's offer to send U.S. CDC experts to China, this time in the form of an official letter. Azar later recalls, "We made the offer to send the [U.S.] CDC experts in laboratory and epidemiology of respiratory infectious diseases to assist their Chinese colleagues to get to the bottom of key scientific questions like, how transmissible is this disease? What is the severity? What is the incubation period and can there be asymptomatic transmission?"	WP CNN	"Glenn Kessler, 'Did Trump Offer Experts to China to Help with the Coronavirus?' The Washington Post, April 3, 2020. <a href="https://www.washingtonpost.com/patients/2020/04/03/how-much-pressure-did-trump-put-china-access-concerning-coronavirus/">https://www.washingtonpost.com/patients/2020/04/03/how-much-pressure-did-trump-put-china-access-concerning-coronavirus/</a> . CNN, "New Day," transcript, including an interview with Health and Human Services Secretary Alex Azar, February 14, 2020. <a href="http://transcripts.cnn.com/TRANSCRIPTS/200214hd14.05.html">http://transcripts.cnn.com/TRANSCRIPTS/200214hd14.05.html</a> ."
1/8/2020	US support & offers of support to PRC	"But now, on Jan. 8, Dr. Gao was agitated, according to two people familiar with Dr. Redfield's account of the call. The virus had infected medical workers, Dr. Gao said, and was jumping between humans, despite the denials by local officials. Politically, it was a perilous situation for both men. As his predecessor had with avian flu, Dr. Redfield quickly offered American help to fight the outbreak in Wuhan. He told Dr. Gao that he could send 20 epidemiologists in 48 hours. This time, China never accepted."	NYT	<a href="https://www.nytimes.com/2020/12/30/world/asia/china-coronavirus.html">https://www.nytimes.com/2020/12/30/world/asia/china-coronavirus.html</a>
1/22/2020	US support & offers of support to PRC	President Trump tweets, "We are in very close communication with China concerning the virus. Very few cases reported in USA, but strongly on watch. We have offered China and President & any help that is necessary. Our experts are extraordinary!"	Twitter	Tweet by President Donald J. Trump, January 27, 2020, 9:56 a.m., <a href="https://twitter.com/realDonaldTrump/status/1221009170673958913?s=20">https://twitter.com/realDonaldTrump/status/1221009170673958913?s=20</a>
1/22/2020	US support & offers of support to PRC	HHS Secretary Azar speaks to the Chinese National Health Commission Director Ma Xiaowei, and repeats his offer to send a U.S. CDC team to China to assist with COVID-19 public health response efforts. 208 Neither side discloses how Minister Ma responds, if at all, but no CDC team goes to China at this time. Weigang Zhou, an employee of U.S. CDC, and Clifford Lane, an employee of the U.S. National Institutes of Health (NIH), will, however, participate in a WHO-China Joint Mission to China from February 16 to 24.	WHO	World Health Organization, "Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19)," February 28, 2020. <a href="https://www.who.int/docs/default-source/coronavirus/who-china-joint-mission-on-covid-19-final-report.pdf">https://www.who.int/docs/default-source/coronavirus/who-china-joint-mission-on-covid-19-final-report.pdf</a>
1/18/2020	US support & offers of support to PRC	NIH submits RNA-Seq of Rhinolophus affinis - Fecal swab. Total RNA was extracted from bronchoalveolar lavage fluid using the Qiamp Viral RNA Mini Kit following the manufacturer's instructions. An RNA library was then constructed using the TruSeq Stranded mRNA Library Preparation Kit (Illumina, USA). Paired-end (150 bp) sequencing of the RNA library was performed on the HiSeq 3000 platform (Illumina)."	NCBI	<a href="https://www.ncbi.nlm.nih.gov/sra/SRR724752/sra">https://www.ncbi.nlm.nih.gov/sra/SRR724752/sra</a>

Timestamp	Tags	Excerpts	Source(s)	Serial/URL/Ref
12/30/2019	Censorship of health information	Wuhan doctor Li Wenliang also shares information on WeChat about the new SARS-like virus. He is called in for questioning shortly afterward.	Axios	<a href="https://archive.vn/8pnrq">https://archive.vn/8pnrq</a>   <a href="https://www.axios.com/timeline-the-early-days-of-chinas-coronavirus-outbreak-and-cover-up-ee65211a-af66-4641-97b8-353718a5faab.html">https://www.axios.com/timeline-the-early-days-of-chinas-coronavirus-outbreak-and-cover-up-ee65211a-af66-4641-97b8-353718a5faab.html</a>
12/30/2019	Censorship of health information	Wuhan doctor Li Wenliang also shares information about the virus on WeChat, including a photo of lab results initially shared by Ai Fen.	The Guardian	Lily Kuo, "Coronavirus: Wuhan doctor speaks out against authorities," The Guardian, March 11, 2020.
12/30/2019	Censorship of health information	Ai Fen, a top director at Wuhan Central Hospital, posts information on WeChat about the new virus. She was reprimanded for doing so and told not to spread information about it. Wuhan doctor Li Wenliang also shares information on WeChat about the new SARS-like virus. He is called in for questioning shortly afterward.	The Guardian	<a href="http://www.theguardian.com/world/2020/mar/11/coronavirus-wuhan-doctor-ai-fen-speaks-out-against-authorities">www.theguardian.com/world/2020/mar/11/coronavirus-wuhan-doctor-ai-fen-speaks-out-against-authorities</a>
12/31/2019	Censorship of health information	"after Dr. Li Wenliang's messages in the WeChat group were reposted on the Internet in large numbers, on the morning of December 31, 2019, relevant leaders of Wuhan Central Hospital had a conversation with Dr. Li Wenliang. During the conversation, Dr. Li Wenliang stated that he forwarded unverified SARS and other information to the group of students, with the purpose of reminding the students in the group to take precautions. The hospital asked Dr. Li Wenliang to write an understanding material."	CCTV	<a href="http://m.news.cctv.com/2020/03/19/ARTI1EO6nz5wKzeVnNlyBqTM200319.shtml">http://m.news.cctv.com/2020/03/19/ARTI1EO6nz5wKzeVnNlyBqTM200319.shtml</a>   <a href="https://archive.vn/EY0e5">https://archive.vn/EY0e5</a>
12/31/2019	Censorship of health information	Chinese internet authorities begin censoring terms from social media such: Wuhan Unknown Pneumonia, SARS Variation, Wuhan Seafood Market, and keywords critical of the government's handling of the infection.	Citizen Lab	Lotus Ruan et al., "Censored Contagion: How Information on the Coronavirus is Managed on Chinese Social Media," Citizen Lab, March 3, 2020.
1/1/2020	Censorship of health information	Hubei health commission orders genomics companies to stop testing and destroy all samples.	Caixin Global	Gao Yu et al., "In Depth: How Early Signs of a SARS-Like Virus Were Spotted, Spread, and Throttled," Caixin Global, February 29, 2020
1/1/2020	Censorship of health information Efforts to prevent consideration of a lab origin hypothesis	An official at the Hubei Provincial Health Commission orders labs, which had already determined that the novel virus was similar to SARS, to stop testing samples and to destroy existing samples.	The Straits Times	<a href="https://www.straitstimes.com/asia/east-asia/how-early-signs-of-the-coronavirus-were-spotted-spread-and-throttled-in-china">https://www.straitstimes.com/asia/east-asia/how-early-signs-of-the-coronavirus-were-spotted-spread-and-throttled-in-china</a>   <a href="https://archive.vn/oy1CE">https://archive.vn/oy1CE</a>
1/1/2020	Censorship of health information Efforts to prevent consideration of a lab origin hypothesis	"Wuhan Public Security Bureau brings in for questioning eight doctors who had posted information about the illness on WeChat. An official at the Hubei Provincial Health Commission orders labs, which had already determined that the novel virus was similar to SARS, to stop testing samples and to destroy existing samples."	Washington Post	<a href="https://www.washingtonpost.com/world/2020/02/01/early-missteps-state-secrecy-china-likely-allowed-coronavirus-spread-farther-faster/">washingtonpost.com/world/2020/02/01/early-missteps-state-secrecy-china-likely-allowed-coronavirus-spread-farther-faster/</a>
1/1/2020	Censorship of health information	On Feb. 1, Washington Post cited Chinese surgeon and writer Wang Guangbao recalling that while speculation about a SARS-like virus was rampant within medical circles around Jan. 1, the detentions of the Wuhan doctors chilled open discussion. "The eight posters getting seized made all of us doctors feel we were at risk," Wang said.	WP	Gerry Shih et al., "Early missteps and state secrecy in China probably allowed the coronavirus to spread farther and faster," Washington Post, Feb. 1, 2020.
1/1/2020	Censorship of health information	Eight doctors in Wuhan who warned about new virus reports via social media in late December, including Dr. Li Wenliang, are detained and condemned for "making false statements on the Internet." Li is forced to write a self-criticism saying his warnings "had a negative impact."	WSJ	"Yong Xiong and Nector Gan, "This Chinese doctor tried to save lives, but was silenced. Now he has coronavirus," CNN, February 4, 2020. Jeremy Page et al., "How It All Started: China's Early Coronavirus Missteps," Wall Street Journal, March 6, 2020"
1/1/2020	Censorship of health information	5:38 p.m. CST: The Wuhan Municipal Public Security Bureau announces on its official Weibo social media account that it has investigated eight people for "spreading rumors." The bureau's announcement states that while medical institutions in the city have admitted multiple pneumonia cases, some netizens posted and shared "inaccurate information" online, creating a "negative social influence." The eight "law breakers" have been "dealt with," the bureau says. It warns others against "manufacturing rumors, believing rumors, or spreading rumors." Chinese Central Television (CCTV), the Xinhua News Agency, and national other news outlets report on the Wuhan Municipal Public Security Bureau's announcement, also warning against spreading rumors	Xinhua, Guancha Zhe	The text of the Wuhan Public Security Bureau's Weibo message is reproduced in "胡锡进：这八人不该被武汉市民骂——被拘" ("Hu Xijin: Not One of the 8 Wuhan Residents Who Shared 'Inaccurate Information' Was Detained"), Guancha Zhe (Observer), January 22, 2020, <a href="https://www.guancha.cn/politics/2020-01-22-532676.shtml">https://www.guancha.cn/politics/2020-01-22-532676.shtml</a> . "8人因网上散布不实消息被处理" ("8 People Are Dealt with According to Law for Spreading False Information Online About 'Wuhan Virus Pneumonia'"), Xinhua, January 1, 2020, <a href="http://www.xinhuanet.com/2020-01/01/c-1125412773.htm">http://www.xinhuanet.com/2020-01/01/c-1125412773.htm</a> .
1/2/2020	Censorship of health information	The punishment of eight doctors for "rumor-mongering," broadcast on national television on Jan. 2, sent a chill through the city's hospitals. "Doctors in Wuhan were afraid," said Dali Yang, a professor of Chinese politics at the University of Chicago. "It was truly intimidation of an entire profession."	AP	<a href="https://apnews.com/article/68a9e1b919d4ff1c166cd6012d82c219">https://apnews.com/article/68a9e1b919d4ff1c166cd6012d82c219</a>
1/2/2020	Censorship of health information	At just after 8 a.m. CST, a senior official of Wuhan Central Hospital subjects Dr. Ai Fen to what she later describes as "an unprecedented and very severe rebuke." The official tells her not to speak to anyone, including her husband, about the pneumonia cases. She will comply, but will later express regret about lives lost because she didn't "keep screaming."	Renwu	Gong Jingqi, "天听（了）万人" ("The Person Who Handed Out the Whistle"), Renwu (People), March 10, 2020, <a href="https://tinyurl.com/sgffh98">https://tinyurl.com/sgffh98</a> .
1/3/2020	Censorship of health information	China's top health authority, the National Health Commission, follows the Hubei Health Commission by issuing a gag order directing that Wuhan pneumonia samples be moved to designated testing facilities or destroyed. The National Health Commission also orders institutions not to publish any information related to the unknown disease.	Caixin Global	Gao Yu et al., "In Depth: How Early Signs of a SARS-Like Virus Were Spotted, Spread, and Throttled," Caixin Global, February 29, 2020
1/3/2020	Censorship of health information	"At about 13:30 on January 3, 2020, the Zhongnan Road Police Station of Wuchang Branch of Wuhan Public Security Bureau contacted Dr. Li Wenliang, and Dr. Li Wenliang accompanied his colleagues to the police station. Yang, deputy director of the police station, arranged for Hu, the policeman in charge of internal services, to talk to Dr. Li Wenliang. After the interview was verified, the interviewer made a transcript on the spot. Dr. Li Wenliang said that it is wrong to post information about SARS in the WeChat group and will pay attention to it in the future. The interviewer made a letter of admonition for Dr. Li Wenliang. Dr. Li Wenliang also had a copy of admonition and left the police station at 14:30. The interlocutors were Hu Mou and an auxiliary policeman. Hu signed his name and Xu Mou's name on the admonition letter. In fact, Xu did not participate in the conversation."	CCTV	<a href="http://m.news.cctv.com/2020/03/19/ARTI1EO6nz5wKzeVnNlyBqTM200319.shtml">http://m.news.cctv.com/2020/03/19/ARTI1EO6nz5wKzeVnNlyBqTM200319.shtml</a>   <a href="https://archive.vn/EY0e5">https://archive.vn/EY0e5</a>
1/3/2020	Censorship of health information	"According to Taiwan based "The Storm Media," the National Health Commission publishes "Notice on Strengthening the Management of Biological Sample Resources and Related Scientific Research Activities in the Prevention and Control of Major Infectious Diseases". "[this document] was not published on the official website of the National Health Commission. There are several important provisions in the No. 3 document obtained from this journal. 1. All relevant agencies shall, in accordance with the requirements of the health administrative department at or above the provincial level, provide biological samples to the designated pathogen testing agency to carry out pathogenic testing and complete the handover procedures. 2. Without approval, biological samples and related information shall not be provided to other institutions and individuals. 3. Institutions and individuals that have obtained biological samples of relevant cases from relevant medical and health institutions shall immediately destroy the samples on the spot or send them to the state designated depository for safekeeping. 4. During the epidemic prevention and control work period, no institution or individual may publish information about pathogen testing or experimental results without authorization."	The Storm Media	<a href="https://archive.is/kOulv">https://archive.is/kOulv</a>   <a href="https://www.storm.mg/article/2526880">https://www.storm.mg/article/2526880</a>

1/3/2020	Censorship of health information	About 1:30 p.m. CST, Wuhan Central Hospital's Dr. Li Wenliang, accompanied by a colleague, arrives at the Wuchang Sub-station of the Wuhan Public Security Bureau to discuss his December 30 posts to the WeChat group. Li is required to sign a letter of reprimand, which he will post online on January 31. The letter states that Li's "false statement" "severely disturbed social order" and violated the People's Republic of China's Law on Penalties for Administration of Public Security. (Article 25 of the law prohibits "intentionally disturbing the public order by spreading rumors or making false reports of dangerous situations, epidemic situations, or police actions.")	Weibo, LOC, CCDI Li Wenliang Weibo post, January 31, 2020, <a href="https://www.weibo.com/1139098205/1s0xb0AR7?from=page_10D50S1139098205_profile&amp;wvr=6&amp;mod=weibodm&amp;stype=comment#_rnd158768642280">https://www.weibo.com/1139098205/1s0xb0AR7?from=page_10D50S1139098205_profile&amp;wvr=6&amp;mod=weibodm&amp;stype=comment#_rnd158768642280</a> 6. Lance Zhang, "FALCs: Spreading Rumors and Police Reprimand Under Chinese Law," Law Library of Congress, March 2, 2020, <a href="https://blogs.loc.gov/law/2020/03/falcs-spreading-rumors-and-police-reprimand-under-chinese-law/?tocl=bloglaw">https://blogs.loc.gov/law/2020/03/falcs-spreading-rumors-and-police-reprimand-under-chinese-law/?tocl=bloglaw</a> . "Bulletin on the Investigation into Issues Related to Dr. Li Wenliang Raised by the Masses", Xinhua, March 19, 2020, <a href="http://www.ccdi.gov.cn/toutiao/202003/120200319_213880.html">http://www.ccdi.gov.cn/toutiao/202003/120200319_213880.html</a> .
1/11/2020	Limited, misleading, delayed reporting Censorship of health information	On Jan 11, a team led by Zhang, from the Shanghai Public Health Clinical Center, finally published a sequence on virological.org, used by researchers to swap tips on pathogens. The move angered Chinese CDC officials, three people familiar with the matter said, and the next day, his laboratory was temporarily shuttered by health authorities.	AP <a href="https://apnews.com/article/3c0d61794970661042b18d5aeaaed9fae">https://apnews.com/article/3c0d61794970661042b18d5aeaaed9fae</a>
1/12/2020	Censorship of health information	The Shanghai Health Commission orders Dr. Yong-zhen Zhang's laboratory at the Shanghai Public Health Clinical Centre and School of Public Health at Fudan University to close for unspecified "rectification." No reason is given. According to Hong Kong's South Morning Post, it is "not clear whether the closure was related to the publishing of the sequencing data before the authorities."	SCMP "Zhuang Pinghui, "Chinese Laboratory That First Shared Coronavirus Genome with World Ordered to Close for 'Rectification', Hindering Its Covid-19 Research," South China Morning Post, February 28, 2020, <a href="https://www.scmp.com/news/china/society/article/30529566/chinese-laboratory-first-shared-coronavirus-genome-world-ordered">https://www.scmp.com/news/china/society/article/30529566/chinese-laboratory-first-shared-coronavirus-genome-world-ordered</a> ."
1/12/2020	Censorship of health information	Professor Zhang Yongzhen's lab in Shanghai is closed by authorities for "rectification," one day after it shared genomic sequence data with the world for the first time. "The closure has greatly affected the scientists and their research when they should be racing against the clock to find the means to help put the novel coronavirus outbreak under control," a lab source says.	SCMP, Inkstone News "Zhuang Pinghui, "Chinese laboratory that first shared coronavirus genome with world ordered to close for 'rectification', hindering its Covid-19 research," South China Morning Post, Feb 28, 2020. Zhuang Pinghui, "Shanghai lab first to publish the coronavirus genome ordered shut," Inkstone News, March 2, 2020."
1/12/2020	Censorship of health information	"The laboratory at the Shanghai Public Health Clinical Centre was ordered to close for "rectification" on January 12, a day after Professor Zhang Yongzhen's team published the genome sequence on openplatforms. It closed temporarily the following day.... "The centre was not given any specific reasons why the laboratory was closed for rectification. [We have submitted] four reports [asking for permission] to reopen but we have not received any replies," a source with the centre said, requesting anonymity because of the matter's sensitivity.... It was not clear whether the closure was related to the publishing of the sequencing data before the authorities.... China's National Health Commission announced hours after the release by Zhang's team that it would share the genome sequence with the World Health Organisation. It later emerged that the information had been sent through the officially designated Wuhan Institute of Virology.	South China Morning Post <a href="https://www.scmp.com/news/china/society/article/30529566/chinese-laboratory-first-shared-coronavirus-genome-world-ordered">https://www.scmp.com/news/china/society/article/30529566/chinese-laboratory-first-shared-coronavirus-genome-world-ordered</a>
1/14/2020	Censorship of health information Promoting false sense of security	Plainclothes police detain journalists trying to report from Wuhan's jinyintan Hospital and force them to delete their TV footage and hand in phones and cameras for inspection.	Business Insider, NYT Ashley Collman, "China spent the crucial first days of the Wuhan coronavirus outbreak arresting people who posted about it online and threatening journalists," Business Insider, January 29, 2020. Also Li Yuan, "China silences critics over deadly virus outbreak," New York Times, January 25, 2020.
1/21/2020	Censorship of health information	China's top political commission in charge of law and order warns that "anyone who deliberately delays and hides the reporting of [virus] cases out of his or her own self-interest will be nailed on the pillar of shame for eternity."	South China Morning Post <a href="https://archive.vn/33gwN">https://archive.vn/33gwN</a>   <a href="https://www.scmp.com/news/china/politics/article/3046984/china-warns-cadres-cover-spread-virus-and-be-nailed-pillar">https://www.scmp.com/news/china/politics/article/3046984/china-warns-cadres-cover-spread-virus-and-be-nailed-pillar</a>
1/24/2020	Censorship of health information	Officials in Beijing prevent the Wuhan Institute of Virology from sharing sample isolates of the novel coronavirus with the University of Texas biocontainment lab, overruling an initial agreement by the Wuhan lab to share these samples.	WP Yasmeen Abutaleb et al., "The U.S. was beset by denial and dysfunction as the coronavirus raged," Washington Post, April 4, 2020.
1/27/2020	Censorship of health information	Wuhan Mayor Zhou Xianwang says that rules imposed by Beijing limited what he could disclose about the threat posed by the virus. "As a local government official, after I get this kind of information I still have to wait for authorization before I can release it."	WSJ Josh Chin, "Wuhan Mayor Says Beijing Rules Partially Responsible for Lack of Transparency," Wall Street Journal, January 27, 2020.
2/6/2020	Censorship of health information	Citizen journalist and former rights lawyer Chen Qiushi disappears in Wuhan after posting mobile-phone videos of packed hospitals and distraught families.	NYT Vivian Wang, "They Documented the Coronavirus Crisis in Wuhan. Then They Vanished," New York Times, February 14, 2020.
2/6/2020	Censorship of health information Efforts to prevent consideration of a lab origin hypothesis	"Researchers from South China University of Technology publish a study concluding that "the killer coronavirus probably originated from a laboratory in Wuhan. Safety level may need to be reinforced in high risk biohazardous laboratories." - The paper is soon withdrawn because it "was not supported by direct proofs," according to author Botao Xiao. -- "No scientists have confirmed or refuted the paper's findings," scholar Yanzhong Huang wrote on March 5"	Research Gate, WSJ, Foreign Affairs "Botao Xiao and Lei Xiao, "The possible origins of 2019-nCoV coronavirus," ResearchGate, Feb. 6, 2020. James Areddy, "Coronavirus Epidemic Draws Scrutiny to Labs Handling Deadly Pathogens," The Wall Street Journal, March 5, 2020. Yanzhong Huang, "U.S. Chinese: Distrust Is Inviting Dangerous Coronavirus Conspiracy Theories," Foreign Affairs, March 5, 2020."
2/8/2020	Censorship of health information	China's internet watchdog tightens controls on social media platforms following Xi Jinping directive to strengthen online media control to maintain social stability.	SCMP Iris Deng, "Coronavirus: China tightens social media censorship amid outbreak," South China Morning Post, February 6, 2020. Also Kristin Huang, "China tries to contain outbreak of freedom of speech, closing critics' WeChat accounts," SCMP, February 26, 2020.
2/9/2020	Censorship of health information	Citizen journalist and local businessman Fang Bin disappears after posting videos from Wuhan that circulated widely on Chinese social media.	NYT Vivian Wang, "They Documented the Coronavirus Crisis in Wuhan. Then They Vanished," New York Times, February 14, 2020.
2/15/2020	Censorship of health information	Xi's published speech also urges tightened control over online discussion and increased policing to ensure "positive energy" and social stability.	AFP "China's Xi urges more policing as virus toll rises," AFP, February 15, 2020.
2/15/2020	Censorship of health information	Activist Xu Zhiyong arrested after nearly two months on the run, and after publishing a Feb. 4 essay calling on Xi Jinping to step down for suppressing information about the virus.	NPR Emily Feng, "Rights Activist Xu Zhiyong Arrested in China Amid Crackdown on Dissent," NPR, February 17, 2020.
2/16/2020	Censorship of health information	Tsinghua University Professor Xu Zhanrun is placed under house arrest, barred from social media, and cut off from the Internet after publishing an essay declaring that "The coronavirus epidemic has revealed the rotten core of Chinese governance."	Guardian Verna Yu and Emma Graham-Harrison, "This may be the last piece I write: Prominent Xi critic has Internet cut after house arrest," The Guardian, February 16, 2020.

2/16/2020	Censorship of health information Poor safety practices Efforts to prevent consideration of a lab origin hypothesis	The Wuhan Institute of Virology issues a public denial that its former researcher Huang Yanling is "patient zero," as speculated on Chinese social media based on the disappearance of Huang's biographical information from the Institute's website and Huang's unknown whereabouts.	SCMP	Jun Mai, "Chinese research lab denies rumours of links to first coronavirus patient," South China Morning Post, February 16, 2020.
2/16/2020	Censorship of health information Poor safety practices Efforts to prevent consideration of a lab origin hypothesis	Institute researcher Shi Zhengli writes on social media that she "guaranteed with her own life" that the outbreak was unrelated to the lab. She instructs "those who believe and spread malicious media rumors to close their stinky mouths."	WSJ	James T. Aredy, "China Bat Expert Says Her Wuhan Lab Wasn't Source of New Coronavirus," The Wall Street Journal, April 21, 2020.
2/17/2020	Censorship of health information	"Statement by CHEN Quanjiao: "Regarding the so-called whistle-blowing statements published in my name on the Internet today, I solemnly declare: I have never released any relevant reporting information, and expressed great indignation at the act of using my identity to fabricate the reporting information. I will pursue the legal responsibility of the rumors according to law. Hereby declare. Recently, a series of rumors have affected our front-line researchers' scientific research. Please be careful to prevent related conspiracy and sabotage activities. Chen Quanjiao, Researcher, Wuhan Institute of Virology, Chinese Academy of Sciences"	WIV Website	<a href="http://www.whiv.ac.cn/tzgg_105342/202002/20200217_5500447.html">http://www.whiv.ac.cn/tzgg_105342/202002/20200217_5500447.html</a>
2/18/2020	Censorship of health information	On Monday, Wang Yanq, director of the research center, denied allegations that animals used in lab experiments were resold at Huanan Seafood Market, which Chinese authorities have said is ground zero for COVID-19. The institute had previously denied the outbreak began among lab technicians, including a woman identified as Huang Yanling. Huang was rumored to be "patient zero" on Chinese social media. Wang's statement came after messages on Chinese social media claimed the director had been "frequently" reselling lab animals to Huanan market vendors. Chen Quanjiao was the named author of the social media messages, and the posts included photos of Chen, according to NTD Television and other Chinese dissident news services. Chen is a researcher at the lab. On Tuesday she made a public statement claiming her identity had been stolen. Chen may have been detained, according to Chinese-language news service Sound of Hope. Social media posts about the institute were scrubbed by Tuesday. Wang Gaofei, chief executive of social media platform Weibo, condemned the posts as "fake news" and said the messages originated from an overseas IP address, according to multiple press reports.	UPI	<a href="https://www.upi.com/Top_News/World-News/2020/02/18/WHO-confirms-experts-presence-at-coronavirus-epicenter-in-China/8271582041808/">https://www.upi.com/Top_News/World-News/2020/02/18/WHO-confirms-experts-presence-at-coronavirus-epicenter-in-China/8271582041808/</a>
2/19/2020	Censorship of health information	Beijing revokes press credentials of three Wall Street Journal reporters who had widely covered the outbreak, including one that was reporting from Wuhan.	WSJ	"China Expels Three Wall Street Journal Reporters," Wall Street Journal, February 19, 2020.
2/26/2020	Censorship of health information	Citizen journalist Li Zehua, who quit his job at state broadcaster CCTV to report independently from Wuhan, is detained and disappears. With security officers at his door, Li records a video testament to free speech, truth, and the memory of the Tiananmen movement.	The Guardian	"Opening the Door," China Media Project, February 28, 2020. See also Lily Luo, "They're chasing me! The journalist who wouldn't stay quiet on Covid-19," The Guardian, March 1, 2020.
3/6/2020	Censorship of health information	Wuhan residents shout from windows "It's all lies!" as senior official Sun Chunlan visits. After this goes viral on Chinese social media, PRC state media doctor and re-distribute the footage to claim that only one person had yelled this.	Reuters	<a href="https://www.reuters.com/article/us-health-coronavirus-china-social-media/with-cries-of-its-fake-wuhan-citizens-voice-discontent-idUSKBN20T215">https://www.reuters.com/article/us-health-coronavirus-china-social-media/with-cries-of-its-fake-wuhan-citizens-voice-discontent-idUSKBN20T215</a>
3/14/2020	Censorship of health information	Entrepreneur and activist Ren Zhiqiang disappears in Beijing after criticizing Xi Jinping's coronavirus response. 109 PRC officials announce a corruption investigation into Ren on April 7.	NYT	"Javier C. Hernandez, 'Chinese Tycoon Who Criticized Xi's Response to Coronavirus Has Vanished,'" New York Times, March 14, 2020. Javier C. Hernandez, "China Investigates Critic of Xi's Coronavirus Response," New York Times, April 7, 2020."
4/3/2020	Censorship of health information	CCP admits Wuhan law enforcement actions against whistleblower doctor Li Wenliang was "irregular" and "improper" and declared Li a "martyr"	Business Insider	<a href="https://www.businessinsider.com/coronavirus-china-li-wenliang-whistleblower-doctor-martyr-2020-4">https://www.businessinsider.com/coronavirus-china-li-wenliang-whistleblower-doctor-martyr-2020-4</a>
4/3/2020	Censorship of health information	China on Thursday awarded Li Wenliang, the doctor who sounded an early alarm about the novel coronavirus, the title of "martyr." In December, police in Wuhan made Li admit to lying about the existence of a worrying new virus discovered in the city. Li died on February 7 after contracting the virus. An investigation by the Chinese Communist Party found on March 19 that the actions of law enforcement in Wuhan was "irregular" and "improper." "Martyr" is the highest honor the Communist Party of China can bestow on a citizen killed working to serve the country. The country will honor him with three minutes of silence on Saturday.	Business Insider	<a href="https://www.businessinsider.com/coronavirus-china-li-wenliang-whistleblower-doctor-martyr-2020-4">https://www.businessinsider.com/coronavirus-china-li-wenliang-whistleblower-doctor-martyr-2020-4</a>
4/3/2020	Censorship of health information Delayed admitting human to human transfer limited, misleading, delayed reporting	While lifting lockdown restrictions in Wuhan, officials limit funerals of those who died from the coronavirus, suppress online discussions of fatalities, scrub images of funeral homes from social media, assign minders to families in mourning, and face questions from families such as why it took the government weeks to inform the public that the virus could spread among humans	NYT	Amy Qin and Cao Li, "China Pushes for Quiet Burials as Coronavirus Death Toll is Questioned," New York Times, April 3, 2020.
4/3/2020	Censorship of health information	China's Ministry of Science and Technology announces that ongoing clinical research on the coronavirus must be reported to authorities within three days or be halted	The Guardian	Stephanie Kirchgaessner et al, "China clamping down on coronavirus research, deleted pages suggest," The Guardian, April 11, 2020. <a href="https://www.theguardian.com/world/2020/apr/11/china-clamping-down-on-coronavirus-research-deleted-pages-suggest">https://www.theguardian.com/world/2020/apr/11/china-clamping-down-on-coronavirus-research-deleted-pages-suggest</a>
4/7/2020	Censorship of health information Limited, misleading, delayed reporting	Human rights activists report, citing public records alone, that Chinese police punished nearly 900 people for online speech or information sharing about the virus over three months.	Daily Telegraph	Sophia Yan, "Inside Wuhan as city at heart of coronavirus outbreak tries to return to normal," Daily Telegraph, April 7, 2020.
4/9/2020	Censorship of health information	The Guardian reports that "Another notice, which appears to have been published on 9 April by the school of information science and technology at Fudan University in Shanghai, called for "strict and serious" management of papers investigating the source of the outbreak." Papers could only be submitted for publication after being approved by a special office. Email, names and phone numbers provided on the notice suggested that office was part of China's ministry of education	The Guardian	<a href="https://www.theguardian.com/world/2020/apr/11/china-clamping-down-on-coronavirus-research-deleted-pages-suggest">https://www.theguardian.com/world/2020/apr/11/china-clamping-down-on-coronavirus-research-deleted-pages-suggest</a>
4/11/2020	Censorship of health information	The Guardian publishes article reports that "China is cracking down on publication of academic research about the origins of the novel coronavirus, in what is likely to be part of a wider attempt to control the narrative surrounding the pandemic, documents published online by Chinese universities appear to show." "Two websites for leading Chinese universities appear to have recently published and then removed pages that reference a new policy requiring academic papers dealing with Covid-19 to undergo extraveiling before they are submitted for publication." "... China University of Geosciences (Wuhan) appears to have published and then deleted new requirements that academic papers dealing with the origins of the virus be approved by China's ministry of science and technology before publication." and "A separate document obtained by the Guardian, which could not be independently verified, appears to be from the Renmin Hospital of Wuhan University and also said publication of research into the origins of Covid-19 would need approval from the science and technology ministry."	The Guardian	<a href="https://www.theguardian.com/world/2020/apr/11/china-clamping-down-on-coronavirus-research-deleted-pages-suggest">https://www.theguardian.com/world/2020/apr/11/china-clamping-down-on-coronavirus-research-deleted-pages-suggest</a>
4/14/2020	Censorship of health information Poor safety practices Efforts to prevent consideration of a lab origin hypothesis	On 4/14/2020 the Washington Post publishes article on 2018 US State Department visits to WIV and the resulting cable about safety concerns, noting that "Last week, WIV erased that statement [acknowledging the visit from U.S. Diplomats] from its website, though it remains archived on the Internet." Further, "Sources familiar with the cables said they were meant to sound an alarm about the grave safety concerns at the WIV lab, especially regarding its work with bat coronaviruses. The embassy officials were calling for more U.S. attention to this lab and more support for it, to help it fix its problems."	Washington Post (Opinions)	<a href="https://www.washingtonpost.com/opinions/2020/04/14/state-department-cables-warned-safety-issues-wuhan-lab-studying-bat-coronaviruses/">https://www.washingtonpost.com/opinions/2020/04/14/state-department-cables-warned-safety-issues-wuhan-lab-studying-bat-coronaviruses/</a>
4/22/2020	Censorship of health information	Citizen journalist Li Zehua surfaces for the first time since February, saying that his detention included a quarantine in Wuhan and another in his hometown, after which he was reunited with his family. He says in a video: "During the whole process, the police enforced law in a civilized manner, ensured my rest time and food. They also cared about me very much. . . I'm grateful to all the people who looked after me and cared about me. I wish all people suffering the epidemic can pull through. God bless China. I wish the world can unite together."	BBC	"Li Zehua: Journalist who 'disappeared' after Wuhan chase reappears," BBC, April 23, 2020.
4/25/2020	Censorship of health information	SCMP reports Chinese police have detained three Beijing residents (Cai Wei, a woman surnamed Tang, and Chen Mei) who helped publish articles about Covid-19 on open-source website Github that were previously censored from mainstream PRC media and social media, including material about Wuhan doctor Ai Fen.	SCMP	Phoebe Zhang, "Chinese activists detained after sharing censored coronavirus articles on crowdsourcing site Github," South China Morning Post, April 25, 2020

<p>4/27/2020</p>	<p>Censorship of health information</p>	<p>PRC ambassador to Australia Cheng Jingye threatens economic harm if Australia continues pushing for an independent investigation into the coronavirus. "Maybe the ordinary [Chinese] people will say 'Why should we drink Australian wine? Eat Australian beef?'" Cheng said, also citing the tourism and higher-education sectors. Australian Foreign Minister Marise Payne answered: "We reject any suggestion that economic coercion is an appropriate response to a call for such an assessment, when what we need is global cooperation."</p>	<p>Reuters</p>	<p>Kirsty Needham, "Australia rejects Chinese 'economic coercion' threat amid planned coronavirus probe," Reuters, April 27, 2020.</p>
<p>4/27/2020</p>	<p>Censorship of health information</p>	<p>"China threatens economic consequences if Australia launches investigation of Beijing's handling of coronavirus Chinese Ambassador to Australia Cheng Jingye said Beijing could encourage Chinese citizens to boycott Australian exports and products if Australia was to initiate the probe, the news outlet reported... Australian Foreign Minister Marise Payne called the Chinese threats "economic coercion" and repeated calls for an investigation into the early handling of the outbreak, which is thought to have originated in the Chinese city of Wuhan. "Australia has made a principled call for an independent review of the COVID-19 outbreak, an unprecedented global crisis with severe health, economic and social impacts," she reportedly said. "We reject any suggestion that economic coercion is an appropriate response to a call for such an assessment, when what we need is global cooperation."</p>	<p>The Hill</p>	<p><a href="https://thehill.com/policy/international/494850-china-threatens-economic-consequences-if-australia-launches">https://thehill.com/policy/international/494850-china-threatens-economic-consequences-if-australia-launches</a></p>
<p>4/29/2020</p>	<p>Censorship of health information</p>	<p>China "resolutely opposes" any international inquiry into the coronavirus pandemic that presumes its guilt, said Le Yucheng, a vice-foreign minister, in comments published on Thursday. Citing an interview Le gave to NBC, the Ministry of Foreign Affairs said on its website that Beijing firmly opposes a "politicised" international investigation aimed at stigmatising China.</p>	<p>Reuters</p>	<p><a href="https://www.reuters.com/article/us-health-coronavirus-china/china-opposes-international-covid-19-probe-that-presumes-its-guilt-vice-foreign-minister-idUSKBN22C009">https://www.reuters.com/article/us-health-coronavirus-china/china-opposes-international-covid-19-probe-that-presumes-its-guilt-vice-foreign-minister-idUSKBN22C009</a></p>

Timeframe	Tags	Excerpts	Source(s)	Serial/URL/Ref
12/6/2019	Delayed admitting human to human transfer	Five days after a man linked to Wuhan's seafood market presented pneumonia-like symptoms, his wife also presents with pneumonia and is hospitalized in an isolation ward. The wife had no connection to the market, suggesting human-human transmission.	Lancet	Chaolin Huang et al., "Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China," <i>The Lancet</i> , Feb. 15, 2020.
12/10/2019	Delayed admitting human to human transfer	An article published in <i>The Lancet</i> medical journal raises questions about whether Wuhan's Huanan Seafood Wholesale Market is the source of the virus. The co-authors, including experts from Wuhan's leading infectious disease hospital, report that among the first 41 patients identified in Wuhan, the first patient to show symptoms, on December 1, 2019, had no exposure to the market. Two of the next three patients to show symptoms, all on December 10, also had no exposure to the market.	Lancet	Chaolin Huang, Yeming Wang, Xingwang Li, et al., "Clinical Features of Patients Infected with 2019 Novel Coronavirus in Wuhan, China," <i>The Lancet</i> , January 24, 2020, <a href="https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30183-5/fulltext">https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30183-5/fulltext</a> .
12/10/2019	Delayed admitting human to human transfer	Surprisingly the earliest genomic cluster has been identified as four patients associated with the People's Liberation Army (PLA) Central Theater Command Hospital in the Wuchang District of Wuhan. The ENA archive file creation date (stamped by the ENA server in the EU) for these four patient's specimens was on December 10, 2019, which is over two weeks before the specimens were actually collected. At this early date, according to Chinese authorities, there were only four reported cases anywhere in China. A random selection of other COVID-19 patient ENA files shows no examples of a file creation date before a sample collection date. One conclusion from this observation is that the specimens were actually collected before December 10th. The minimal base substitutions within this cluster mimics the substitutions seen in known family clusters and is consistent with direct transmission among them. This cluster contains both the first Clade A virus, which shares T8782 and C28144 with the three bat coronaviruses, RaTG13, Bat-SL-CoVZC45, and Bat-SL-CoVZXC21. The current Reference Sequence, in fact, is a Clade B virus and differs at these two variants.	SCRIBD	<a href="https://scribd.com/document/482084555/Covid-Pandemic-Began-at-PLA-Hospital-in-Wuhan">scribd.com/document/482084555/Covid-Pandemic-Began-at-PLA-Hospital-in-Wuhan</a>
12/25/2019	Delayed admitting human to human transmission	Doctors and nurses in Wuhan told Chinese media there were plenty of signs that the coronavirus could be transmitted between people as early as late December. Patients who had never been to the suspected source of the virus, the Huanan Seafood Market, were infected. Medical workers started falling ill. But officials obstructed medical staff who tried to report such cases. They set tight criteria for confirming cases, where patients not only had to test positive, but samples had to be sent to Beijing and sequenced. They required staff to report to supervisors before sending information higher, Chinese media reports show. And they punished doctors for warning about the disease. As a result, no new cases were reported for almost two weeks from Jan. 5, even as officials gathered in Wuhan for Hubei province's two biggest political meetings of the year, internal China CDC bulletins confirm.	AP	<a href="https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c219">https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c219</a>
12/27/2019	Delayed admitting human to human transmission	Dr. Zhang Jixian, Director of Respiratory and Critical Care Medicine at the Hubei Provincial Hospital of Integrated Chinese and Western Medicine in Wuhan, files a report with her supervisors about three members of a single family whom she found to be suffering from pneumonia of unknown cause. She later recalls concluding, "It is unlikely that all three members of a family caught the same disease at the same time unless it is an infectious disease." The hospital notifies the Center for Disease Control for its district of Wuhan, Jiangnan District.	Xinhua	"Xinhua Headlines: Chinese Doctor Recalls First Encounter with Mysterious Virus," April 16, 2020, <a href="http://www.xinhuanet.com/english/2020-04/16/c_138982435.htm">http://www.xinhuanet.com/english/2020-04/16/c_138982435.htm</a> . "关于群众反映的涉及李文亮医生有关情况调查的通报" ("Bulletin on the Investigation into Issues Related to Dr. Li Wenliang Raised by the Masses"), Xinhua, March, 2020, <a href="http://www.ccdi.gov.cn/toutiao/202003/t20200319_213880.html">http://www.ccdi.gov.cn/toutiao/202003/t20200319_213880.html</a> . Zunyou Wu and Jennifer McGoogan."
12/30/2019	Delayed admitting human to human transfer	Ai Fen, a senior doctor at Wuhan Central Hospital, posts information on WeChat about the new virus and is reprimanded by superiors. Ai subsequently instructs her staff to wear protective clothing and masks, despite official instructions not to. "I knew there must be human-to-human transmission," she said in a later interview.	The Guardian	Lily Kuo, "Coronavirus: Wuhan doctor speaks out against authorities," <i>The Guardian</i> , March 11, 2020.
12/31/2019	Delayed admitting human to human transfer	"At 13:38 on December 31, 2019, the Wuhan Municipal Health Commission issued a "Notice on the Current Situation of Pneumonia in Our City", stating that "27 cases have been found" and "the above cases are viral pneumonia", and said "to The investigation so far has not found obvious human-to-human transmission, and no medical staff infection has been found." Many media have reported on this. In accordance with Wuhan's work arrangements for the prevention and control of pneumonia of unknown causes, the public security organs of Wuhan City, in accordance with laws and regulations on the prevention and control of infectious diseases and public security management, as well as notifications from the Municipal Health Commission, will forward and publish SARS and other infectious disease information that appears on the Internet. "	CCTV	<a href="http://m.news.cctv.com/2020/03/19/ARTIreO6nz5wkzeVnNlyBgTM200319.shtml">http://m.news.cctv.com/2020/03/19/ARTIreO6nz5wkzeVnNlyBgTM200319.shtml</a>   <a href="https://archive.vn/EY0eS">https://archive.vn/EY0eS</a>



12/31/2019	Delayed admitting human to human transfer	Officials in Taiwan report to the World Health Organization (WHO) that "news resources today indicate that at least seven atypical pneumonia cases were reported in Wuhan, China. Their health authorities replied to the media that the cases were believed not SARS; however the samples are still under examination, and cases have been isolated for treatment," signaling human-to-human transmission. But Taiwan's information is not published on the WHO platform for data-exchange among 196 countries. Taiwan officials also alert PRC authorities.	Financial Times	"15. Vandana Rambaran, "Taiwan releases December email to WHO warning about unheeded warning about coronavirus," FoxNews, April 11, 2020. 16. "Taiwan says WHO failed to act on coronavirus transmission warning," Financial Times, March 19, 2020."
12/31/2019	Delayed admitting human to human transfer	The 27 pneumonia cases in Wuhan have been identified as viral pneumonia, according to the Wuhan Municipal Health Commission. The patients, including seven in serious condition, reported symptoms including fever and difficulty breathing. All the patients have been put in quarantined treatment.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
12/31/2019	Delayed admitting human to human transmission	Taiwan's Central Epidemic Command Center later notes, "To be prudent, in the email we took pains to refer to atypical pneumonia, and specifically noted that patients had been isolated for treatment. Public health professionals could discern from this wording that there was a real possibility of human-to-human transmission of the disease.	Taiwan Central Epidemic Control Center	Taiwan Central Epidemic Control Center, "The Facts Regarding Taiwan's Email to Alert WHO to Possible Danger of COVID-19," April 11, 2020. <a href="http://at.cdc.tw/231q82">http://at.cdc.tw/231q82</a> .
1/3/2020	Delayed admitting human to human transfer Limited, misleading, delayed reporting	The Wuhan Health Commission sets narrow criteria for confirming that a case is officially part of the outbreak, saying patients can be counted only if they had ties to the Huanan seafood market, excluding the growing number of cases with no such ties. An official from a district disease control center in Wuhan also tells a hospital doctor handling infection reports that "this was a special contagious disease and we should report only after superiors had notified us."	NYT	Steven Lee Myers, "China Dusts 2 Party Officials Amid Outrage About Coronavirus Response," New York Times, February 13, 2020.
1/3/2020	Delayed admitting human to human transfer	A total of 44 viral pneumonia cases have been reported in Wuhan. All the patients have been put in quarantine, with 11 in serious condition and the others in stable condition as of 8 am on Jan 3.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/4/2020	Delayed admitting human to human transfer	Another expert outside mainland China begins to sound alarms over human-to-human transmission. The head of the University of Hong Kong's Centre for Infection, Ho Pak-leung, warns that Hong Kong "should implement the strictest possible monitoring system for a mystery new viral pneumonia that has infected dozens of people on the mainland, as it is highly possible that the illness is spreading from human to human."	RTHK	"Wuhan virus is probably spreading between people," RTHK, January 4, 2020.
1/5/2020	Delayed admitting human to human transfer	A total of 59 viral pneumonia cases of unknown cause had been reported in Wuhan by the Morning of Jan 5.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/5/2020	Delayed admitting human to human transfer	[ZHANG Yongzhen's team at the Shanghai Public Health Clinical Centre Shanghai] reported its discovery to the National Health Commission on the same day and recommended "relevant prevention and control measures" be taken in public places, because the patient from whom the sample was collected had suffered very severe symptoms and the virus resembled a group previously found in bats.	South China Morning Post	<a href="https://www.scmp.com/news/china/society/article/3052966/chinese-laboratory-first-shared-coronavirus-genome-world-ordered">https://www.scmp.com/news/china/society/article/3052966/chinese-laboratory-first-shared-coronavirus-genome-world-ordered</a>
1/5/2020	Delayed admitting human to human transfer Promoting false sense of security	WHO releases statement characterizing PRC's initial Dec. 31 notice about "pneumonia of unknown etiology." WHO states: "Based on the preliminary information from the Chinese investigation team, no evidence of significant human-to-human transmission and no health care worker infections have been reported." This continues to ignore Taiwan's warnings of Dec. 31.	WHO	"Pneumonia of unknown cause – China," WHO, January 5, 2020 ( <a href="https://www.who.int/csr/don/05-january-2020-pneumonia-of-unknown-cause-china/en/">https://www.who.int/csr/don/05-january-2020-pneumonia-of-unknown-cause-china/en/</a> ).
1/5/2020	Delayed admitting human to human transmission Promoting false sense of security	WHO issues its first formal public statement on the outbreak, a "disease outbreak news" item. It states, "On December 31, 2019, the WHO China Country Office was informed of cases of pneumonia of unknown etiology (unknown cause) detected in Wuhan City, Hubei Province of China." The statement adds, "Based on the preliminary information from the Chinese investigation team, no evidence of significant human-to-human transmission and no health care worker infections have been reported." WHO says it "advises against the application of any travel or trade restrictions on China based on the current information available on this event."	WHO	World Health Organization, "Pneumonia of Unknown Cause—China," Disease Outbreak News, January 5, 2020, <a href="https://www.who.int/csr/don/05-january-2020-pneumonia-of-unknown-cause-china/en/">https://www.who.int/csr/don/05-january-2020-pneumonia-of-unknown-cause-china/en/</a> .
1/5/2020	Delayed admitting human to human transfer	The Shanghai Public Health Clinical Center, a research lab, alerts National Health Commission that one of its professors has identified a SARS-like coronavirus and mapped its genome. The lab also recommends "appropriate prevention and control measures in public places."	WSJ	Jeremy Page et al., "How It All Started: China's Early Coronavirus Missteps," Wall Street Journal, March 6, 2020.
1/5/2020	Delayed admitting human to human transmission	The Wuhan Municipal Health Commission announces that it has identified 59 patients with symptoms consistent with pneumonia of unknown origin. It states that a preliminary investigation has uncovered no "clear evidence of human-to-human transmission" or infections among medical workers.	Wuhan Health Commission	Wuhan Municipal Health Commission, "武汉市卫生健康委员会关于不明原因的病毒性肺炎情况通报" ("Wuhan Municipal Health Commission Bulletin on the Situation Regarding Viral Pneumonia of Unknown Cause"), January 5, 2020, <a href="http://wjw.wuhan.gov.cn/front/web/showDetail/2020010509020">http://wjw.wuhan.gov.cn/front/web/showDetail/2020010509020</a> .

<p>1/6/2020</p>	<p>Delayed admitting human to human transmission</p>	<p>The head of an expert team sent to Wuhan from Beijing, Xu Jianguo, reports that "China has many years of disease control, there's absolutely no chance that this will spread widely because of Spring Festival travel," and there is "no evidence of human-to-human transmission."</p>	<p>AP</p>	<p>"China didn't warn public of likely pandemic for 6 key days," The Associated Press, April 15, 2020.</p>
<p>1/6/2020</p>	<p>Delayed admitting human to human transmission</p>	<p>During this period, teams of experts dispatched to Wuhan by Beijing said they failed to find clear signs of danger and human-to-human transmission. "China has many years of disease control, there's absolutely no chance that this will spread widely because of Spring Festival travel," the head of the first expert team, Xu Jianguo, told Takungpao, a Hong Kong paper, on Jan. 6. He added there was "no evidence of human-to-human transmission" and that the threat from the virus was low.</p>	<p>AP</p>	<p><a href="https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c2f9">https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c2f9</a></p>
<p>1/7/2020</p>	<p>Delayed admitting human to human transmission</p>	<p>A 69-year-old patient undergoes neurosurgery at Wuhan Union Hospital. Four days later, he will develop symptoms that will later be identified as those of the novel coronavirus. Following his admission, he will infect 14 medical workers, making him the virus' first identified "superspreader." Chinese authorities will not disclose infections among medical personnel until January 20.</p>	<p>Caixin</p>	<p>Gao Yu, Xiao Hui, Ma Danmeng, et al., "In Depth, How Wuhan Lost the Fight to Contain the Conravirus," Caixin Global, February 3, 2020, <a href="https://www.caixinglobal.com/2020-02-03/in-depth-how-wuhan-lost-the-fight-to-contain-the-coronavirus-101510749.html">https://www.caixinglobal.com/2020-02-03/in-depth-how-wuhan-lost-the-fight-to-contain-the-coronavirus-101510749.html</a>.</p>
<p>1/7/2020</p>	<p>Delayed admitting human to human transfer Promoting false sense of security Limited, misleading, delayed information</p>	<p>Among other reports of medical worker infections, a single "super-spreader" patient who underwent surgery at the Wuhan Union Hospital on January 7, 2020, was later found to have infected 14 medical staff.</p>	<p>Caixin Global</p>	<p>Gao Yu, Xiao Hui, Ma Danmeng, et al., "In Depth, How Wuhan Lost the Fight to Contain the Conravirus," Caixin Global, February 3, 2020, <a href="https://www.caixinglobal.com/2020-02-03/in-depth-how-wuhan-lost-the-fight-to-contain-the-coronavirus-101510749.html">https://www.caixinglobal.com/2020-02-03/in-depth-how-wuhan-lost-the-fight-to-contain-the-coronavirus-101510749.html</a>.</p>
<p>1/7/2020</p>	<p>Delayed admitting human to human transfer Limited, misleading, delayed reporting Promoting false sense of security</p>	<p>"Hong Kong continues to flag more sick travelers, though there's no sign any of the patients are linked to the Wuhan cluster, which is focused around a seafood market that also sold live animals such as chicken, bats, marmots, and other wild animals... Wuhan's health department hasn't announced any new cases since Jan 5, keeping the total at 59, and so far there are no announcements about a pathogen, thought to be viral. So far tests have ruled out influenza, avian influenza, adenovirus, severe acute respiratory syndrome (SARS), and Middle East respiratory syndrome coronavirus (MERS-CoV). The city is home to one of China's top labs, the Wuhan Institute of Virology. Some experts wonder if a novel coronavirus might be the cause of the outbreak... Hong Kong has identified 9 more sick travelers who recently visited Wuhan, and tests have already identified common respiratory viruses in four of them. According to the administrative region's Centre for Health Protection (CHP), 30 sick travelers have been evaluated since Dec 31, and 13 have been discharged."</p>	<p>UMN Center for Infectious Disease Research and Policy - News &amp; Perspective</p>	<p><a href="https://www.cidrap.umn.edu/news-perspective/2020/01/nations-step-screening-and-await-word-chinas-pneumonia-outbreak">https://www.cidrap.umn.edu/news-perspective/2020/01/nations-step-screening-and-await-word-chinas-pneumonia-outbreak</a></p>
<p>1/8/2020</p>	<p>Delayed admitting human to human transmission</p>	<p>The second expert team, dispatched on Jan. 8, similarly failed to unearth any clear signs of human-to-human transmission. Yet during their stay, more than half a dozen doctors and nurses had already fallen ill with the virus, a retrospective China CDC study published in the New England Journal of Medicine would later show. The teams looked for patients with severe pneumonia, missing those with milder symptoms. They also narrowed the search to those who had visited the seafood market — which was in retrospect a mistake, said Cowling, the Hong Kong epidemiologist, who flew to Beijing to review the cases in late January.</p>	<p>AP</p>	<p><a href="https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c2f9">https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c2f9</a></p>
<p>1/9/2020</p>	<p>Delayed admitting human to human transfer</p>	<p>"As of noon on Thursday local time, 10 patients -- five of whom are under seven years old -- had been admitted to hospital in Hong Kong with flu-like symptoms or pneumonia who had been to Wuhan during the past two weeks, Hong Kong's Hospital Authority said in a statement. "The patients concerned had not visited [fresh food] markets in Wuhan before the onset of symptoms," the statement said"</p>	<p>Radio Free Asia</p>	<p>Federal Information &amp; News Dispatch, Inc., "Experts Cast Doubts on Chinese Official Claims Around 'New' Wuhan Coronavirus" 2020-01-09</p>
<p>1/9/2020</p>	<p>Delayed admitting human to human transfer</p>	<p>"Chinese health authorities had said the virus -- which first struck in Wuhan among employees of a now-shuttered seafood market -- wasn't SARS, and no human-to-human transmission has yet been reported. But health experts have cast doubt on the claims about human-to-human transmission. Ho Pak-leung, head of the University of Hong Kong's Centre for Infection, has warned that it is highly possible that the illness is spreading from human to human, given the sheer number of cases that have mushroomed in a short period of time. Hong Kong authorities appear to be taking the possibility seriously, with health screening of all passengers coming into the city from mainland China already in place"</p>	<p>Radio Free Asia</p>	<p>Federal Information &amp; News Dispatch, Inc., "Experts Cast Doubts on Chinese Official Claims Around 'New' Wuhan Coronavirus" 2020-01-09</p>

<p>1/9/2020</p>	<p>Delayed admitting human to human transfer Promoting false sense of security</p>	<p>WHO releases a statement: "Preliminary identification of a novel virus in a short period of time is a notable achievement and demonstrates China's increased capacity to manage new outbreaks. . . . According to Chinese authorities, the virus in question can cause severe illness in some patients and does not transmit readily between people. . . . WHO does not recommend any specific measures for travellers. WHO advises against the application of any travel or trade restrictions on China based on the information currently available."</p>	<p>WHO</p>	<p>WHO Statement Regarding Cluster of Pneumonia Cases in Wuhan, China, January 9, 2020.</p>
<p>1/10/2020</p>	<p>Promoting false sense of security Delayed admitting human to human transmission</p>	<p>After leading a second expert team from Beijing to Wuhan, prominent PRC government expert Wang Guangfa tells state broadcaster CCTV that the Wuhan pneumonia was "under control" and mostly a "mild condition." His team reported no clear signs of human-to-human transmission, though more than half a dozen doctors already were ill. On March 15, Wang wrote on social media that he "always suspected it was human-to-human transmissible."</p>	<p>NYT, AP</p>	<p>"Li Yuan, "China silences critics over deadly virus outbreak," New York times, January 25, 2020. "China didn't warn public of likely pandemic for 6 key days," The Associated Press, April 15, 2020."</p>
<p>1/10/2020</p>	<p>Delayed admitting human to human transmission</p>	<p>WHO issues "Advice for International Travel and Trade in Relation to the Outbreak of Pneumonia Caused by a New Coronavirus in China." It recommends against entry screening for travelers, stating, "It is generally considered that entry screening offers little benefit, while requiring considerable resources." Reflecting information from China, it states, "From the currently available information, preliminary investigation suggests that there is no significant human-to-human transmission, and no infections among health care workers have occurred."</p>	<p>WHO</p>	<p>World Health Organization, "Advice for International Travel and Trade in Relation to the Outbreak of Pneumonia Caused by a New Coronavirus in China," January 10, 2020, <a href="https://www.who.int/news-room/articles-detail/whoadvice-for-international-travel-and-trade-in-relation-to-the-outbreak-of-pneumonia-caused-by-a-new-coronavirus-in-china/">https://www.who.int/news-room/articles-detail/whoadvice-for-international-travel-and-trade-in-relation-to-the-outbreak-of-pneumonia-caused-by-a-new-coronavirus-in-china/</a>.</p>
<p>1/11/2020</p>	<p>Delayed admitting human to human transfer Promoting false sense of security</p>	<p>Hong Kong's secretary for food and health announces, "According to the mainland authorities, there is no evidence of human to human transmission and there is also no healthcare professional being infected. . . . Also of note is after the closure of the concerned market in Wuhan, there is no new case since January 3."</p>	<p>HK press archives</p>	<p>David Webb tweet citing Hong Kong press archives, March 20, 2020 (<a href="https://twitter.com/webbhk/status/1240897837501542401">https://twitter.com/webbhk/status/1240897837501542401</a>).</p>
<p>1/11/2020</p>	<p>Limited, misleading, delayed reporting Delayed admitting human to human transmission</p>	<p>In its first statement since January 5, the Wuhan Municipal Health Commission states that it has identified no new infections since January 3 and that cases preliminarily attributed to novel coronavirus pneumonia stand at 41—18 fewer than the 59 cases of pneumonia of unknown cause the commission reported on January 5. The commission announces the first death of a coronavirus patient, a 61-year-old man who was a long-time customer of the Huanan Seafood Wholesale Market. The commission states again that it has not found evidence of person-to-person transmission or infections among health care workers</p>	<p>Wuhan Health Commission</p>	<p>"武汉市卫生健康委关于不明原因的病毒性肺炎疫情通报" ("Wuhan Municipal Health Commission Bulletin Regarding Viral Pneumonia of Unknown Cause"), January 11, 2020, <a href="http://wjw.wuhan.gov.cn/front/web/showDetail/2020011109035">http://wjw.wuhan.gov.cn/front/web/showDetail/2020011109035</a>.</p>
<p>1/12/2020</p>	<p>Delayed admitting human to human transfer</p>	<p>Dr. Li Wenliang is hospitalized with symptoms of the novel coronavirus. In a January 31 Weibo micro-blog post, he recalls thinking at this time, "How can the bulletins still be saying there is no human-to-human transmission, and no medical worker infections?" Chinese authorities do not disclose medical worker infections until January 20.</p>	<p>Weibo</p>	<p>Li Wenliang Weibo post, January 31, 2020, <a href="https://www.weibo.com/1139098205/1s0XboARR?from=page_1005051139098205_profile&amp;wvr=6&amp;mod=weibotime&amp;type=comment#_rnd158768642806">https://www.weibo.com/1139098205/1s0XboARR?from=page_1005051139098205_profile&amp;wvr=6&amp;mod=weibotime&amp;type=comment#_rnd158768642806</a>.</p>
<p>1/12/2020</p>	<p>Delayed admitting human to human transfer Promoting false sense of security</p>	<p>WHO issues a statement noting, "China shared the genetic sequence of the novel coronavirus on 12 January, which will be of great importance for other countries to use in developing specific diagnostic tests." WHO also states, "The evidence is highly suggestive that the outbreak is associated with exposures in one seafood market in Wuhan. The market was closed on 1 January 2020. At this stage, there is no infection among healthcare workers, and no clear evidence of human to human transmission"</p>	<p>WHO</p>	<p>World Health Organization, "Novel Coronavirus—China," January 12, 2020, <a href="https://www.who.int/csr/don/12january-2020-novel-coronavirus-china/en/">https://www.who.int/csr/don/12january-2020-novel-coronavirus-china/en/</a>.</p>
<p>1/13/2020</p>	<p>Delayed admitting human to human transfer</p>	<p>Two experts from Taiwan's Communicable Disease Control Medical Network and its Centers for Disease Control arrive in Wuhan for a two-day visit to investigate the outbreak. With colleagues from the Chinese Special Administrative Regions of Hong Kong and Macao, they visit Wuhan's Jinyintan Hospital, where an official from China's National Health Commission tells them, "limited human-to-human transmission cannot be excluded." One of the Taiwan experts recalls thinking, "that means human-to-human transmission absolutely."</p>	<p>Xinhua, Telegraph, Focus Taiwan, Taiwan CDC</p>	<p>Nicola Smith, "They Wanted to Take Us Sightseeing. I Stayed in the Hotel," Says First Foreign Official to Enter Wuhan," The Telegraph (London), May 6, 2020, <a href="https://www.telegraph.co.uk/global-health/science-and-disease/wanted-take-us-sight-seeing-stayed-hotel-says-first-foreign/">https://www.telegraph.co.uk/global-health/science-and-disease/wanted-take-us-sight-seeing-stayed-hotel-says-first-foreign/</a>. Chen Wei-ting and Ko Lin, "Taiwanese Experts Arrive in Wuhan to Learn More About Strange Virus," Focus Taiwan, January 13, 2020, <a href="https://focustaiwan.tw/society/202001130015">https://focustaiwan.tw/society/202001130015</a>. Taiwan Centers for Disease Control, "Two Experts from Taiwan Visit Wuhan to Understand and Obtain Information on Severe Special Infectious Pneumonia Outbreak; Taiwan CDC Raises Travel Notice Level for Wuhan to Level 2," January 20, 2020, <a href="https://www.cdc.gov.tw/En/Bulletin/Detail/jFGUvrlUkuHmzZeyAihHQ?typeid=158">https://www.cdc.gov.tw/En/Bulletin/Detail/jFGUvrlUkuHmzZeyAihHQ?typeid=158</a>. "国台办：大陆高度重视维护两岸同胞健康福祉" ("Taiwan Affairs Office: The Mainland Puts Great Emphasis on Maintaining the Health and Well Being of Compatriots on Either Side of the Strait"), Xinhua, January 15, 2020, <a href="http://www.xinhuanet.com/tw/2020-01/15/c_1125465706.htm">http://www.xinhuanet.com/tw/2020-01/15/c_1125465706.htm</a>.</p>

1/14/2020	Delayed admitting human to human transfer Exporting the virus Promoting false sense of security	In a confidential teleconference with provincial health officials, PRC National Health Commission chief Ma Xiaowei reportedly warns that the novel virus is "the most severe challenge since SARS in 2003, and is likely to develop into a major public health event," adding that "clustered cases suggest that human-to-human transmission is possible." Citing the case reported in Thailand the day prior, Ma warns of spread overseas and during China's coming Lunar New Year festivities. It would be another six days before any of these official concerns are made public.	AP	"China didn't warn public of likely pandemic for 6 key days," The Associated Press, April 15, 2020.
1/14/2020	Delayed admitting human to human transmission	Under a section titled "sober understanding of the situation," the memo said that "clustered cases suggest that human-to-human transmission is possible." It singled out the case in Thailand, saying that the situation had "changed significantly" because of the possible spread of the virus abroad.	AP	<a href="https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c2f9">https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c2f9</a>
1/14/2020	Delayed admitting human to human transfer Promoting false sense of security	The next day, in a confidential teleconference, China's top health official ordered the country to prepare for a pandemic, calling the outbreak the "most severe challenge since SARS in 2003", as the AP previously reported. Chinese CDC staff across the country began screening, isolating, and testing for cases, turning up hundreds across the country. Yet even as the Chinese CDC internally declared a level one emergency, the highest level possible, Chinese officials still said the chance of sustained transmission between humans was low. WHO went back and forth. Van Kerkhove said in a press briefing that "it is certainly possible there is limited human-to-human transmission." But hours later, WHO seemed to backtrack, and tweeted that "preliminary investigations conducted by the Chinese authorities have found no clear evidence of human-to-human transmission" – a statement that later became fodder for critics.	AP	<a href="https://apnews.com/article/3c061794970661042b18d5aeaaed9fae">https://apnews.com/article/3c061794970661042b18d5aeaaed9fae</a>
1/14/2020	Delayed admitting human to human transfer Promoting false sense of security	The chief of the WHO emerging diseases unit reports that "it is possible that there is limited human-to-human transmission, potentially among families, but it is very clear right now that we have no sustained human-to-human transmission."	Reuters	Stephanie Nebehay, "WHO says new China coronavirus could spread, warns hospitals worldwide." Reuters, January 14, 2020.
1/14/2020	Delayed admitting human to human transfer	When visitors from Hong Kong, Macao, and Taiwan visited Wuhan January 13-14, 2020, an official from China's National Health Commission told them, "limited human-to-human transmission cannot be excluded."	Telegraph	Nicola Smith, "They Wanted to Take Us Sightseeing. I Stayed in the Hotel," Says First Foreign Official to Enter Wuhan," The Telegraph (London), May 6, 2020, <a href="https://www.telegraph.co.uk/global-health/science-and-disease/wanted-take-us-sight-seeing-stayed-hotel-says-first-foreign/">https://www.telegraph.co.uk/global-health/science-and-disease/wanted-take-us-sight-seeing-stayed-hotel-says-first-foreign/</a> .
1/14/2020	Delayed admitting human to human transfer Promoting false sense of security	WHO announces Chinese authorities have seen "no clear evidence of human-to-human transmission of the novel coronavirus."	Twitter WHO Account	<a href="https://twitter.com/WHO/status/1217043229427761152?ref_src=twsrc^tfw twcamp^tweetembed&amp;ref_url=https://www.foxnews.com/world/world-health-organization-january-tweet-china-human-transmission-coronavirus">https://twitter.com/WHO/status/1217043229427761152?ref_src=twsrc^tfw twcamp^tweetembed&amp;ref_url=https://www.foxnews.com/world/world-health-organization-january-tweet-china-human-transmission-coronavirus</a>   <a href="https://archive.vn/l9c30">https://archive.vn/l9c30</a>
1/14/2020	Delayed admitting human to human transfer Promoting false sense of security	Official WHO twitter page announces: "Preliminary investigations conducted by the Chinese authorities have found no clear evidence of human-to-human transmission of the novel #coronavirus (2019-nCoV) identified in #Wuhan, #China." This is more than five weeks after the first evidence of human-to-human transmission in Wuhan.	WHO	WHO tweet, January 14, 2020, 6:18am ET ( <a href="https://twitter.com/WHO/status/1217043229427761152">https://twitter.com/WHO/status/1217043229427761152</a> ).
1/14/2020	Delayed admitting human to human transfer Promoting false sense of security	WHO headquarters tweets, "Preliminary investigations conducted by the Chinese authorities have found no clear evidence of human-to-human transmission of the novel #coronavirus (2019-nCoV) identified in #Wuhan, #China."	WHO	World Health Organization (@WHO) tweet, January 14, 2020, 6:18 a.m., <a href="https://twitter.com/WHO/status/1217043229427761152">https://twitter.com/WHO/status/1217043229427761152</a> .
1/15/2020	Delayed admitting human to human transmission	"I always suspected it was human-to-human transmissible," said Wang Guangfa, the leader of the second expert team, in a Mar. 15 post on Weibo, the Chinese social media platform. He fell ill with the virus soon after returning to Beijing on Jan. 16.	AP	<a href="https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c2f9">https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c2f9</a>
1/15/2020	Delayed admitting human to human transfer	What is clear is that by the second week of December, several Hua'nan workers were falling sick with similar symptoms, including fever, coughing, fatigue and aching limbs. Even at that initial stage, there were indications that it was spreading to people with no market exposure—a signal of human-to-human transmission. Wuhan's government announced last month that the first confirmed case was a person surnamed Chen who fell sick on Dec. 8 but had fully recovered and been discharged from the hospital. The person denied going to the Hua'nan market, it said.	Wall Street Journal	<a href="https://www.wsj.com/articles/how-it-all-started-chinas-early-coronavirus-missteps-11583508932">https://www.wsj.com/articles/how-it-all-started-chinas-early-coronavirus-missteps-11583508932</a>
1/15/2020	Delayed admitting human to human transfer Promoting false sense of security	Li Qun, head of the Chinese CDC's emergency center, plays down the human-to-human transmission threat on state television: "After careful screening and prudent judgment, we have reached the latest understanding that the risk of human-to-human transmission is low."	WSJ	Jeremy Page et al., "How It All Started: China's Early Coronavirus Missteps," Wall Street Journal, March 6, 2020.

<p>1/16/2020</p>	<p>Delayed admitting human to human transfer</p>	<p>Wuhan's Municipal Health Commission issued no updates while a five-day long political meeting took place in the city January 6-10. For the duration of a second major political meeting in the city, January 12-17, the Wuhan Municipal Health Commission issued daily updates, but reported no new infections. The commission's report on January 11, issued on the day between the two political meetings, gave the impression the epidemic was shrinking. On January 5, the commission had reported a cumulative 59 cases in the city.<sup>49</sup> On January 11, it revised the cumulative number of cases down to 41, a number that remained constant through January 16.<sup>50</sup> The absence of updates from January 6 to 10, and the official statements that no new cases had been detected between January 3 and January 16, may have given Wuhan residents a false sense of security that the outbreak was under control.</p>	<p>Wuhan Health Commission</p>	<p>Wuhan Municipal Health Commission, "武汉市卫生健康委委员会关于不明原因的病毒性肺炎情况通报" ("Wuhan Municipal Health Commission Bulletin on the Situation Regarding Viral Pneumonia of Unknown Cause"), January 5, 2020, <a href="http://wjw.wuhan.gov.cn/front/web/showDetail/2020010509020.50">http://wjw.wuhan.gov.cn/front/web/showDetail/2020010509020.50</a>" 武汉市卫生健康委关于不明原因的病毒性肺炎情况通报" ("Wuhan Municipal Health Commission Bulletin Regarding Viral Pneumonia of Unknown Cause"), January 11, 2020, <a href="http://wjw.wuhan.gov.cn/front/web/showDetail/2020011109035">http://wjw.wuhan.gov.cn/front/web/showDetail/2020011109035</a></p>
<p>1/18/2020</p>	<p>Delayed admitting human to human transfer</p>	<p>To celebrate the Lunar New Year, more than 40,000 households in Wuhan's Bubuting neighborhood hold their 20th annual potluck banquet. Observers later blame the banquet for contributing to the spread of the virus in Wuhan. In a January 22 interview with CCTV, Wuhan Mayor Zhou Xianwang says the decision to go forward with the banquet was "based on the judgment that in this epidemic, transmission between people was limited</p>	<p>China News, FT, CCTV</p>	<p>"武汉社区办万家宴 4万户家庭共叙邻里情" ("Wuhan Communist Holds Ten-Thousand Families Banquet—1,000 Households Share the Neighborly Spirit"), China News Service (<a href="http://www.chinanews.com">www.chinanews.com</a>), January 19, 2020, <a href="http://www.chinanews.com/sh/2020/01-19/9064003.shtml">http://www.chinanews.com/sh/2020/01-19/9064003.shtml</a>. James Kyngé, Sun Yu, and Tom Hancock, "Coronavirus: The Cost of China's Public Health Cover-Up," Financial Times, February 6, 2020, <a href="https://www.ft.com/content/fa83463a-4737-11ea-aeb3-955839e06441">https://www.ft.com/content/fa83463a-4737-11ea-aeb3-955839e06441</a>. "武汉市市长接受总台央视记者专访: 疫情防控的关键环节在: 流动人口" ("Wuhan Mayor Accepts CCTV Headquarters Journalist's Exclusive Interview: The Weak Link in Epidemic Control Is the Migrant Population"), CCTV, January 22, 2020, <a href="http://m.news.cctv.com/2020/01/22/ARTipQRcFCgOa3B6daHrwYBIZ00122.shtml">http://m.news.cctv.com/2020/01/22/ARTipQRcFCgOa3B6daHrwYBIZ00122.shtml</a>.</p>
<p>1/18/2020</p>	<p>Catastrophic missteps Promoting false sense of security Delayed admitting human to human transmission</p>	<p>Wuhan hosts mass "potluck" banquet of 40,000 families in attempt to break world record.</p>	<p>NYT</p>	<p>Li Yuan, "China silences critics over deadly virus outbreak," New York Times, January 25, 2020.</p>
<p>1/18/2020</p>	<p>Limited, misleading, delayed reporting Promoting false sense of security Delayed admitting human to human transmission</p>	<p>Wuhan Municipal Health Commission announces new cases of the virus for the first time since before January 5. The announcement comes after the close of the five-day meeting of Wuhan's Communist Party-controlled People's Congress, during which officials made daily claims of no new cases, no human-human transmission, and no infected medical workers.</p>	<p>WSJ, NYT</p>	<p>"Jeremy Page et al., "How It All Started: China's Early Coronavirus Missteps," Wall Street Journal, March 6, 2020. Amy Qin, "China's Leader, Under Fire, Says He Led Coronavirus Fight Early On," New York Times, Feb. 15, 2020."</p>
<p>1/20/2020</p>	<p>Delayed admitting human to human transmission</p>	<p>On Jan. 20, President Xi issued his first public comments on the virus, saying the outbreak "must be taken seriously" and every possible measure pursued. A leading Chinese epidemiologist, Zhong Nanshan, announced for the first time that the virus was transmissible from person to person on national television. If the public had been warned a week earlier to take actions such as social distancing, mask wearing and travel restrictions, cases could have been cut by up to two-thirds, one paper later found. An earlier warning could have saved lives, said Zhang, the doctor in Los Angeles.</p>	<p>AP</p>	<p><a href="https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c2f9">https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c2f9</a></p>
<p>1/20/2020</p>	<p>Delayed admitting human to human transfer</p>	<p>Zhong Nanshan, a top Chinese doctor who is helping to coordinate the coronavirus response, announces the virus can be passed between people</p>	<p>Axios</p>	<p><a href="https://archive.vn/Bpnyq">https://archive.vn/Bpnyq</a>   <a href="https://www.axios.com/timeline-the-early-days-of-chinas-coronavirus-outbreak-and-cover-up-ee65211a-afb6-4641-97b8-353718a5faab.html">https://www.axios.com/timeline-the-early-days-of-chinas-coronavirus-outbreak-and-cover-up-ee65211a-afb6-4641-97b8-353718a5faab.html</a></p>
<p>1/20/2020</p>	<p>Delayed admitting human to human transfer</p>	<p>"Zhong Nanshan, director of the China State Key Laboratory of Respiratory Disease and a world expert on the Sars virus, said after a visit to Wuhan that the source of the new type coronavirus was probably from wildlife, such as bamboo rats or badgers. "The outbreak concentrated in two districts in Wuhan, where there are big seafood markets," Zhong said in an interview with state broadcaster CCTV on Monday. "While they are called seafood markets, many vendors are selling game. According to preliminary epidemiological analysis, the virus is probably transmitted from wildlife [at the markets] to humans." "</p>	<p>OSC</p>	<p>"Why Wild Animals Are A Key Ingredient In China's Coronavirus Outbreak", Hong Kong South China Morning Post Online in English 1345 GMT 22 Jan 20</p>

<p>1/20/2020</p>	<p>Delayed admitting human to human transfer</p>	<p>A WHO expert echoed that position in a January 14, 2020, press conference, stating that China had experienced "limited" human-to-human transmission of the novel coronavirus, mainly in families. Chinese authorities first publicly confirmed person-to-person transmission on January 20.</p>	<p>Reuters, CCTV</p>	<p>Stephanie Nebehay, "WHO Says New China Virus Could Spread, It's Warning All Hospitals," Reuters, January 14, 2020, <a href="https://www.reuters.com/article/china-health-pneumonia-who/who-says-new-china-virus-could-spread-its-warning-all-hospitals-idUSL8N29F48F46">https://www.reuters.com/article/china-health-pneumonia-who/who-says-new-china-virus-could-spread-its-warning-all-hospitals-idUSL8N29F48F46</a>"China Confirms Human-to-Human Transmission of 2019-nCoV, Infection of Medical Staff," Xinhua, January 20, 2020, <a href="http://www.xinhuanet.com/english/2020-01/20/c_138721785.htm">http://www.xinhuanet.com/english/2020-01/20/c_138721785.htm</a>. CCTV, "实录   国家卫健委高级别专家组就新型冠状病毒肺炎答记者问" (Record: The National Health Commission High-Level Expert Group Answers Journalist's Questions About Novel Coronavirus Pneumonia"), CCTV, January 20, 2020, <a href="http://m.news.cctv.com/2020/01/20/ARTIF4F17LEu8TRqIsndE93B200120.shtml">http://m.news.cctv.com/2020/01/20/ARTIF4F17LEu8TRqIsndE93B200120.shtml</a></p>
<p>1/20/2020</p>	<p>Delayed admitting human to human transfer</p>	<p>Wuhan medical personnel began falling ill with symptoms similar to their patients' in December, but Chinese authorities did not acknowledge medical worker infections until January 20.</p>	<p>Weibo</p>	<p>Li Wenliang Weibo post, January 31, 2020, <a href="https://www.weibo.com/1139098205/1s0XboARR?from=page_1005051139098205_profile&amp;wvr=6&amp;mod=weibotime&amp;type=comment#_rnd1587686422806">https://www.weibo.com/1139098205/1s0XboARR?from=page_1005051139098205_profile&amp;wvr=6&amp;mod=weibotime&amp;type=comment#_rnd1587686422806</a>. Andrew Green,</p>
<p>1/20/2020</p>	<p>Delayed admitting human to human transfer</p>	<p>5:00 p.m.-7:00 p.m. CST: In a group interview organized by the National Health Commission, the head of the Chinese National Health Commission's High-Level Expert Group, Dr. Zhong Nanshan, publicly confirms for the first time that the novel coronavirus is being transmitted from person to person and that medical personnel have been infected</p>	<p>Xinhua, CCTV</p>	<p>, <a href="http://www.xinhuanet.com/english/2020-01/20/c_138721785.htm">http://www.xinhuanet.com/english/2020-01/20/c_138721785.htm</a>; CCTV, "实录   国家卫健委高级别专家组就新型冠状病毒肺炎答记者问" (Record: The National Health Commission High-Level Expert Group Answers Journalist's Questions About Novel Coronavirus Pneumonia"), CCTV, January 20, 2020, <a href="http://m.news.cctv.com/2020/01/20/ARTIF4F17LEu8TRqIsndE93B200120.shtml">http://m.news.cctv.com/2020/01/20/ARTIF4F17LEu8TRqIsndE93B200120.shtml</a>.</p>
<p>1/21/2020</p>	<p>Delayed admitting human to human transfer</p>	<p>WHO delegation concludes a two-day field visit to Wuhan, notes that "Data collected through detailed epidemiological investigation and through the deployment of the new test kit nationally suggests that human-to-human transmission is taking place in Wuhan."</p>	<p>WHO</p>	<p>"Mission summary: WHO Field Visit to Wuhan, China 20-21 January 2020," WHO, January 22, 2020.</p>
<p>1/23/2020</p>	<p>Delayed admitting human to human transfer</p>	<p>A pair of new studies confirm that 2019-nCoV can enter human cells through the ACE2 receptor, a finding that will help scientists explore the transmissibility of the virus. Both were published in the preprint server bioRxiv. The authors of the first study are Michael Letko, PhD, and Vincent Munster, PhD, both from NIAID labs. The other study is from a team based at the Wuhan Institute of Virology in China.</p>	<p>Center for Infectious Disease Research &amp; Policy</p>	<p><a href="https://www.cidrap.umn.edu/news-perspective/2020/01/who-holds-ncov-emergency-declaration-cases-soar">https://www.cidrap.umn.edu/news-perspective/2020/01/who-holds-ncov-emergency-declaration-cases-soar</a></p>
<p>1/24/2020</p>	<p>Delayed admitting human to human transfer</p>	<p>The Lancet publishes a study noting that the first novel coronavirus case in Wuhan had no connection to the Huanan seafood market.</p>	<p>Lancet</p>	<p>Chaolin Huang et al., "Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China," The Lancet, Feb. 15, 2020.</p>
<p>1/25/2020</p>	<p>Delayed admitting human to human transmission limited, misleading, delayed reporting</p>	<p>Wuhan's then-mayor, Zhou Xianwang, blamed national regulations for the secrecy. "As a local government official, I could disclose information only after being authorized," Zhou told state media in late January. "A lot of people didn't understand this." As a result, top Chinese officials appear to have been left in the dark.</p>	<p>AP</p>	<p><a href="https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c2f9">https://apnews.com/article/68a9e1b91de4ffc166acd6012d82c2f9</a></p>
<p>1/26/2020</p>	<p>Delayed admitting human to human transfer</p>	<p>Chinese state media reports, Experts of the Chinese Center for Disease Control and Prevention (CDC) have successfully isolated the novel coronavirus (2019-nCoV) in the environmental samples of a seafood market in Wuhan, indicating that the virus stems from wild animals on sale at the market. Thirty-three of the 585 environmental samples collected from the Wuhan's Huanan Seafood Wholesale Market were found to contain the nucleic acid of the novel coronavirus, according to the National Institute for Viral Disease Control and Prevention under the China CDC. Earlier reports quoted experts as saying that the geographical distribution of the cases indicated a close relationship between the epidemic and the seafood market. Experts of the institute took the samples on Jan. 1 and Jan. 12 on instruction of the Chinese CDC. Thirty-one of the 33 positive samples were collected from the western zone of the market, where booths of wildlife trading concentrated. The result suggests that the novel coronavirus outbreak is highly relevant to the trading of the wild animals, experts said. The successful isolation of the novel coronavirus further substantiates that the Huanan Seafood Wholesale Market contains a large quantity of the novel coronavirus (2019-nCoV), according to the experts.</p>	<p>Xinhua Net</p>	<p><a href="http://www.xinhuanet.com/english/2020-01/27/c_138735677.htm">http://www.xinhuanet.com/english/2020-01/27/c_138735677.htm</a>   <a href="https://archive.is/Z2cNI">https://archive.is/Z2cNI</a></p>
<p>1/27/2020</p>	<p>Delayed admitting human to human transfer</p>	<p>Wuhan doctors suspected person-to-person transmission of the mysterious new pneumonia as early as late December. Dr. Zhang Jixian of the Hubei Provincial Hospital of Integrated Chinese and Western Medicine later told China's state news agency that she reported a family cluster of cases to her superiors on December 27, 2019, because, "It is unlikely that all three members of a family caught the same disease at the same time unless it is an infectious disease.</p>	<p>Xinhua</p>	<p>"Xinhua Headlines: Chinese Doctor Recalls First Encounter with Mysterious Virus," April 16, 2020, <a href="http://www.xinhuanet.com/english/2020-04/16/c_138982435.htm">http://www.xinhuanet.com/english/2020-04/16/c_138982435.htm</a>.</p>

2/2/2020	Delayed admitting human to human transfer	The headquarters for the control and treatment of the epidemic caused by the novel coronavirus in Hubei announced that it would conduct centralized isolation of all suspected infection cases.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
2/20/2020	Exporting the virus Delayed admitting human to human transfer	At a meeting with ASEAN foreign ministers, PRC Foreign Minister Wang Yi pressures countries to ease travel restrictions, saying: "In light of the conditions on the ground, countries need to resume people-to-people ties and cooperation."	SCMP	Dewey Sim, "Coronavirus: China's top diplomat Wang Yi urges world to resume links with Beijing, says it's taken 'forceful action,'" South China Morning Post, Feb. 20, 2020.
2/27/2020	Delayed admitting human to human transfer	Last week, Zhong Nanshan, one of China's most highly regarded epidemiology experts and the leader of the National Health Commission's task force on the epidemic, said officials had identified a coronavirus by Dec. 31 and took too long to publicly confirm human-to-human transmission. If action had been taken earlier, in December or even early January, "the number of sick would have been greatly reduced," he said.	Wall Street Journal	<a href="https://www.wsj.com/articles/how-it-all-started-chinas-early-coronavirus-missteps-11583508932">https://www.wsj.com/articles/how-it-all-started-chinas-early-coronavirus-missteps-11583508932</a>
4/3/2020	Censorship of health information Delayed admitting human to human transfer Limited, misleading, delayed reporting	While lifting lockdown restrictions in Wuhan, officials limit funerals of those who died from the coronavirus, suppress online discussions of fatalities, scrub images of funeral homes from social media, assign minders to families in mourning, and face questions from families such as why it took the government weeks to inform the public that the virus could spread among humans.	NYT	Amy Qin and Cao Li, "China Pushes for Quiet Burials as Coronavirus Death Toll is Questioned," New York Times, April 3, 2020.

Timeframe	Tags	Excerpts	Source(s)	Serial, URL, Ref
3/5/2019	Promoting false sense of security WHO JEE measures ignored	Gao Fu, director of the PRC's CDC, says in a speech: "Viruses like SARS could emerge anytime, but there'll never be another SARS incident. That's thanks to how well our national contagious disease surveillance system works."	NYT	Steven Lee Myers, "China Created a Fail-Safe System to Track Contagions. It Failed," <i>New York Times</i> , March 29, 2020.
12/10/2019	Promoting false sense of security	Wei Guixian, one of the earliest known coronavirus patients, starts feeling ill.	Wall Street Journal	<a href="https://archive.vn/Ha7Zl">https://archive.vn/Ha7Zl</a>   <a href="https://www.wsj.com/article/cn/how-it-all-started-chinas-early-coronavirus-missteps-11583508932">https://www.wsj.com/article/cn/how-it-all-started-chinas-early-coronavirus-missteps-11583508932</a>
12/16/2019	Promoting false sense of security	Patient admitted to Wuhan Central Hospital with infection in both lungs but resistant to anti-flu drugs. Staff later learned he worked at a wildlife market connected to the outbreak.	Wall Street Journal	<a href="https://archive.vn/Ha7Zl">https://archive.vn/Ha7Zl</a>   <a href="https://www.wsj.com/articles/how-it-all-started-chinas-early-coronavirus-missteps-11583508932">https://www.wsj.com/articles/how-it-all-started-chinas-early-coronavirus-missteps-11583508932</a>
12/21/2019	Promoting false sense of security	Four lower respiratory tract samples, including bronchoalveolar lavage fluid, were collected from patients with pneumonia of unknown cause who were identified in Wuhan on December 21, 2019, or later and who had been present at the Huanan Seafood Market close to the time of their clinical presentation.	New Eng and Journal of Medicine	<a href="https://www.nejm.org/doi/10.1056/NEJMoa2001017">https://www.nejm.org/doi/10.1056/NEJMoa2001017</a>
12/31/2019	Promoting false sense of security	Chinese officials alert the World Health Organization (WHO) China Country Office of several cases of pneumonia of unknown cause detected in Wuhan, claiming erroneously that "the disease is preventable and controllable."	NYT	"Gao Yu et al., "In Depth: How Early Signs of a SARS-Like Virus Were Spotted, Spread, and Throttled," <i>Cabin Global</i> , February 29, 2020. Jin Wu et al., "How the Virus Got Out," <i>The New York Times</i> , March 22, 2020."
1/5/2020	Delayed admitting human to human transfer Promoting false sense of security	WHO releases statement characterizing PRC's initial Dec. 31 notice about "pneumonia of unknown etiology." WHO states: "Based on the preliminary information from the Chinese investigation team, no evidence of significant human-to-human transmission and no health care worker infections have been reported." This continues to ignore Taiwan's warnings of Dec. 31.	WHO	"Pneumonia of unknown cause - China," WHO, January 5, 2020 ( <a href="https://www.who.int/csr/don/05-january-2020-pneumonia-of-unknown-cause-china/en/">https://www.who.int/csr/don/05-january-2020-pneumonia-of-unknown-cause-china/en/</a> ).
1/5/2020	Delayed admitting human to human transmission Promoting false sense of security	WHO issues its first formal public statement on the outbreak, a "disease outbreak news" item. It states, "On December 31, 2019, the WHO China Country Office was informed of cases of pneumonia of unknown etiology (unknown cause) detected in Wuhan City, Hubei Province of China." The statement adds, "Based on the preliminary information from the Chinese investigation team, no evidence of significant human-to-human transmission and no health care worker infections have been reported." WHO says it "advises against the application of any travel or trade restrictions on China based on the current information available on this event."	WHO	World Health Organization, "Pneumonia of Unknown Cause—China," <i>Disease Outbreak News</i> , January 5, 2020, <a href="https://www.who.int/csr/don/05-january-2020-pneumonia-of-unknown-cause-china/en/">https://www.who.int/csr/don/05-january-2020-pneumonia-of-unknown-cause-china/en/</a> .
1/7/2020	Delayed admitting human to human transfer Promoting false sense of security Limited, misleading, delayed information	Among other reports of medical worker infections, a single "super-spreader" patient who underwent surgery at the Wuhan Union Hospital on January 7, 2020, was later found to have infected 14 medical staff.	Caixin Global	Gao Yu, Xiao Hui, Ma Danmeng, et al., "In Depth: How Wuhan Lost the Fight to Contain the Coronavirus," <i>Caixin Global</i> , February 3, 2020, <a href="https://www.caixinglobal.com/2020-02-03/in-depth-how-wuhan-lost-the-fight-to-contain-the-coronavirus-101510749.html">https://www.caixinglobal.com/2020-02-03/in-depth-how-wuhan-lost-the-fight-to-contain-the-coronavirus-101510749.html</a> .
1/7/2020	Delayed admitting human to human transfer Limited, misleading, delayed reporting Promoting false sense of security	"Hong Kong continues to flag more sick travelers, though there's no sign any of the patients are linked to the Wuhan cluster, which is focused around a seafood market that also sold live animals such as chicken, bats, marmots, and other wild animals... Wuhan's health department hasn't announced any new cases since Jan 5, keeping the total at 59, and so far there are no announcements about a pathogen, thought to be viral. So far tests have ruled out influenza, avian influenza, adenovirus, severe acute respiratory syndrome (SARS), and Middle East respiratory syndrome coronavirus (MERS-CoV). The city is home to one of China's top labs, the Wuhan Institute of Virology. Some experts wonder if a novel coronavirus might be the cause of the outbreak... Hong Kong has identified 9 more sick travelers who recently visited Wuhan, and tests have already identified common respiratory viruses in four of them. According to the administrative region's Centre for Health Protection (CHP), 30 sick travelers have been evaluated since Dec 31, and 13 have been discharged."	UMN Center for Infectious Disease Research and Policy - News & Perspective	<a href="https://www.cidrap.umn.edu/news-perspective/2020/01/nations-step-screening-and-await-word-chinas-pneumonia-outbreak">https://www.cidrap.umn.edu/news-perspective/2020/01/nations-step-screening-and-await-word-chinas-pneumonia-outbreak</a>
1/9/2020	Limited, misleading, delayed reporting Promoting false sense of security	WHO representative Galea said "people with symptoms of pneumonia and reported travel history to Wuhan have been identified at international airports," but no travel advisories have been issued for China as hundreds of millions get ready to travel across the country to spend Lunar New Year with their families on Jan. 25. People living in Wuhan have said there's scant information in the media about the outbreak, in a country where media outlets are strictly controlled by the ruling Chinese Communist Party. An employee who answered the phone at Wuhan's Jinyintan Hospital declined to comment when contacted by RFA on Thursday. "We don't give interviews here," the employee said. "The only official channel for this matter is the Wuhan municipal health commission, so... you can contact them directly to find out more." However, calls to the Wuhan municipal health commission rang unanswered during office hours on Thursday.	Radio Free Asia	Federal Information & News Dispatch, Inc., "Experts Cast Doubts on Chinese Official Claims Around 'New' Wuhan Coronavirus" 2020-01-09
1/9/2020	Delayed admitting human to human transfer Promoting false sense of security	WHO releases a statement: "Preliminary identification of a novel virus in a short period of time is a notable achievement and demonstrates China's increased capacity to manage new outbreaks. . . . According to Chinese authorities, the virus in question can cause severe illness in some patients and does not transmit readily between people. . . . WHO does not recommend any specific measures for travellers. WHO advises against the application of any travel or trade restrictions on China based on the information currently available."	WHO	WHO Statement Regarding Cluster of Pneumonia Cases in Wuhan, China, January 9, 2020.
1/9/2020	Promoting false sense of security Limited, misleading, delayed information	WHO issues a statement about the preliminary determination of a novel coronavirus, observing, "Preliminary identification of a novel virus in a short period of time is a notable achievement." It adds, "WHO does not recommend any specific measures for travellers. WHO advises against the application of any travel or trade restrictions on China based on the information currently available."	WHO	World Health Organization, "WHO Statement Regarding Cluster of Pneumonia Cases in Wuhan, China," January 9, 2020, <a href="https://www.who.int/china/news/detail/09-01-2020-who-statement-regarding-cluster-of-pneumonia-cases-in-wuhan-china">https://www.who.int/china/news/detail/09-01-2020-who-statement-regarding-cluster-of-pneumonia-cases-in-wuhan-china</a> .
1/10/2020	Promoting false sense of security Delayed admitting human to human transmission	After leading a second expert team from Beijing to Wuhan, prominent PRC government expert Wang Guangfa tells state broadcaster CCTV that the Wuhan pneumonia was "under control" and mostly a "mild condition." His team reported no clear signs of human-to-human transmission, though more than half a dozen doctors already were ill. On March 15, Wang wrote on social media that he "always suspected it was human-to-human transmissible."	NYT, AP	"Li Yuan, "China silences critics over deadly virus outbreak," <i>New York Times</i> , January 25, 2020. "China didn't warn public of likely pandemic for 6 key days," <i>The Associated Press</i> , April 15, 2020."
1/11/2020	Delayed admitting human to human transfer Promoting false sense of security	Hong Kong's secretary for food and health announces, "According to the mainland authorities, there is no evidence of human to human transmission and there is also no healthcare professional being infected. . . . Also of note is after the closure of the concerned market in Wuhan, there is no new case since January 3."	HK press archives	David Webb tweet citing Hong Kong press archives, March 20, 2020 ( <a href="https://twitter.com/webbh/status/1240897837501542401">https://twitter.com/webbh/status/1240897837501542401</a> ).
1/11/2020	Limited, misleading, delayed reporting Promoting false sense of security	IZHANG Yongzhen's team at the Shanghai Public Health Clinical Centre Shanghai made the finding public on January 11 after it saw that the authorities had taken no obvious action to warn the public about the coronavirus. . . . It shared the data on virological.org, an open platform for discussions, and GenBank, an open-access data repository, and said researchers were welcome to download, share, use and analyse the data.	South China Morning Post	<a href="https://www.scmp.com/news/china/society/article/3052966/chinese-laboratory-first-shared-coronavirus-genome-world-ordered">https://www.scmp.com/news/china/society/article/3052966/chinese-laboratory-first-shared-coronavirus-genome-world-ordered</a>



1/11/2020	Promoting false sense of security	11-17 Jan: Important prescheduled CCP meeting held in Wuhan. During that time, the Wuhan Health Commission insists there are no new cases.	Washington Post	<a href="https://www.washingtonpost.com/world/2020/02/01/early-missteps-state-secrecy-china-likely-allowed-coronavirus-spread-farther-faster/">https://www.washingtonpost.com/world/2020/02/01/early-missteps-state-secrecy-china-likely-allowed-coronavirus-spread-farther-faster/</a>   <a href="https://archive.vn/Ptfa0">https://archive.vn/Ptfa0</a>
1/12/2020	Delayed admitting human to human transfer Promoting false sense of security	WHO issues a statement noting, "China shared the genetic sequence of the novel coronavirus on 12 January, which will be of great importance for other countries to use in developing specific diagnostic tests." WHO also states, "The evidence is highly suggestive that the outbreak is associated with exposures in one seafood market in Wuhan. The market was closed on 1 January 2020. At this stage, there is no infection among healthcare workers, and no clear evidence of human to human transmission"	WHO	World Health Organization, "Novel Coronavirus—China," January 12, 2020, <a href="https://www.who.int/csr/don/12january-2020-novel-coronavirus-china/en/">https://www.who.int/csr/don/12january-2020-novel-coronavirus-china/en/</a> .
1/14/2020	Delayed admitting human to human transfer Exporting the virus Promoting false sense of security	In a confidential teleconference with provincial health officials, PRC National Health Commission chief Ma Xiaowei reportedly warns that the novel virus is "the most severe challenge since SARS in 2003, and is likely to develop into a major public health event," adding that "clustered cases suggest that human-to-human transmission is possible." Citing the case reported in Thailand the day prior, Ma warns of spread overseas and during China's coming Lunar New Year festivities. It would be another six days before any of these official concerns are made public.	AP	"China didn't warn public of likely pandemic for 6 key days," The Associated Press, Apr 115, 2020
1/14/2020	Delayed admitting human to human transfer Promoting false sense of security	The next day, in a confidential teleconference, China's top health official ordered the country to prepare for a pandemic, calling the outbreak the "most severe challenge since SARS in 2003", as the AP previously reported. Chinese CDC staff across the country began screening, isolating, and testing for cases, turning up hundreds across the country. Yet even as the Chinese CDC internally declared a level one emergency, the highest level possible, Chinese officials still said the chance of sustained transmission between humans was low. WHO went back and forth. Van Kerkhove said in a press briefing that "it is certainly possible there is limited human-to-human transmission." But hours later, WHO seemed to backtrack, and tweeted that "preliminary investigations conducted by the Chinese authorities have found no clear evidence of human-to-human transmission" – a statement that later became fodder for critics.	AP	<a href="https://apnews.com/article/3c061794970661042b18d5a6eae9fae">https://apnews.com/article/3c061794970661042b18d5a6eae9fae</a>
1/14/2020	Censorship of health information Promoting false sense of security	Plainclothes police detain journalists trying to report from Wuhan's Jinyintan Hospital and force them to delete their TV footage and hand in phones and cameras for inspection.	Business Insider, NYT	Ashley Coleman, "China spent the crucial first days of the Wuhan coronavirus outbreak arresting people who posted about it online and threatening journalists," Business Insider, January 24, 2020. Also Li Yuan, "China silences critics over deadly virus outbreak," New York Times, January 25, 2020
1/14/2020	Delayed admitting human to human transfer Promoting false sense of security	The chief of the WHO emerging diseases unit reports that "it is possible that there is limited human-to-human transmission, potentially among families, but it is very clear right now that we have no sustained human-to-human transmission."	Reuters	Stephanie Nebehay, "WHO says new China coronavirus could spread, warns hospitals worldwide," Reuters, January 14, 2020.
1/14/2020	Delayed admitting human to human transfer Promoting false sense of security	WHO announces Chinese authorities have seen "no clear evidence of human-to-human transmission of the novel coronavirus."	Twitter WHO Account	<a href="https://twitter.com/WHO/status/1217043229427761152?ref_src=twsrc=twf twcamp=tweetembed&amp;ref_url=https://www.foxnews.com/world/world-health-organization-on-january-tweet-china-human-transmission-coronavirus">https://twitter.com/WHO/status/1217043229427761152?ref_src=twsrc=twf twcamp=tweetembed&amp;ref_url=https://www.foxnews.com/world/world-health-organization-on-january-tweet-china-human-transmission-coronavirus</a>   <a href="https://archive.vn/9c30">https://archive.vn/9c30</a>
1/14/2020	Delayed admitting human to human transfer Promoting false sense of security	Official WHO twitter page announces: "Preliminary investigations conducted by the Chinese authorities have found no clear evidence of human-to-human transmission of the novel #coronavirus (2019-nCoV) identified in #Wuhan, #China." This is more than five weeks after the first evidence of human-to-human transmission in Wuhan.	WHO	WHO tweet, January 14, 2020, 6:18am ET [ <a href="https://twitter.com/WHO/status/1217043229427761152">https://twitter.com/WHO/status/1217043229427761152</a> ].
1/14/2020	Delayed admitting human to human transfer Promoting false sense of security	WHO headquarters tweets, "Preliminary investigations conducted by the Chinese authorities have found no clear evidence of human-to-human transmission of the novel #coronavirus (2019-nCoV) identified in #Wuhan, #China."	WHO	World Health Organization (@WHO) tweet, January 14, 2020, 6:18 a.m., <a href="https://twitter.com/WHO/status/1217043229427761152">https://twitter.com/WHO/status/1217043229427761152</a> .
1/15/2020	Promoting false sense of security Limited, misleading, delayed reporting	"In response to the teleconference, the Center for Disease Control and Prevention in Beijing initiated the highest-level emergency response internally, level one, on Jan. 15. It assigned top CDC leaders to 14 working groups tasked with getting funds, training health workers, collecting data, doing field investigations and supervising laboratories, an internal CDC notice shows. The National Health Commission also distributed a 63-page set of instructions to provincial health officials, obtained by the AP. The instructions ordered health officials nationwide to identify suspected cases, hospitals to open fever clinics, and doctors and nurses to don protective gear. They were marked "internal" — "not to be spread on the internet," "not to be publicly disclosed." In public, however, officials continued to downplay the threat, pointing to the 41 cases public at the time."	AP	<a href="https://apnews.com/article/68a9e1b91de4ff1c66ac6012d82c219">https://apnews.com/article/68a9e1b91de4ff1c66ac6012d82c219</a>
1/15/2020	Delayed admitting human to human transfer Promoting false sense of security	Li Qun, head of the Chinese CDC's emergency center, plays down the human-to-human transmission threat on state television: "After careful screening and prudent judgment, we have reached the latest understanding that the risk of human-to-human transmission is low."	WSJ	Jeremy Page et al., "How It All Started: China's Early Coronavirus Missteps," Wall Street Journal, March 6, 2020
1/18/2020	Catastrophic missteps Promoting false sense of security Delayed admitting human to human transmission	Wuhan hosts mass "potluck" banquet of 40,000 families in attempt to break world record.	NYT	Li Yuan, "China silences critics over deadly virus outbreak," New York Times, January 25, 2020.
1/18/2020	Promoting false sense of security	Annual Wuhan Lunar New Year banquet. Tens of thousands of people gathered for a potluck.	The Star	<a href="https://archive.vn/FpwwC">https://archive.vn/FpwwC</a>
1/18/2020	Limited, misleading, delayed reporting Promoting false sense of security Delayed admitting human to human transmission	Wuhan Municipal Health Commission announces new cases of the virus for the first time since before January 5. The announcement comes after the close of the five-day meeting of Wuhan's Communist Party-controlled People's Congress, during which officials made daily claims of no new cases, no human-human transmission, and no infected medical workers.	WSJ, NYT	"Jeremy Page et al., "How It All Started: China's Early Coronavirus Missteps," Wall Street Journal, March 6, 2020. Amy Qin, "China's Leader, Under Fire, Says He Led Coronavirus Fight Early On," New York Times, Feb. 15, 2020."
1/21/2020	Promoting false sense of security Too little, too late	China vowed to take preventive and control measures of category A infectious diseases to effectively fight against the pneumonia caused by the novel coronavirus. The pneumonia has been classified as the category B infectious diseases and a quarantenable disease at the border.	PRC National Health Commission	<a href="http://en.nhc.gov.cn/2020-03/20/c_78021.htm">http://en.nhc.gov.cn/2020-03/20/c_78021.htm</a>
1/22/2020	Catastrophic missteps Promoting false sense of security	WHO holds emergency committee meeting, decides not to declare the novel coronavirus a "public health emergency of international concern (PHEIC)." WHO Director-General Tedros Adhanom Ghebreyesus says afterward that declaring a PHEIC is a decision he takes "extremely seriously" and is "only prepared to make with appropriate consideration of all the evidence." As usual, Taiwan and its reporting was excluded from the deliberations of the committee.	Robert Delaney	Robert Delaney, "China coronavirus: World Health Organization delays declaring virus 'spread an international emergency,'" January 22, 2020.

1/28/2020	Lack of PRC transparency publicly covered up by WHO Limited, misleading, delayed reporting Promoting false sense of security	WHO Director-General Tedros visits Beijing and meets with Xi Jinping and other senior officials. "The two sides agreed that WHO will send international experts to visit China as soon as possible," said the WHO afterward, adding that "the WHO delegation highly appreciated the actions China has implemented in response to the outbreak, its speed in identifying the virus and openness to sharing information with WHO and other countries."	WHO	"WHO, China leaders discuss next steps in battle against coronavirus outbreak," WHO, January 28, 2020.
1/30/2020	Promoting false sense of security	WHO Director-General Tedros reconvenes the Emergency Committee under the International Health Regulations (2005). The committee advises him that the novel coronavirus outbreak constitutes a "Public Health Emergency of International Concern" (PHEIC). Tedros declares the PHEIC. He states, "Let me be clear: this declaration is not a vote of no confidence in China. On the contrary, WHO continues to have confidence in China's capacity to control the outbreak." He also states, "WHO doesn't recommend limiting trade and movement."	WHO	World Health Organization, "WHO Director-General's Statement on IHR Emergency Committee on Novel Coronavirus (2019-nCoV)," January 30, 2020, <a href="https://www.who.int/dg/speeches/detail/who-director-general-statement-on-ih-er-emergency-committee-on-novel-coronavirus-2019-ncov">https://www.who.int/dg/speeches/detail/who-director-general-statement-on-ih-er-emergency-committee-on-novel-coronavirus-2019-ncov</a> .
1/31/2020	Exporting the virus Promoting false sense of security	PRC state media criticize the U.S. travel advisory urging citizens not to travel to China due to health concerns. PRC Ministry of Foreign Affairs claims the U.S. action is "certainly not a gesture of goodwill."	Xinhua	"China criticizes 'unfriendly US comments' amid fight against novel coronavirus epidemic," Xinhua, Feb. 1, 2020
2/3/2020	Exporting the virus Lack of PRC transparency publicly covered up by WHO Promoting false sense of security	WHO chief Tedros calls on countries not to take measures that "unnecessarily interfere with international travel and trade," calling the spread outside of China "minimal and slow." He adds, "The chances of getting this going to anywhere outside China is very low, and even in China, when you go to other provinces, it's very low." These statements are amplified in PRC state media.	Rueters, Xinhua	"Stephanie Nebochay, "WHO chief says widespread travel bans not necessary to beat China virus," Reuters, February 3, 2020. Ai Heping and Bo Leung, "WHO chief holds to line against travel bans," Xinhua, February 5, 2020."
2/13/2020	Limited, misleading, delayed reporting Promoting false sense of security	"The political fallout from the outbreak also escalated on Thursday with the firing of party chief of Hubei province, the party chief of Wuhan and the head of China's Hong Kong and Macau Affairs office. Yingyong, the new party chief of Hubei, came up through the ranks in Zhejiang, where the president, Xi Jinping, previously served as party secretary and was also part of anti-corruption campaigns, the president's signature initiative."	The Guardian	<a href="https://www.theguardian.com/world/2020/feb/13/coronavirus-china-purges-regional-leaders-hours-after-spike-in-deaths-and-new-cases">https://www.theguardian.com/world/2020/feb/13/coronavirus-china-purges-regional-leaders-hours-after-spike-in-deaths-and-new-cases</a>
2/13/2020	Promoting false sense of security	China purges regional leader's hours after spike in deaths and new cases. The political fallout from the outbreak also escalated with the firing of party chief of Hubei province, the party chief of Wuhan and the head of China's Hong Kong and Macau Affairs office. Yingyong, the new party chief of Hubei, came up through the ranks in Zhejiang, where the president, Xi Jinping, previously served as party secretary and was also part of anti-corruption campaigns, the president's signature initiative.	The Guardian	<a href="https://www.theguardian.com/world/2020/feb/13/coronavirus-china-purges-regional-leaders-hours-after-spike-in-deaths-and-new-cases">https://www.theguardian.com/world/2020/feb/13/coronavirus-china-purges-regional-leaders-hours-after-spike-in-deaths-and-new-cases</a>
2/28/2020	Limited, misleading, delayed reporting Promoting false sense of security	The WHO-China Joint Mission on Coronavirus Disease 2019 publishes its report after a "huge back and forth" between PRC and non-PRC officials over wording. PRC officials refused to call the virus "dangerous" or include reference to a possible "second wave" of infections (preferring "resurgence" instead).	Financial Times	"Taiwan says WHO failed to act on coronavirus transmission warning," Financial Times, March 19, 2020.
2/29/2020	Exporting the virus Promoting false sense of security	WHO announces that it "continues to advise against the application of travel or trade restrictions to countries experiencing COVID-19 outbreaks."	WHO	"Updated WHO recommendations for international traffic in relation to COVID-19 outbreak," WHO, February 29, 2020.
3/3/2020	Promoting false sense of security	WHO chief Tedros plays down the risk of asymptomatic silent carriers, citing official PRC data. "COVID-19 does not transmit as efficiently as influenza, from the data we have so far. With influenza, people who are infected but not yet sick are major drivers of transmission, which does not appear to be the case for COVID-19. Evidence from China is that only 1% of reported cases do not have symptoms, and most of those cases develop symptoms within two days." Later reports cited classified PRC data showing up to 33% of cases were asymptomatic (see March 22).	WHO, March 3	"WHO Director General's opening remarks at the media briefing on COVID-19 - 3 March 2020," WHO, March 3, 2020.
3/31/2020	Limited, misleading, delayed reporting Promoting false sense of security	Chinese National Health Commission announces for the first time that it excluded from its national tally people who had the virus but without symptoms, and that as of April 1 it would begin including these in the tally "in order to respond to society's concern in a timely manner."	WSJ	Chong Koh Ping, "China's Coronavirus Count Excluded Infected People With No Symptoms," The Wall Street Journal, March 31, 2020.
4/21/2020	Limited, misleading, delayed reporting Promoting false sense of security	A study published in the Lancet by researchers from Hong Kong estimates that China might have had tens of thousands more coronavirus cases than officials have disclosed.	Lancet	Tim K. Tsang et al., "Effect of changing case definitions for COVID-19 on the epidemic curve and transmission parameters in mainland China: a modelling study," Lancet, April 21, 2020.

Timeframe	Tags	Excerpt(s)	Source(s)	Serial/URL(s)
1/13/2020	Exporting the virus	First coronavirus case outside of China is reported in Bangkok when a 61-year-old woman from Wuhan tests positive four days after landing with a fever at the airport. The patient began exhibiting symptoms (fever, chills, sore throat, headache) three days before leaving Wuhan.	SCMP, WHO	"Elizabeth Cheung, "Wuhan pneumonia: Thailand confirms first case outside of China," South China Morning Post, January 13, 2020. "Novel Coronavirus 'Thailand (ex-China)," WHO, January 14, 2020."
1/15/2020	Exporting the virus	The patient who becomes the first confirmed U.S. case leaves Wuhan and arrives in the U.S., carrying the coronavirus	CDC	"First Travel Related Case of 2019 Novel Coronavirus Detected in United States," U.S. CDC, January 23, 2020. <a href="https://www.cdc.gov/media/releases/2020/p0123-novel-coronavirus-travel-case.html">https://www.cdc.gov/media/releases/2020/p0123-novel-coronavirus-travel-case.html</a>   <a href="https://archive.vn/KG9G6C">https://archive.vn/KG9G6C</a>
1/18/2020	Catastrophic missteps Promoting false sense of security Delayed admitting human to human transmission	Wuhan hosts mass "potluck" banquet of 40,000 families in attempt to break world record.	NYT	Li Yuen, "China Silences Critics over deadly virus outbreak," New York Times, January 25, 2020.
1/20/2020	Exporting the virus	The first case announced in South Korea.	Axios	<a href="https://archive.vn/Bpnyq">https://archive.vn/Bpnyq</a>   <a href="https://www.axios.com/timeline-the-early-days-of-china-as-confirmed-virus-outbreak-and-cover-up-e665211a-af6e-4641-976b-35371385faab.html">https://www.axios.com/timeline-the-early-days-of-china-as-confirmed-virus-outbreak-and-cover-up-e665211a-af6e-4641-976b-35371385faab.html</a>
1/21/2020	Exporting the virus	The U.S. Centers for Disease Control and Prevention confirms the first coronavirus case in the United States	U.S. CDC Newsroom	<a href="https://www.cdc.gov/media/releases/2020/p0121-novel-coronavirus-travel-case.html">https://www.cdc.gov/media/releases/2020/p0121-novel-coronavirus-travel-case.html</a>
1/22/2020	Catastrophic missteps Promoting false sense of security	WHO holds emergency committee meeting, decides not to declare the novel coronavirus a "public health emergency of international concern" (PHEIC). WHO Director-General Tedros Adhanom Ghebreyesus says afterward that declaring a PHEIC is a decision he takes "extremely seriously" and is "only prepared to make with appropriate consideration of all the evidence." As usual, Taiwan and its reporting was excluded from the deliberations of the committee.	Robert Delaney	Robert Delaney, "China coronavirus: World Health Organization delays declaring virus 'spread an international emergency,'" January 22, 2020
1/23/2020	Catastrophic missteps Limited, misleading, delayed reporting	"The World Health Organization (WHO) today, in another split decision, held off on declaring a public health emergency of international concern (PHEIC) in response to China's novel coronavirus (2019-nCoV) outbreak, as lockdowns were ordered for five more Chinese cities, part of an unprecedented step to slow the spread of the virus... The WHO's emergency committee met yesterday but delayed making a PHEIC recommendation after learning about China's Wuhan travel ban. The group also said they needed more information about disease severity and transmission among humans. Also in its deliberations today, the experts made some temporary recommendations, including an international expert mission to China to review and support the investigation that will probe, among other key factors, the animal source of the outbreak."	Center for Infectious Disease Research & Policy	<a href="https://www.cidrap.umn.edu/news-perspective/2020/01/who-holds-ecov-emergency-declaration-cases-soar">https://www.cidrap.umn.edu/news-perspective/2020/01/who-holds-ecov-emergency-declaration-cases-soar</a>
1/23/2020	Exporting the virus	NYT estimates seven million people left between Jan. 1 and Jan. 23. Before the lockdown, some 900 people flew from Wuhan to New York City per month on average, while some 2,200 flew to Sydney and 15,000 to Bangkok (site of the first overseas case of the novel coronavirus in mid-January). Some 85% of infected travelers went undetected	NYT	Jin Wu et al., "How the Virus Got Out," The New York Times, March 22, 2020
1/23/2020	Catastrophic missteps	Chinese authorities lock down Wuhan, after letting some five million people leave the city without screening in the weeks prior, amid the growing outbreak.	WSJ	Jeremy Page et al., "How It All Started: China's Early Coronavirus Missteps," Wall Street Journal, March 6, 2020.
1/24/2020	Catastrophic missteps	24:30, an China celebrates the Lunar New Year holiday. Hundreds of millions of people are in transit around the country as they visit relatives	The Star	<a href="https://www.thestar.com/news/regiona/2020/02/06/wuhan-neighbourhood-sees-neighbours-after-4000-families-gather-for-potluck">https://www.thestar.com/news/regiona/2020/02/06/wuhan-neighbourhood-sees-neighbours-after-4000-families-gather-for-potluck</a>
1/25/2020	Catastrophic missteps	The Lunar New Year, also known as Spring Festival, is China's most important holiday. In 2020, it fell on January 25. Ahead of the holiday, millions of Wuhan residents left the city to return to their hometowns to spend the festival with their extended families. A smaller number of Wuhan residents got on planes to holiday destinations abroad.	CRS	<a href="https://crsreports.congress.gov/product/pdf/R/R46354/3">https://crsreports.congress.gov/product/pdf/R/R46354/3</a>
1/30/2020	Exporting the virus Too little, too late	WHO declares a public health emergency of international concern (PHEIC), after nearly 10,000 cases of the virus are confirmed, including in at least 18 countries outside of China. WHO special committee states that it "does not recommend any travel or trade restriction based on the current information available."	WSJ, The Nation, WHO	"Lanhee Chen, "Lost in Beijing: The Story of the WHO," The Wall Street Journal, April 8, 2020 Wilfred Chan, "The WHO Ignores Taiwan. The World Pays the Price," The Nation, Apr. 3, 2020. "Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of the novel coronavirus (2019-nCoV)," WHO, January 30, 2020"
1/31/2020	Exporting the virus	U.S. shuts down entry from China for non-Americans. By this time, outbreaks were already growing in at least 30 cities across 26 countries	NYT	Jin Wu et al., "How the Virus Got Out," The New York Times, March 22, 2020.
1/31/2020	Exporting the virus Promoting false sense of security	PRC state media criticize the U.S. travel advisory urging citizens not to travel to China due to health concerns. PRC Ministry of Foreign Affairs claims the U.S. action is "certainly not a gesture of goodwill."	Xinhua	"China criticizes 'unfriendly U.S. comments' amid fight against novel coronavirus epidemic," Xinhua, Feb. 1, 2020.
2/1/2020	Exporting the virus	Referring to travel restrictions, PRC Foreign Minister Wang Yi tells his Indian counterpart that China "opposes certain countries' actions that are creating tension and causing panic."	CGTN	"China opposes some countries' actions that create tension and panic," CGTN, Feb. 1, 2020.
2/3/2020	Exporting the virus Lack of PRC transparency publicly covered up by WHO Promoting false sense of security	WHO chief Tedros Ghebreyesus says countries not to take measures that "unnecessarily interfere with international travel and trade." Calling the spread outside of China "minimal and slow." He adds, "The chances of getting this going to anywhere outside China is very low, and even in China, when you go to other provinces, it's very low." These statements are amplified in PRC state media	Reuters, Xinhua	"Stephanie Nebehay, "WHO chief says widespread travel bans not necessary to beat China virus," Reuters, February 3, 2020. Ai Heping and Bo Leung, "WHO chief holds to line against travel bans," Xinhua, February 5, 2020."
2/6/2020	Exporting the virus	Chinese Vice Foreign Minister Qin Gang meets with Italy's ambassador to China and "requires" Italy to suspend its decision canceling direct flights between Italy and China. PRC press release	PRC MFA	"Vice Foreign Minister Qin Gang Requires the Italian Side to Suspend the Decision to Cancel Direct Flights Between Italy and China: The Italian Side Agrees to Resume Some Commercial Flights," Ministry of Foreign Affairs of the People's Republic of China, Feb. 7, 2020.
2/17/2020	Exporting the virus	PRC ambassador Cheng Yong publicly pressures Australia to ease travel restrictions, saying "We have expressed our strong wish and hope that the Australian government in their review will take a balanced approach and remove these harsh restrictions."	Reuters	"Coronavirus: Beijing urges Australia to ease travel ban on China travelers," Reuters, February 17, 2020
2/20/2020	Exporting the virus Delayed admitting human to human transfer	At a meeting with ASEAN foreign ministers, PRC Foreign Minister Wang Yi pressures countries to ease travel restrictions, saying: "In light of the conditions on the ground, countries need to resume people-to-people ties and cooperation."	SCMP	Dewey Sim, "Coronavirus: China's top diplomat Wang Yi urges world to resume links with Beijing, says it's taken 'forceful action,'" South China Morning Post, Feb. 20, 2020.
2/28/2020	Exporting the virus Promoting false sense of security	WHO announces that it "continues to advise against the application of travel or trade restrictions to countries experiencing COVID-19 outbreaks."	WHO	"Updated WHO recommendations for international air traffic in relation to COVID-19 outbreak," WHO, February 28, 2020.
3/11/2020	Catastrophic missteps Too little, too late	Researchers at the University of Southampton (UK) estimate that had Beijing owned up to the coronavirus outbreak and responded with significant measures just one week before it did, 66% of cases could have been avoided, and had Beijing responded three weeks sooner, 95% could have been avoided.	University of Southampton	Shengze Lai, "Early and Combined Interventions Crucial in Tackling Covid-19 Spread in China," University of Southampton, March 11, 2020.
3/26/2020	Exporting the virus	China bans entry of all foreigners in attempt to limit virus spread. This measure is harsher than the travel restrictions of other countries that Beijing had criticized just weeks before.	Politico	Doug Palmer, "China Closes Border to Foreign Travelers," Politico, March 26, 2020

Timeframe	Tags	Excerpts	Source(s)	Serial/URL/Ref
1/1/2020	Evidence gone Behind the scenes, lab origin thought to be most likely	Overnight on Jan. 1, the market suddenly was ordered shut, forcing vendors from fetching their belongings, Jiang said. China CDC researchers collected 585 environmental samples from door handles, sewage and the floor of the market, and authorities sprayed the complex down with sanitizer. Later, they would cart out everything inside and incinerate it	AP	<a href="https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fb4c58cea3a40c82dd77e14d2955">https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fb4c58cea3a40c82dd77e14d2955</a>
1/1/2020	Censorship of health information Efforts to prevent consideration of a lab origin hypothesis	An official at the Hubei Provincial Health Commission orders labs, which had already determined that the novel virus was similar to SARS, to stop testing samples and to destroy existing samples.	The Straits Times	<a href="https://www.straitstimes.com/asia/east-asia/how-early-signs-of-the-coronavirus-were-spotted-spread-and-thruttled-in-china">https://www.straitstimes.com/asia/east-asia/how-early-signs-of-the-coronavirus-were-spotted-spread-and-thruttled-in-china</a>   <a href="https://ai.hive.wu/y/1CE">https://ai.hive.wu/y/1CE</a>
1/1/2020	Censorship of health information Efforts to prevent consideration of a lab origin hypothesis	"Wuhan Public Security Bureau brings in for questioning eight doctors who had posted information about the illness on WeChat. An official at the Hubei Provincial Health Commission orders labs, which had already determined that the novel virus was similar to SARS, to stop testing samples and to destroy existing samples."	Washington Post	<a href="https://www.washingtonpost.com/world/2020/02/01/early-missteps-state-secrecy-china-likely-allowed-coronavirus-spread-farther-faster/">washingtonpost.com/world/2020/02/01/early-missteps-state-secrecy-china-likely-allowed-coronavirus-spread-farther-faster</a>
1/2/2020	History of lab outbreaks Poor safety practices Efforts to prevent consideration of a lab origin hypothesis	"Biosafety guideline issued to fix chronic management loopholes at virus labs1 2020 02 17 08:52:08Global Times Editor : Li Yan Special. Battle Against Novel Coronavirus Rules Address Chronic Virus Lab Loopholes: experts The Ministry of Science and Technology issued new rules over the weekend, requiring laboratories nationwide to boost their biosafety in a move that experts said could fix chronic inadequate management issues during the campaign against the coronavirus. The guideline stressed the importance of strengthening the management of bio labs, especially on viruses, to ensure biosafety, ministry official Wu Yuanbin said at a press conference on Saturday. The release of the guideline deals with chronic loopholes at laboratories. Yang Zhanqiu, a deputy director of the pathogen biology department at Wuhan University in Hubei Province, told the Global Times on Sunday. "The mention of biosafety at labs by the ministry has nothing to do with some saying that the coronavirus leaked from the Wuhan Institute of Virology of the Chinese Academy of Sciences," Yang said. Laboratories in China have paid insufficient attention to biological disposal, Yang said. Lab trash can contain man-made viruses, bacteria or microbes with a potentially deadly impact on human beings, animals or plants. Some researchers discharge laboratory materials into the sewer after experiments without a specific biological disposal mechanism, Yang explained."	Global Times	"Gerry Shih et al., "Early missteps and state secrecy in China probably allowed the coronavirus to spread farther and faster," Washington Post, Feb. 1, 2020. Global Times tweet, Jan. 2, 2020, 1:26am Beijing time ( <a href="https://twitter.com/globaltimesnews/status/1212409846684840951">https://twitter.com/globaltimesnews/status/1212409846684840951</a> ).
2/4/2020	Efforts to prevent consideration of lab origin hypothesis	The early draft described "initial views of the experts" that "the available genomic data are consistent with natural evolution and that there is currently no evidence that the virus was engineered to spread more quickly among humans." This draft sentence posed a question, in parentheses: "ask experts to add specifics re binding sites?" It also included a footnote in parentheses: "[possibly add brief explanation that this does not preclude an unintentional release from a laboratory studying the evolution of related coronaviruses]." In one email, dated Feb. 4, infectious disease expert Trevor Bedford commented: "I wouldn't mention binding sites here. If you start weighing evidence there's a lot to consider for both scenarios." By "both scenarios," Bedford appears to refer to lab-origin and natural-origin scenarios	U.S. Right to Know	<a href="https://usrtk.org/biohazards-blog/new-emails-show-scientists-deliberations-on-how-to-decuss-sars-cov-2-origins/">https://usrtk.org/biohazards-blog/new-emails-show-scientists-deliberations-on-how-to-decuss-sars-cov-2-origins/</a>
2/6/2020	Behind the scenes, lab origin thought to be most likely	According to municipal reports and the testimonies of 31 residents and 28 visitors, the bat was never a food source in the city, and no bat was traded in the market. There was possible natural recombination or intermediate host of the coronavirus, yet little proof has been reported	National Natural Science Foundation of China	<a href="https://web.archive.org/web/20200214144447/https://www.researchgate.net/publication/339070128_The_possible_origins_of_2019-nCoV_coronavirus">https://web.archive.org/web/20200214144447/https://www.researchgate.net/publication/339070128_The_possible_origins_of_2019-nCoV_coronavirus</a>
2/6/2020	Behind the scenes, lab origin thought to be most likely	We screened the area around the seafood market and identified two laboratories conducting research on bat coronavirus. Within ~280 meters from the market, there was the Wuhan Center for Disease Control & Prevention (WHCDC) [Figure 1, from Baldu and Google maps]. WHCDC hosted animals in laboratories for research purpose, one of which was specialized in pathogens collection and identification 4-6. In one of their studies, 155 bats including Rhinolophus affinis were captured in Hubei province, and other 450 bats were captured in Zhejiang province 4. The expert in collection was noted in the Author Contributions (JHT). Moreover, he was broadcasted for collecting viruses on nation-wide newspapers and websites in 2017 and 2019 7,8	National Natural Science Foundation of China	<a href="https://web.archive.org/web/20200214144447/https://www.researchgate.net/publication/339070128_The_possible_origins_of_2019-nCoV_coronavirus">https://web.archive.org/web/20200214144447/https://www.researchgate.net/publication/339070128_The_possible_origins_of_2019-nCoV_coronavirus</a>
2/6/2020	Behind the scenes, lab origin thought to be most likely	"Surgery was performed on the caged animals and the tissue samples were collected for DNA and RNA extraction and sequencing. The tissue samples and contaminated tissues were source of pathogens. They were only ~280 meters from the seafood market. The WHCDC was also adjacent to the Union Hospital (Figure 1, bottom) where the first group of doctors were infected during this epidemic. It is plausible that the virus leaked around and some of them contaminated the initial patients in this epidemic, though solid proofs are needed in future study."	National Natural Science Foundation of China	<a href="https://web.archive.org/web/20200214144447/https://www.researchgate.net/publication/339070128_The_possible_origins_of_2019-nCoV_coronavirus">https://web.archive.org/web/20200214144447/https://www.researchgate.net/publication/339070128_The_possible_origins_of_2019-nCoV_coronavirus</a>
2/6/2020	Behind the scenes, lab origin thought to be most likely	The second laboratory was ~12 kilometers from the seafood market and belonged to Wuhan Institute of Virology, Chinese Academy of Sciences. This laboratory reported that the Chinese horseshoe bats were natural reservoirs for the severe acute respiratory syndrome coronavirus (SARS-CoV) which caused the 2002-3 pandemic. The principle investigator participated in a project which generated a chimeric virus using the SARS-CoV reverse genetics system, and reported the potential for human emergence. A direct speculation was that SARS-CoV or its derivative might leak from the laboratory	National Natural Science Foundation of China	<a href="https://web.archive.org/web/20200214144447/https://www.researchgate.net/publication/339070128_The_possible_origins_of_2019-nCoV_coronavirus">https://web.archive.org/web/20200214144447/https://www.researchgate.net/publication/339070128_The_possible_origins_of_2019-nCoV_coronavirus</a>
2/6/2020	Censorship of health information Efforts to prevent consideration of a lab origin hypothesis	"Researchers from South China University of Technology publish a study concluding that "the killer coronavirus probably originated from a laboratory in Wuhan. Safety level may need to be reinforced in high risk biohazardous laboratories." -- The paper is soon withdrawn because it "was not supported by direct proofs," according to author Batao Xiao. "No scientists have confirmed or refuted the paper's findings," scholar Yanzhong Huang wrote on March 5."	Research Gate, WSJ, Foreign Affairs	"Batao Xiao and Lei Xiao, "The possible origins of 2019-nCoV coronavirus," ResearchGate, Feb. 6, 2020. James Areddy, "Coronavirus Epidemic Draws Scrutiny to Labs Handling Deadly Pathogens," The Wall Street Journal, March 5, 2020. Yanzhong Huang, "U.S.-Chinese Distrust Is Inviting Dangerous Coronavirus Conspiracy Theories," Foreign Affairs, March 5, 2020 "
2/6/2020	Efforts to prevent consideration of lab origin hypothesis	A statement in The Lancet authored by 27 prominent public health scientists condemning "conspiracy theories suggesting that COVID-19 does not have a natural origin" was organized by employees of EcoHealth Alliance, a non-profit group that has received millions of dollars of U.S. taxpayer funding to genetically manipulate coronaviruses with scientists at the Wuhan Institute of Virology. The emails obtained via public records requests show that EcoHealth Alliance President Peter Daszak drafted the Lancet statement, and that he intended it to "not be identifiable as coming from any one organization or person" but rather to be seen as "simply a letter from leading scientists". Daszak wrote that he wanted "to avoid the appearance of a political statement".	U.S. Right to Know	<a href="https://usrtk.org/wp-content/uploads/2020/11/The_Lancet_Emails_Daszak-2.6.20.pdf">https://usrtk.org/wp-content/uploads/2020/11/The_Lancet_Emails_Daszak-2.6.20.pdf</a>   <a href="https://archive.vn/41Bm6">https://archive.vn/41Bm6</a>   <a href="https://usrtk.org/biohazards-blog/ecohealth-alliance-orchestrated-key-scientists-statement-on-natural-origin-of-sars-cov-2/">https://usrtk.org/biohazards-blog/ecohealth-alliance-orchestrated-key-scientists-statement-on-natural-origin-of-sars-cov-2/</a>
2/16/2020	Censorship of health information Poor safety practices Efforts to prevent consideration of a lab origin hypothesis	The Wuhan Institute of Virology issues a public denial that its former researcher Huang Yanling is "patient zero," as speculated on Chinese social media based on the disappearance of Huang's biographical information from the Institute's website and Huang's unknown whereabouts	SCMP	Jun Mai, "Chinese research lab denies rumours of links to first coronavirus patient," South China Morning Post, February 16, 2020.
2/16/2020	Censorship of health information Poor safety practices Efforts to prevent consideration of a lab origin hypothesis	Institute researcher Shi Zhongli writes on social media that she "guaranteed with her own life" that the outbreak was unrelated to the lab. She instructs "those who believe and spread malicious media rumors to close their stinky mouths"	WSJ	James T. Areddy, "China Bat Expert Says Her Wuhan Lab Wasn't Source of New Coronavirus," The Wall Street Journal, April 23, 2020
2/17/2020	Poor safety practices History of lab outbreaks Efforts to prevent consideration of a lab origin hypothesis	"Biosafety guideline issued to fix chronic management loopholes at virus labs1 2020 02 17 08:52:08Global Times Editor : Li Yan Special. Battle Against Novel Coronavirus Rules Address Chronic Virus Lab Loopholes: experts The Ministry of Science and Technology issued new rules over the weekend, requiring laboratories nationwide to boost their biosafety in a move that experts said could fix chronic inadequate management issues during the campaign against the coronavirus. The guideline stressed the importance of strengthening the management of bio labs, especially on viruses, to ensure biosafety, ministry official Wu Yuanbin said at a press conference on Saturday. The release of the guideline deals with chronic loopholes at laboratories. Yang Zhanqiu, a deputy director of the pathogen biology department at Wuhan University in Hubei Province, told the Global Times on Sunday. "The mention of biosafety at labs by the ministry has nothing to do with some saying that the coronavirus leaked from the Wuhan Institute of Virology of the Chinese Academy of Sciences," Yang said. Laboratories in China have paid insufficient attention to biological disposal, Yang said. Lab trash can contain man-made viruses, bacteria or microbes with a potentially deadly impact on human beings, animals or plants. Some researchers discharge laboratory materials into the sewer after experiments without a specific biological disposal mechanism, Yang explained."	ECNS.cn	<a href="http://www.ecns.cn/news/tech/2020-02-17/detail-ftmrvw0821640.shtml">http://www.ecns.cn/news/tech/2020-02-17/detail-ftmrvw0821640.shtml</a>
2/19/2020	Efforts to prevent consideration of lab origin hypothesis	"Statement in support of the scientists, public health professionals, and medical professionals of China combating COVID-19" published in The Lancet by EcoHealth Alliance's Peter Daszak	U.S. Right to Know	<a href="https://usrtk.org/biohazards-blog/ecohealth-alliance-orchestrated-key-scientists-statement-on-natural-origin-of-sars-cov-2/">https://usrtk.org/biohazards-blog/ecohealth-alliance-orchestrated-key-scientists-statement-on-natural-origin-of-sars-cov-2/</a>   <a href="https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30418-9/fulltext#%20">https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30418-9/fulltext#%20</a>

2/25/2020	Limited, misleading, delayed reporting Coverup measures	No one can, under their own name or in the name of their research team, provide other institutions and individuals with information related to the COVID-19 epidemic on their own, including data, biological specimens, pathogens, culture, etc... Anyone who violates the above regulations shall be dealt with severely in accordance with discipline, laws and regulations.	CCDC	<a href="https://www.documentcloud.org/documents/7340336-China-CDC-Sup-Regs.html">https://www.documentcloud.org/documents/7340336-China-CDC-Sup-Regs.html</a>
2/25/2020	Limited, misleading, delayed reporting Coverup measures	The launch of scientific research projects related to the COVID-19 epidemic must undergo preliminary review by the Science and Technology Group/Department. According to the research subject, experts should be organized to conduct scientific and ethical reviews, and, if necessary, the project must be submitted to the emergency leading group or the Department of Science and Education of the National Health Commission for approval. The research projects authorized by higher authorities must be examined and approved by the emergency leading group via the Science and Technology Group/Department and be kept on record. Anyone who violates the above regulations shall be dealt with severely in accordance with discipline, laws and regulations.	CCDC	<a href="https://www.documentcloud.org/documents/7340336-China-CDC-Sup-Regs.html">https://www.documentcloud.org/documents/7340336-China-CDC-Sup-Regs.html</a>
2/25/2020	Limited, misleading, delayed reporting Coverup measures	Before publishing papers and research results related to the COVID-19 epidemic, you must first report them to the Science and Technology Group/Department for preliminary review, and if necessary, submit it to the Emergency Leading Group of the Department of Science and Education of the National Health Commission for approval. Papers that have been submitted but not yet reviewed by the Science and Technology Group/Department should be withdrawn as soon as possible and redone according to these regulations... Anyone who violates the above regulations shall be dealt with severely in accordance with discipline, laws and regulations.	CCDC	<a href="https://www.documentcloud.org/documents/7340336-China-CDC-Sup-Regs.html">https://www.documentcloud.org/documents/7340336-China-CDC-Sup-Regs.html</a>
2/28/2020	Limited, misleading, delayed reporting Behind the scenes, lab origin thought to be most likely Coverup measures	Chinese scientists quickly started testing potential animal hosts. Records show that Xie Xueshan, an infectious diseases expert, received a 1.4 million RMB (\$214,000) grant to screen animals in Yunnan for COVID-19. State media reported on February that his team collected hundreds of samples from bats, snakes, bamboo rats and other animals, and ran a picture of masked scientists in white lab coats huddled around a large, caged porcupine. Then the government restrictions kicked in. Data on the samples still has not been made public, and Xia did not respond to requests for an interview. Although Xia has co-authored more than a dozen papers this year, an AP review shows, only two were on COVID-19, and neither focused on its origins.	AP	<a href="https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbadc58cee3a40bca2ddf7a14d2955">https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbadc58cee3a40bca2ddf7a14d2955</a>
3/3/2020	Limited, misleading, delayed reporting Coverup measures	On March 2, Xi emphasized "coordination" on coronavirus research, state media reported. The next day, China's cabinet, the State Council, centralized all COVID-19 publication under a special task force. The notice, obtained by the AP and marked "not to be made public," was far more sweeping in scope than the earlier CDC notices, applying to all universities, companies and medical and research institutions. The order said curriculum and publication of research had to be orchestrated like "a game of chess" under instructions from Xi, and propaganda and public opinion teams were to "guide publication." It went on to warn that those who publish without permission, "causing serious adverse social impact, shall be held accountable."... After the secret orders, the tide of research papers slowed to a trickle. Although China CDC researcher Liu Jun returned to the market nearly 20 times to collect some 2,000 samples over the following months, nothing was released about what they revealed.	AP	<a href="https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbadc58cee3a40bca2ddf7a14d2955">https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbadc58cee3a40bca2ddf7a14d2955</a>
3/5/2020	Limited, misleading, delayed reporting Coverup measures	("This document is not public") in accordance with the principles of "following laws and regulations, being scientific and objective, centralized management, and precise publications", all publication work on epidemic prevention research and information related to COVID-19, including medication, vaccines, virus origins, virus transmission routes, testing reagents, etc. will be taken over by the Joint Prevention and Control Mechanism of the State Council's scientific research group (hereinafter referred to as "the scientific research group") for coordinated deployment. The scientific research group will coordinate the publication of information on emergency scientific research, and guide and coordinate the publication of information on scientific research by all work units in all locations. Those who fail to apply for approval in accordance with the prescribed procedures and publish unconfirmed false information on scientific research, thereby causing serious adverse social impacts, shall be held accountable.	State Council Novel Coronavirus Pneumonia Epidemic Joint Prevention and Control Mechanism Scientific Research Task Force	<a href="https://www.documentcloud.org/documents/7340337-State-Research-regulations.html">https://www.documentcloud.org/documents/7340337-State-Research-regulations.html</a>
4/14/2020	Censorship of health information Pleur safety practices Efforts to prevent consideration of a lab origin hypothesis	On 4/14/2020 the Washington Post publishes article on 2018 US State Department visits to WIV and the resulting lable about safety concerns, noting that "Last week, WIV erased that statement 'acknowledging the visit from U.S. Diplomats) from its website, though it remains archived on the Internet." Further, "Sources familiar with the cables said they were meant to sound an alarm about the grave safety concerns at the WIV lab, especially regarding its work with bat coronaviruses. The embassy officials were calling for more U.S. attention to this lab and more support for it, to help it fix its problems."	Washington Post (Opinions)	<a href="https://www.washingtonpost.com/opinions/2020/04/14/state-department-cables-warned-safety-issues-wuhan-lab-studying-bat-coronaviruses/">https://www.washingtonpost.com/opinions/2020/04/14/state-department-cables-warned-safety-issues-wuhan-lab-studying-bat-coronaviruses/</a>
4/17/2020	Limited, misleading, delayed reporting Efforts to prevent consideration of a lab origin hypothesis	US Secretary of State Mike Pompeo on Friday called on China to grant the United States access to the Wuhan laboratory that has emerged as a flashpoint between the two nations in a clash over the origin and handling of the coronavirus. "We are still asking the Chinese Communist Party to allow experts to get into that virology lab so that we can determine precisely where this virus began," said Pompeo on Fox News.	South China Morning Post	<a href="https://www.scmp.com/news/china/politics/article/3080513/coronavirus-us-secretary-state-mike-pompeo-seeks-access">https://www.scmp.com/news/china/politics/article/3080513/coronavirus-us-secretary-state-mike-pompeo-seeks-access</a>
4/20/2020	Limited, misleading, delayed reporting Efforts to prevent consideration of a lab origin hypothesis	WIV Communist Party chief claims "The WIV does not have the intention and the ability to design and construct a new coronavirus," he said in written responses to questions from Reuters. "Moreover, there is no information within the SARS-CoV-2 genome indicating it was man-made."... Yuan also rejected theories that the lab had accidentally released a coronavirus it had harvested from bats for research purposes, saying the lab's biosafety procedures were strictly enforced. "High-level biosafety labs have sophisticated protective facilities and strict measures to ensure the safety of laboratory staff and protect the environment from contamination," he said.	Reuters	<a href="https://www.reuters.com/article/us-health-coronavirus-china-lab/china-lab-rejects-covid-19-conspiracy-claims-but-virus-origins-still-a-mystery-idUSKCN22A00MM">https://www.reuters.com/article/us-health-coronavirus-china-lab/china-lab-rejects-covid-19-conspiracy-claims-but-virus-origins-still-a-mystery-idUSKCN22A00MM</a>
7/31/2020	Limited, misleading, delayed reporting Efforts to prevent consideration of a lab origin hypothesis	WIV Scientist Dr Shi describes how the RaTG13 genome was identified. The following description is inconsistent with the February 2020 Nature paper (according to Dr QUAY): "We detected the virus by pan-coronavirus RT-PCR in a bat fecal sample collected from Tongguan town, Mojiang county in Yunnan province in 2013, and obtained its partial RdRp sequence. Because the low similarity of this virus to SARS-CoV, we did not pay special attention to this sequence. In 2018, as the NGS sequencing technology and capability in our lab was improved, we did further sequencing of the virus using our remaining samples, and obtained the full-length genome sequence of RaTG13 except the 15 nucleotides at the 5' end. As the sample was used many times for the purpose of viral nucleic acid extraction, there was no more sample after we finished genome sequencing, and we did not do virus isolation and other studies on it. Among all the bat samples we collected, the RaTG13 virus was detected in only one single sample. In 2020, we compared the sequence of SARS-CoV-2 and our unpublished bat coronavirus sequences and found it shared a 96.2% identity with RaTG13. RaTG13 has never been isolated or cultured."	Science Magazine	<a href="https://www.sciencemag.org/sites/default/files/Shi%20Zhengli%2020Q&amp;A.pdf">https://www.sciencemag.org/sites/default/files/Shi%20Zhengli%2020Q&amp;A.pdf</a>
12/30/2020	Limited, misleading, delayed reporting Coverup measures	Famed virologist Zhang, who received a 1.5 million RMB (\$230,000) grant to search for the virus' origins, said partnering scientists are sending him samples from all over, including from bats in Guizhou in southern China and rats in Hebei hundreds of miles north. Zhang declined to confirm or comment on reports that his lab was briefly closed after publishing the virus' genetic sequence ahead of authorities. He said he hasn't heard of any special restrictions on publishing papers, and the only review his papers go through is a routine scientific one by his institution. But scientists without state backing complain that getting approval to sample animals in southern China is now extremely difficult, and that little is known about the findings of government-sponsored teams.	AP	<a href="https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbadc58cee3a40bca2ddf7a14d2955">https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbadc58cee3a40bca2ddf7a14d2955</a>
12/30/2020	Limited, misleading, delayed reporting Behind the scenes, lab origin thought to be most likely	Today, the caves that scientists once surveyed are under close watch by the authorities. Security agents tailed the AP team in three locations across Yunnan, and stopped journalists from visiting the cave where researchers in 2017 identified the species of bats responsible for SARS. At an entrance to a second location, a massive cave teeming with tourists taking selfies, authorities shut the gate on the AP.	AP	<a href="https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbadc58cee3a40bca2ddf7a14d2955">https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbadc58cee3a40bca2ddf7a14d2955</a>
12/30/2020	Limited, misleading, delayed reporting Behind the scenes, lab origin thought to be most likely	Today, the caves that scientists once surveyed are under close watch by the authorities. Particularly sensitive is the mine shaft where the closest relative of the COVID-19 virus - called "RaTG13" - was found. RaTG13 was discovered after an outbreak in 2012, when six men climbing the bat-filled shaft fell ill with mysterious bouts of pneumonia, killing three. The Wuhan Institute of Virology and the China CDC both studied bat coronaviruses from this shaft. And although most scientists believe the COVID-19 virus had its origins in nature, some say it or a close relative could have been transported to Wuhan and linked by mistake. Wuhan Institute of Virology bat expert Shi Zhengli has repeatedly denied this theory, but Chinese authorities haven't yet allowed foreign scientists in to investigate.	AP	<a href="https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbadc58cee3a40bca2ddf7a14d2955">https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbadc58cee3a40bca2ddf7a14d2955</a>

12/30/2020	Coverup measures Behind the scenes, lab origin thought to be most likely	With the virus firmly contained... Wuhan has had no locally transmitted cases since May... there's a growing push to drop the idea that China was the ultimate source of the virus, known officially as SARS-CoV-2. A foreign ministry spokesman has been espousing theories that link the virus to the U.S. military, and after a spate of cases in Chinese port and cold storage workers, state-backed media are claiming the virus could have entered the country on imported frozen food. They've also seized on research that suggests there were infections in the U.S. and Italy that pre-date those in Wuhan.	Bloomberg	<a href="https://www.ndtv.com/world-news/china-is-making-it-harder-to-solve-the-mystery-of-how-covid-began-2345876">https://www.ndtv.com/world-news/china-is-making-it-harder-to-solve-the-mystery-of-how-covid-began-2345876</a>
12/30/2020	Coverup measures Behind the scenes, lab origin thought to be most likely	China has ignored appeals for an independent investigation into the virus's origin, hammering Australia with trade restrictions after it called for one. It's also stalled efforts by the World Health Organization to get top infectious diseases experts into Wuhan this year. That's prevented the painstaking epidemiological detective work - from probing samples of the city's wastewater, to checking patient specimens collected months before the outbreak appeared for early traces of the pathogen and undertaking tests at the food market itself - that could provide insight into the chain of events that brought the virus to the bustling capital of Hubei province, and how to stop it from happening again.	Bloomberg	<a href="https://www.ndtv.com/world-news/china-is-making-it-harder-to-solve-the-mystery-of-how-covid-began-2345876">https://www.ndtv.com/world-news/china-is-making-it-harder-to-solve-the-mystery-of-how-covid-began-2345876</a>
1/11/2021	Behind the scenes, lab origin thought to be most likely	Internal China CDC data obtained by the AP shows that by Jan. 10 and 11, researchers were sequencing dozens of environmental samples from Wuhan. Gary Kobinger, a Canadian microbiologist advising WHO, emailed his colleagues to share his concerns that the virus originated at the market. "This coronavirus is very close to SARS," he wrote on Jan. 13. "If we put aside an accident... then I would look at the bats in these markets (wild and 'wild')." "	AP	<a href="https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbad58cee3a40bca2dd7a14d2955">https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbad58cee3a40bca2dd7a14d2955</a>
11/25/2021	Limited, misleading, delayed reporting Coverup measures	Deep in the lush mountain valleys of southern China lies the entrance to a mine shaft that once harbored bats with the closest known relative of the COVID-19 virus... A bat research team visiting recently managed to take samples but had them confiscated, two people familiar with the matter said. Specialists in coronaviruses have been ordered not to speak to the press. And a team of Associated Press journalists was tailed by plainclothes police in multiple cars who blocked access to roads and sites in late November.	AP	<a href="https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbad58cee3a40bca2dd7a14d2955">https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbad58cee3a40bca2dd7a14d2955</a>
11/20/2021	Limited, misleading, delayed reporting Behind the scenes, lab origin thought to be most likely Coverup measures	The Chinese government is also limiting and controlling the search for patient zero through the re-testing of old flu samples. Chinese hospitals collect thousands of samples from patients with flu-like symptoms every week and store them in freezers. They could easily be tested again for COVID-19, although politics could then determine whether the results are made public, said Ray Yip, the founding director of the U.S. CDC office in China. "They'd be crazy not to do it," Yip said. "The political leadership will wait for that information to see, does this information make China look stupid or not? ... If it makes China look stupid, they won't."	AP	<a href="https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbad58cee3a40bca2dd7a14d2955">https://apnews.com/article/united-nations-coronavirus-pandemic-china-only-on-ap-bats-24fbad58cee3a40bca2dd7a14d2955</a>

# Evidence SARS-CoV-2 Emerged From a Biological Laboratory in Wuhan, China

Published April 16, 2020. Updated May 2, 2020.

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## 1 Abstract

The goal of this document is to examine evidence that may prove that (1) the SARS-CoV-2 virus was present at a biolaboratory in Wuhan, China, and (2) the SARS-CoV-2 virus was introduced into the greater Wuhan population by an infected lab worker or animal. These claims from this point on will be referred to as **Claim 1** and **Claim 2**.

**This document does not attempt to provide a concrete conclusion on whether either claim is factually true. Rather, it examines the probability that each claim is true to allow the reader to make his or her own conclusions.** While either claim cannot be irrevocably proven true, an attempt has been made to ensure the evidence used to support these claims is as factual as possible.

**If you would like to see a summarized version of every claim ("TL;DR") in this document, please see the Conclusion.**

Furthermore, this document does not attempt to investigate claims that SARS-CoV-2 is a "man-made bioweapon" or whether its release was intentional. See [A Note on Biowarfare and 'HIV Inserts'](#).

**Please download and share this document:** [archive.zip](#)

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## 2 Authors

We are an anonymous group of researchers. We are not affiliated with any company, nation state, or organization. We are not receiving funding from any sources, public or private. We disavow all racism and violent attacks, including those which are aimed at Asian or Chinese people, and we will continue to disavow them throughout this paper. We are not doing this because we hate China, but because we love the truth.

An earlier version of this document referred to us as "Project E.P.S.T.E.I.N." (Evidence Plausibly Supporting Theories Explaining Infection Naturality). It was intended be a humorous backronym. After receiving feedback from several readers, we have decided to change our name to "Project E" (Evidence) to avoid negative connotations with conspiracy theories. We maintain that this document is still supported by the best evidence we have been able to locate.

The authors of this document claim no conflicts of interest.

OUR PUBLIC KEY IS:

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-----BEGIN PUBLIC KEY-----
MIICIjANBgkqhkiG9w0BAQEFAAOCAg8AMIICGgKCAgEazkypSxvyXzXfraeygeeX
+pdKOXoReyR+KQDqKAYoY6cCc91Ja5rcvXY50UDz1P11xs1x+ECijfjicqiiXYvG
nZ1akhJozHYLdEDTWy2zoNVNe+Yd44kwaahcRLJXgeB59x5Zz6eLrJGrDXsTHTX
nrJKdSxbFak6cRgG1d1rRY16oyYhKRfg962F++ETk41Ax3rAJv3y1yHxtmuASEZw
YvD1B4fkvfvcgOxMF1vu8+e8wjQL+cBgz7IdHE9DeG7W3qSBAA0zwiMYh6KKCX33
P90fgF1MTbv1afJBLzen0izdUufskFMPLEKF3d1CmkVLSgkLGRcntUM1dImG41G
-----END PUBLIC KEY-----
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Our public key is also available for download: [public.pem](#)

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## 3 Correction Policy

As of the current date, April 16, 2020, the source of SARS-CoV-2 remains **unknown**.

If the scientific community can provide peer reviewed studies that prove that the SARS-CoV-2 spillover event occurred "in the wild," i.e. outside of a lab and with no connection to lab researchers, animals, organisms, or other specimen, we will add an addendum to this document **highlighting** those results.

Studies proving the virus was not "engineered" do not prove the spillover event occurred outside of a laboratory. We are not claiming the virus was engineered. They also do not prove that the spillover event did not involve an animal or organism sourced from one of these labs.

We are only interested in the truth.

---

## 4 Contribution Policy

We welcome contributions to this document as new factual evidence emerges from the scientific and Internet community as a whole.

In particular, we are always looking for peer reviewed papers and other documents that address, back up, or disprove the claims in this document. All sources must be acceptable under our Sourcing Policy. To get started, simply search for "Wuhan coronavirus" or "Wuhan coronavirus factors." "UNCLASSIFIED"

If you think you have such evidence, please submit a pull request to our GitHub repository.

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## 5 Sourcing Policy

- Prefer academic papers over any other source.
- All academic papers must be peer reviewed; if they are not, this must be made clear to the reader.
- Prefer news articles from prestigious medical or scientific journals such as Nature, the Lancet, Scientific American, etc. over "mainstream" media.
- Prefer "mainstream" media news articles over amateur or unproven articles.
- If using information from an "amateur" source, cross-check it with "mainstream" media, scientific journals, or academic papers, and use those sources rather than the original source to prove the claim.
- Use multiple sources to prove the same claim.
- If a source is not in English, use Google Translate to provide English snippets, and make it clear to the reader that a translation tool was used.
- All sources must be dated.
- All sources subject to change must be archived via <https://archive.is>.

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## 6 Purpose

Above all, we believe in finding the truth. We would like to investigate all theories that could explain the emergence of SARS-CoV-2 without predefined assumptions on what can or can not be true.

---

### 6.1 If We're Right

We believe in holding the Chinese government accountable for changes in regulations and policies that can prevent another laboratory accident. In particular, we would like to see a nationally unified movement toward transparency so that the world may rest assured in the belief that China will not hide the next pandemic, natural or otherwise, if it occurs under their jurisdiction. It is vitally important that lab safety is taken seriously in all countries to ensure the survival and continued success of the human race.

We do not believe in holding individual lab technicians or employees accountable unless they have demonstrated criminal negligence. In most accidents, procedures and policies are the culprit, not individual people. Punishing one person will not prevent the next person from making the same mistakes; instituting new rules that prevent such mistakes will.

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### 6.2 If We're Wrong

If our claims are proven false, the next step is to determine the true origin of the outbreak, assuming the evidence that proved our claims false did not do that already.

We believe in holding every government accountable for changes in regulations and policies that can prevent another natural outbreak. Whether these be new food safety standards, stronger enforcement of wildlife trade, mandatory reporting rules or agricultural inspections, we want to see the root cause of the problem addressed so that it may never occur again. COVID-19, lab accident or otherwise, has unleashed incalculable pain upon our world, and we must ensure the conditions that enabled its emergence are left behind to history.

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### 6.3 Either Way

We condemn racist attacks on Asian Americans and Asians, including Chinese people, around the world. They are all innocent.

A secondary goal of this document is to further spread global awareness of the hazards posed by biolaboratories, in particular gain-of-function studies, and proximal location to urban areas.

The American CDC, for example, is a 15 minute drive away from Atlanta Hartsfield Jackson Airport, the world's busiest airport every year since 2000. It, too, houses BSL-4 labs that do work on Ebola and smallpox viruses as well as anthrax bacteria. We must ensure our leaders and representatives are aware of these hazards and are continuing to take steps, in every country, to nullify the possibility of an outbreak.

We do not believe in the eradication of critical virus research; we simply ask that due diligence is applied transparently wherever it is performed.



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## 7 Nomenclature

Through our definitions, we may use several abbreviations or acronyms. When appropriate, we will define them before using them. We will list some of the most important ones here.

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- **Coronavirus:** In this context, the SARS-CoV-2 virus. In the real world, there are hundreds of other coronaviruses.
- **SARS:** Severe Acute Respiratory Syndrome.
- **SARS-CoV-1:** The original SARS virus that struck China in 2003.
- **MERS-CoV:** Middle East Respiratory Syndrome, a variant of SARS that originated in Saudi Arabia in 2012.
- **SARS-CoV-2:** The current coronavirus resulting in the COVID-19 pandemic.
- **2019-nCoV:** The original name for SARS-CoV-2 before being renamed by the World Health Organization.
- **COVID-19:** (CoronaVirus Infectious Disease 2019) The name of the disease that results from a SARS-CoV-2 viral infection. In severe cases, it leads to fatal pneumonia.
- **Zoonotic virus:** A virus that is capable of spreading from an animal to a human.
- **Patient Zero:** the very first person involved in the spillover event that introduces the virus to humanity. At this time, Patient Zero for SARS-CoV-2 is not widely known, if at all.

And finally, the most important definition you must understand:

- **Spillover Event:** A moment in time in which a zoonotic virus "jumps" from an animal host to a human host.

We believe that a spillover event is the most likely explanation for the introduction of SARS-CoV-2 to the human populace. What we will question is whether this spillover event occurred at a market in Wuhan, at a biolaboratory in Wuhan, as a result of interacting with a lab animal from one of these biolaboratories, or somewhere else entirely.

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## 8 Claim 1: Was SARS-CoV-2 Present At A Bio-Laboratory in Wuhan, China?

At this time, it is widely believed that Patient Zero was infected in Wuhan, China with SARS-CoV-2. What is not so certain is where exactly in Wuhan Patient Zero was infected, and how he/she was infected. The competing theories are:

- From eating wild animals at the Huanan Seafood Market
- From doing work at the Wuhan Institute of Virology, which performed gain-of-function research on the original SARS virus
- From doing work at the Wuhan Centre for Disease Control, which performed experiments on and housed many bats known for carrying coronaviruses
- From somewhere elsewhere entirely; they were not in Wuhan at all

Patient Zero would then go on to spread the infection, likely asymptotically, to many people before any defensive measures were taken. This would eventually cause the pandemic now known as COVID-19 and resulting worldwide lockdown.

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### 8.1 The Huanan Seafood Market

The seafood market gained prominence after a study in the New England Journal of Medicine referred to it as a possible origin point:

**A Novel Coronavirus from Patients with Pneumonia in China, 2019 (January 24, 2020)**

Four lower respiratory tract samples, including bronchoalveolar-lavage fluid, were collected from patients with pneumonia of unknown cause who were identified in Wuhan on December 21, 2019, or later and who had been present at the Huanan Seafood Market close to the time of their clinical presentation.

Source: <https://www.nejm.org/doi/10.1056/NEJMoa2001017> (archived)

Indeed, as SARS-CoV-2 and the original SARS-CoV-1 are zoonotic viruses (meaning they spread from animals to humans), it is possible someone may have been in close proximity or even eaten an animal containing the virus. This would constitute a spillover event, many of which have occurred in the past and resulted in the introduction of new diseases to humanity. So, it is not unprecedented.

However, a later paper from The Lancet reported that many initial patients were not directly exposed to the Huanan Seafood Market:

**Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China (January 24, 2020)**

27 (66%) patients had direct exposure to Huanan seafood market (figure 1B). Market exposure was similar between the patients with ICU care (nine [69%]) and those with non-ICU care (18 [64%]). The first patient, who had no known history of exposure to the market, developed fever or any respiratory symptoms. No epidemiological link was found between the first patient and later cases. The first fatal case, who had continuous exposure to the market, was admitted to hospital because of a 7-day history of fever, cough, and dyspnoea. 5 days after illness onset, his wife, a 53-year-old woman who had no known history of exposure to the market, also presented with pneumonia and was hospitalised in the isolation ward.

Source: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30183-5/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30183-5/fulltext) (archived)

Because 34% of cases did not have exposure to the market yet were exposed to the virus, it is highly unlikely the market is the origin point of SARS-CoV-2. Indeed, the study confirms **"No epidemiological link was found between the first patient and later cases"** - meaning that the first patient at the market was not responsible for spreading the virus to other cases.

It is possible that these later cases contracted the virus through community transmission. However, if we consider that community transmission was already prevalent by the time of the seafood market outbreak, it is equally possible that the virus originated somewhere else entirely, and was brought to the market by an infected person. Thus, it can not be definitively claimed that the virus originated at the market.

What is clear is that the spread of the virus began to rise exponentially after it arrived at the Huanan Seafood Market. According to the Wall Street Journal quoting the Chinese Center for Disease Control, the virus was present in "environmental samples" at the market:

#### Virus Sparks Soul-Searching Over China's Wild Animal Trade (January 26, 2020)

Health officials took specimens from the site and found evidence of the virus in 33 out of 585 samples, according to the Chinese Center for Disease Control and Prevention, or CCDC. The virus had been found not just in people's bodies, but on wild-meat stalls, Gao Fu, the CCDC director told Chinese state television on Thursday. "We must thus call on everyone not to eat wild animals," he said. "It is only a matter of time to find out which is the specific animal."

Source: <https://www.wsj.com/articles/virus-sparks-soul-searching-over-chinas-wild-animal-trade-11580055290> (archived)

While Mr. Fu here seems to believe the virus originated from the market, we know from the Lancet study that it is unlikely. So, if SARS-CoV-2 did not originate at the market itself, where could it have come from?

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## 8.2 Suspected Laboratories

The first calls to examine the laboratories began when it emerged that the Wuhan Institute of Virology, China's only BSL-4 bio-laboratory, was only 8.6 miles away from the seafood market. Additionally, the Wuhan Centre for Disease Prevention & Control is located a mere 2.6 miles away. We can easily confirm this with Google Maps:

Thank you to GitHub user zerolattice for their excellent investigation into the location of the WHCDC and providing an updated map image.

Directions from Huanan Seafood Market to Wuhan Institute of Virology, CAS

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<https://www.google.com/maps/dir/Huanan+Seafood+Market,+Fazhan+Avenue,+Jianghan+District,+Wuhan,+Hubei,+China/China,+Wuhan+Institute+of+Virology,+C>

Directions from Huanan Seafood Market to Wuhan Centres for Disease Prevention & Control



<https://www.google.com/maps/dir/Huanan+Seafood+Market,+Fazhan+Avenue,+Jianghan+District,+Wuhan,+Hubei,+China/Wuhan+Centres+for+Disease+Prevention>

While the simple existence of these laboratories does not make them suspects, their proximity to the Huanan Seafood Market does. In Claim 2 we will prove it is entirely possible, and even likely, that an accident at either of these labs could have resulted in Patient Zero.

For now, let us prove that both of these labs have conducted experiments on the SARS-CoV-1 virus, some of which have resulted in variants of the virus, and may still be holding such viruses today. Furthermore, we will prove both labs have conducted experiments involving SARS-CoV-1 on live animals. The Wuhan Institute of Virology will hereby be referred to as WIV and the Wuhan Centre for Disease Prevention & Control as WHCDC.

8.3 A Note on Biowarfare

This document does not make any attempt to link the work done at these laboratories as part of a "bioweapon" or "bio-warfare" program.

The research that has been conducted in these labs, specifically in regards to peer reviewed papers from the WIV and less documented experiments at the WHCDC, may well have advanced our understanding of virology as a species. The 2022-200062 such work as well as the bio-warfare program.

Furthermore, even if these labs are engaging in "bio-warfare" research, depending on the type of research, it would still be permissible under international law:

#### Biological Weapons Convention

The scope of the BWC's prohibition is defined in Article 1 (the so-called general purpose criterion). This includes all microbial and other biological agents or toxins and their means of delivery (with exceptions for medical and defensive purposes in small quantities). Subsequent Review Conferences have reaffirmed that the general purpose criterion encompasses all future scientific and technological developments relevant to the Convention. **It is not the objects themselves (biological agents or toxins), but rather certain purposes for which they may be employed which are prohibited; similar to Art.II, 1 in the Chemical Weapons Convention (CWC). Permitted purposes under the BWC are defined as prophylactic, protective and other peaceful purposes.** The objects may not be retained in quantities that have no justification or which are inconsistent with the permitted purposes.

[https://en.wikipedia.org/wiki/Biological\\_Weapons\\_Convention](https://en.wikipedia.org/wiki/Biological_Weapons_Convention)

China, and indeed any country that is a signatory to the BWC, is allowed to develop offensive bioweapons, in "quantities that are consistent with the permitted purposes," *as long as the purpose of doing so is to develop defenses against them.*

Strategically, it would be a foolish choice to perform illegal bio-warfare research in the most closely monitored, internationally-linked biological lab in China. Western intelligence agencies are obviously aware of its existence, and the Chinese government knows that. Such illegal work, if done at all, is much more likely to be done in confidential military bases and covert labs that are not made known to the public.

In this claim, it is irrelevant whether the research being performed was for bio-warfare purposes or not.

We could not find any direct evidence supporting the theory that SARS-CoV-2 was intentionally released from a laboratory.

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## 8.4 A Note on Bio Safety Levels

As previously mentioned, the WIV has a BSL-4 lab. The WHCDC also operates BSL-2 labs. What does this mean?

The Bio-Safety Level (BSL), also known as the Pathogen or Prevention level (P) in the European Union, dictates the regulations and requirements present in a bio laboratory. These precautions are necessary to prevent harm to employees, the people who interact with them, and life as a whole. The BSL of a given laboratory, at least in the United States, limits the type of pathogens it can operate with. For example, Ebola, smallpox, and plague can only be present in BSL-4 environments due to their potential to cause harm. According to both the WHO and CDC, activities relating to SARS-CoV-1 must be performed in at least a BSL-2 lab. For 2019-nCoV (now SARS-CoV-2), the CDC recommends most activities be carried out with "BSL 3 precautions".

The CDC also provides a BSL infographic.

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## 8.5 The Wuhan Institute of Virology, Chinese Academy of Sciences

The WIV has existed for decades; its Wikipedia page lists its formation year as 1956. It was only in 2014 that it finished construction of its BSL-4 lab, making it the only public institution operating a BSL-4 lab in China:

### Inside the Chinese lab poised to study world's most dangerous pathogens (February 22, 2017)

It will focus on the control of emerging diseases, store purified viruses and act as a World Health Organization 'reference laboratory' linked to similar labs around the world. "It will be a key node in the global biosafety-lab network," says lab director Yuan Zhiming.

...

The lab's first project will be to study the BSL-3 pathogen that causes Crimean-Congo haemorrhagic fever: a deadly tick-borne virus that affects livestock across the world, including in northwest China, and that can jump to people.

Future plans include studying the pathogen that causes SARS, which also doesn't require a BSL-4 lab, before moving on to Ebola and the West African Lassa virus, which do. Some one million Chinese people work in Africa; the country needs to be ready for any eventuality, says Yuan. "Viruses don't know borders."

Source: <https://www.nature.com/news/inside-the-chinese-lab-poised-to-study-world-s-most-dangerous-pathogens-1.21487> (archived)

Since its inception, the global biosafety community has had concerns about this particular BSL-4 lab. From the same article:

But worries surround the Chinese lab, too. The SARS virus has escaped from high-level containment facilities in Beijing multiple times, notes Richard Ebright, a molecular biologist at Rutgers University in

Piscataway, New Jersey. Tim Trevan, founder of CHROME Biosafety and Biosecurity Consulting in Damascus, Maryland, says that an open culture is important to keeping BSL-4 labs safe, and he says that "flat structures where everyone feels free to speak up and openness of information are important," he says.

Yuan says that he has worked to address this issue with staff. "We tell them the most important thing is that they report what they have or haven't done," he says. And the lab's international collaborations will increase openness. "Transparency is the basis of the lab," he adds.

Has the WIV ever conducted experiments involving the SARS-CoV-1 virus?

Indeed, it has. In fact, it worked with the SARS virus years before establishing the BSL-4 lab (this, by itself, is fine, as SARS-CoV-1 is not a BSL-4 pathogen).

### 8.5.1 Paper 1

#### Difference in Receptor Usage between Severe Acute Respiratory Syndrome (SARS) Coronavirus and SARS-Like Coronavirus of Bat Origin (2007)

A group of SARS-like CoVs (SL-CoVs) has been identified in horseshoe bats. SL-CoVs and SARS-CoVs share identical genome organizations and high sequence identities, with the main exception of the N terminus of the spike protein (S), known to be responsible for receptor binding in CoVs. In this study, we investigated the receptor usage of the SL-CoV S by combining a human immunodeficiency virus-based pseudovirus system with cell lines expressing the ACE2 molecules of human, civet, or horseshoe bat. In addition to full-length S of SL-CoV and SARS-CoV, a series of S chimeras was constructed by inserting different sequences of the SARS-CoV S into the SL-CoV S backbone. Several important observations were made from this study. First, the SL-CoV S was unable to use any of the three ACE2 molecules as its receptor. Second, the SARS-CoV S failed to enter cells expressing the bat ACE2. Third, the chimeric S covering the previously defined receptor-binding domain gained its ability to enter cells via human ACE2, albeit with different efficiencies for different constructs. Fourth, a minimal insert region (amino acids 310 to 518) was found to be sufficient to convert the SL-CoV S from non-ACE2 binding to human ACE2 binding, indicating that the SL-CoV S is largely compatible with SARS-CoV S protein both in structure and in function. The significance of these findings in relation to virus origin, virus recombination, and host switching is discussed.

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2258702/> (archived)

The three most important phrases in this abstract as they relate to SARS-CoV-2 are:

- "First, the SL-CoV S was unable to use any of the three ACE2 molecules as its receptor."
- "we investigated the receptor usage of the SL-CoV S by combining a human immunodeficiency virus-based pseudovirus system with cell lines expressing the ACE2 molecules of human, civet, or horseshoe bat"
- "Third, the chimeric S covering the previously defined receptor-binding domain gained its ability to enter cells via human ACE2"

In layman's terms:

- We found this SARS-like virus ("S") that couldn't infect human cells.
- So, we combined S with parts of HIV, which does infect human cells, to see if this new S could infect human cells.
- The new S ("chimeric S") can infect human cells.

We find that WIV was involved in this study in the Materials and Methods section:

#### Materials and Methods

A MAbs against p24 of HIV was generated by the HIV group of the Wuhan Institute of Virology (unpublished results). Rabbit polyclonal antibodies against ACE2 of the bat *R. pearsonii* (RpACE2) was generated using a recombinant RpACE2 protein expressed in *Escherichia coli* at our laboratory at the Wuhan Institute of Virology, following standard procedures.

All 10 scientists who are associated with this paper are also associated with the Wuhan Institute of Virology. From the paper's Author Information tab:

## Difference in Receptor Usage between Severe Acute Respiratory

Syndrome (SARS) Coronavirus and SARS-Like Coronavirus of Bat Origin

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Wuze Ren,<sup>1,†</sup> Xiuxia Qu,<sup>2,†</sup> Wendong Li,<sup>1,‡</sup> Zhenggang Han,<sup>1</sup> Meng Yu,<sup>3</sup> Peng Zhou,<sup>1</sup> Shu-Yi Zhang,<sup>4</sup>  
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<sup>†</sup>W.R. and X.Q. contributed equally to this work.

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Finally, we would like to highlight this prophetic paragraph in the Discussion section:

Considering the documented observations of coinfection of the same bat species by different CoVs, the same CoVs infecting different bat species (26, 29, 39), the high density of bat habitats, and the propensity for genetic recombination among different CoVs, it is not unreasonable to conclude that bats are a natural mixing vessel for the creation of novel CoVs and that it is only a matter of time before some of them cross species barriers into terrestrial mammal and human populations. The findings presented in this study serve as the first example of host switching achievable for G2b CoVs under laboratory conditions by the exchange of a relatively small sequence segment among these previously unknown CoVs.

The papers referenced in this paragraph are provided below:

- 26 - Severe acute respiratory syndrome coronavirus like virus in Chinese horseshoe bats
- 29 - Bats are natural reservoirs of SARS-like coronaviruses
- 39 - Prevalence and genetic diversity of coronaviruses in bats from China

In layman's terms:

- Multiple coronaviruses can infect the same bat (coinfection)
- Those same viruses can infect different kinds of bats
- There's a lot of bats everywhere
- Coronaviruses like to mix their genes together (recombine)
- If two coronaviruses infect the same bat and recombine, they can potentially result in a novel (never before recognized) coronavirus
- It only takes a few changes ("exchange of a relatively small sequence segment") between two coronaviruses to result in a third coronavirus that can infect other animals ("host-switching")
- The odds of this happening are pretty good!

Indeed, as we know now, the odds were pretty good. Of course, what we don't know is whether this spillover event happened in the wild (currently unproven) or in the WIV (this paper proves that they have successfully done it before, in this very location).

### 8.5.2 Paper 2

WIV didn't stop researching SARS back in 2007, either. A second paper, from 2015, not only reiterates the first paper's findings, but outright claims they "synthetically re-derived an infectious full-length SHC014 recombinant virus and demonstrate robust viral replication both in vitro and in vivo."

#### A SARS-like cluster of circulating bat coronaviruses shows potential for human emergence (2015)

The emergence of severe acute respiratory syndrome coronavirus (SARS-CoV) and Middle East respiratory syndrome (MERS)-CoV underscores the threat of cross-species transmission events leading to outbreaks in humans. Here we examine the disease potential of a SARS-like virus, SHC014-CoV, which is currently circulating in Chinese horseshoe bat populations. Using the SARS-CoV reverse genetics system, we generated and characterized a chimeric virus expressing the spike of bat coronavirus SHC014 in a mouse-adapted SARS-CoV backbone. The results indicate that group 2b viruses encoding the SHC014 spike in a wild-type backbone can efficiently use multiple orthologs of the

SARS receptor human angiotensin converting enzyme II (ACE2), replicate efficiently in primary human airway cells and achieve in vitro titers equivalent to epidemic strains of SARS-CoV. Additionally, in vivo replication in mouse lung. Evaluation of available SARS-based immune-therapeutic and prophylactic modalities revealed poor efficacy; both monoclonal antibody and vaccine approaches failed to neutralize and protect from infection with CoVs using the novel spike protein. On the basis of these findings, we synthetically re-derived an infectious full-length SHC014 recombinant virus and demonstrate robust viral replication both in vitro and in vivo. Our work suggests a potential risk of SARS-CoV re-emergence from viruses currently circulating in bat populations.

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Source: <https://www.ncbi.nlm.nih.gov/pubmed/26552008> (archived)

Three important definitions to understand this in layman's terms:

- "in vitro" means an experiment using cells (i.e. petri dishes and test tubes)
- "in vivo" means an experiment using real, living organisms (i.e. mice)
- "chimera virus" means it is a genetic mixture of two separate viruses

Once again, in layman's terms:

- We found a virus in bats called SHC014-CoV that is similar to SARS.
- We constructed a chimera virus using SHC014-CoV as a basis that could also infect mice cells.
- We found the same virus can infect "human airway cells" and impact them the same way as "epidemic strains of SARS-CoV" in vitro. (paraphrased: "it's as bad as SARS")
- We tested the same virus on real mice ("in vivo"), and found it could infect their lungs.
- We tried to fight the virus using antibodies and vaccines that help fight SARS, and couldn't find anything that helped. ("poor efficacy")
- We synthetically cloned this chimera virus and tested it both in vitro and in vivo, and found it works well.

And the tie to WIV, in the Author Information:

### A SARS-like cluster of circulating bat coronaviruses shows potential for human emergence.

[Menachery VD<sup>1</sup>](#), [Yount BL Jr<sup>1</sup>](#), [Debbink K<sup>1,2</sup>](#), [Agnihotram S<sup>3</sup>](#), [Gralinski LE<sup>1</sup>](#), [Piante JA<sup>1</sup>](#), [Graham RL<sup>1</sup>](#), [Scobey T<sup>1</sup>](#), [Ge XY<sup>4</sup>](#), [Donaldson EF<sup>1</sup>](#), [Randell SH<sup>5,6</sup>](#), [Lanzavecchia A<sup>7</sup>](#), [Marasco WA<sup>8,9</sup>](#), [Shi ZL<sup>4</sup>](#), [Banic RS<sup>1,2</sup>](#).

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- 9 Department of Medicine, Harvard Medical School, Boston, Massachusetts, USA.

Rather than dissect these findings, here is a Nature article describing the controversy over this paper:

#### Engineered bat virus stirs debate over risky research (November 12, 2015)

But other virologists question whether the information gleaned from the experiment justifies the potential risk. Although the extent of any risk is difficult to assess, Simon Wain-Hobson, a virologist at the Pasteur Institute in Paris, points out that the researchers have created a novel virus that "grows remarkably well" in human cells. "If the virus escaped, nobody could predict the trajectory," he says.

...

In their paper, the study authors also concede that funders may think twice about allowing such experiments in the future. "Scientific review panels may deem similar studies building chimeric viruses based on circulating strains too risky to pursue," they write, adding that discussion is needed as to "whether these types of chimeric virus studies warrant further investigation versus the inherent risks involved".

Source: <https://www.nature.com/news/engineered-bat-virus-stirs-debate-over-risky-research-1.18787> (archived)

At this point, you may notice the list of authors for these two papers are quite similar. You will be able to find many of these authors in our next set of papers. In particular, Dr. Shi Zhengli is a recurring name in every single paper we cite from the WIV (which is to be expected - she is a director at the institute).

Both papers mention the receptor "angiotensin-converting enzyme-2." In Paper 1, WIV took a virus that previous could not bind to ACE2 and modified it slightly to enable it to bind to ACE2 receptors. In Paper 2, they synthesized a SARS-CoV-2 that could bind to ACE2 receptors.

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SARS-CoV-1 and SARS-CoV-2 also bind to the ACE2 receptor:

**Comparative genetic analysis of the novel coronavirus (2019-nCoV/SARS-CoV-2) receptor ACE2 in different populations (February 24, 2020)**

The ACE2 gene encodes the angiotensin-converting enzyme-2, which has been proved to be the receptor for both the SARS-coronavirus (SARS-CoV) and the human respiratory coronavirus NL63. Recent studies and analyses indicate that ACE2 could be the host receptor for the novel coronavirus 2019-nCoV/SARS-CoV-2. Previous studies demonstrated the positive correlation of ACE2 expression and the infection of SARS-CoV in vitro<sup>3,4</sup>. A number of ACE2 variants could reduce the association between ACE2 and S-protein in SARS-CoV or NL635. Therefore, the expression level and expression pattern of human ACE2 in different tissues might be critical for the susceptibility, symptoms, and outcome of 2019-nCoV/SARS-CoV-2 infection.

Source: <https://www.nature.com/articles/s41421-020-0147-1> (archived)

While it is possible, and even likely, for a SARS-like coronavirus to develop the ability to bind to ACE2 receptors in the wild (as Paper 2 claims), this unfortunately also means we cannot rule out the connection to WIV. If SARS-CoV-2 had bound to different receptors, that would make the contents of these papers less suspicious for the claims at hand.

#### 8.5.4 Paper 4

In an internationally renowned discovery in 2017, the WIV found a cave in Yunnan Province that almost certainly held the first SARS-CoV-1 virus:

**Discovery of a rich gene pool of bat SARS-related coronaviruses provides new insights into the origin of SARS coronavirus (November 30, 2017)**

In addition, we report the first discovery of bat SARSr-CoVs highly similar to human SARS-CoV in ORF3b and in the split ORF8a and 8b. Moreover, SARSr-CoV strains from this cave were more closely related to SARS-CoV in the non-structural protein genes ORF1a and 1b compared with those detected elsewhere. Recombination analysis shows evidence of frequent recombination events within the S gene and around the ORF8 between these SARSr-CoVs. We hypothesize that the direct progenitor of SARS-CoV may have originated after sequential recombination events between the precursors of these SARSr-CoVs. Cell entry studies demonstrated that three newly identified SARSr-CoVs with different S protein sequences are all able to use human ACE2 as the receptor, further exhibiting the close relationship between strains in this cave and SARS-CoV.

...

Bat samplings were conducted ten times from April 2011 to October 2015 at different seasons in their natural habitat at a single location (cave) in Kunming, Yunnan Province, China. All members of field teams wore appropriate personal protective equipment, including N95 masks, tear-resistant gloves, disposable outerwear, and safety glasses. Bats were trapped and fecal swab samples were collected as described previously [9]. Clean plastic sheets measuring 2.0 by 2.0 m were placed under known bat roosting sites at about 18:00 h each evening for collection of fecal samples. Fresh fecal pellets were collected from sheets early in the next morning. Each sample (approximately 1 gram of fecal pellet) was collected in 1ml of viral transport medium composed of Hank's balanced salt solution at pH7.4 containing BSA (1%), amphotericin (15 µg/ml), penicillin G (100 units/ml), and streptomycin (50 µg/ml), and were stored at -80°C until processing. Bats trapped for this study were released back into their habitat.

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5708621/> (archived)

Now, it claims that this same exact cave most likely contained the bat host for SARS-CoV-2:

**A pneumonia outbreak associated with a new coronavirus of probable bat origin (February 3, 2020)**

Full-length genome sequences were obtained from five patients at an early stage of the outbreak. The sequences are almost identical and share 79.6% sequence identity to SARS-CoV. Furthermore, we show that 2019-nCoV is 96% identical at the whole-genome level to a bat coronavirus. Pairwise protein sequence analysis of seven conserved non-structural proteins domains show that this virus belongs to the species of SARSr-CoV.

...

We then found that a short region of RNA-dependent RNA polymerase (RdRp) from a bat coronavirus (BatCoV RaTG13)—which was previously detected in *Rhinolophus affinis* from Yunnan province—showed high sequence identity to 2019-nCoV. We carried out full-length sequencing on this RNA sample (GISAID accession number EPI\_ISL\_402131). Simplot analysis showed that 2019-nCoV was highly similar throughout the genome to RaTG13 (Fig. (Fig.1c),1c), with an overall genome sequence identity of 96.2%. Using the aligned genome sequences of 2019-nCoV, RaTG13, SARS-CoV and previously reported bat SARSr-CoVs, no evidence for recombination events was detected in the genome



of 2019-nCoV. Phylogenetic analysis of the full-length genome and the gene sequences of RdRp and spike (S) showed that—for all sequences—RaTG13 is the closest relative of 2019-nCoV and they form a distinct lineage from other SARS-CoVs.

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...

The close phylogenetic relationship to RaTG13 provides evidence that 2019-nCoV may have originated in bats.

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7095418/> (archived)

From the 2017 paper, we know that bat samples have been taken from the cave since 2011. The virus RaTG13, which this paper claims is a 96.2% match with SARS-CoV-2, likely came from samples taken from this cave as well.

When it comes to coronaviruses, a 96.2% match is very, very close. You may have heard the common saying that humans share 96% of their DNA with other primates, such as chimpanzees. While this is true, a virus has a significantly smaller genome (only tens of thousands of base pairs compared to over 6 billion in the human genome).

Importantly, this paper shows that WIV has sampled viruses nearly identical to SARS-CoV-2 in the past, and may still be storing samples of these viruses today.

### 8.5.5 Paper 5

#### Fatal swine acute diarrhoea syndrome caused by an HKU2-related coronavirus of bat origin (April 4, 2018)

Experiments were carried out strictly in accordance with the recommendations of the Guide for the Care and Use of Laboratory Animals of the National Institutes of Health. The use of animals in this study was approved by the South China Agricultural University Committee of Animal Experiments (approval number 201004152).

...

The intestinal tissue samples from healthy and diseased animals (intestinal samples excised from euthanized piglets, then ground to make slurry for the inoculum and NGS was performed to confirm no other pig pathogens were found in the samples), were used to feed two groups of 5 (control) and 7 (infection) animals, respectively. For the second experiment, isolated SADS-CoV was used to infect healthy piglets from a farm in Guangdong, which had been free of diarrheal disease for a number of weeks. These piglets were from the same breed as those on SADS-affected farms, to eliminate potential host factor differences and to more accurately reproduce the conditions that occurred during the outbreak in the region. Both groups of piglets were cared for at a known pig disease-free facility. Again, qPCR and NGS were used to make sure that there was no other known swine diarrhoea virus present in the virus inoculum or any of the experimental animals. Two groups (6 for each group) of three-day old piglets were inoculated with SADS-CoV culture supernatant or normal cell culture medium as control. NGS and qPCR were used to confirm that there were no other known swine pathogens in the inoculum.

For both experiments, animals were recorded daily for signs of diseases, such as diarrhoea, weight loss and death. Faecal swabs were collected daily from all animals and screened for known swine diarrhoea viruses by qPCR. Weight loss was calculated as the percentage weight loss compared the original weight at day 0 with a threshold of >5%. It is important to point out that piglets when they are three days old tend to suffer from diarrhoea and weight loss when they are taken away from sows and the natural breast-feeding environment even without infection. At experimental endpoints, piglets were humanely euthanized and necropsies performed. Pictures were taken to record gross pathological changes to the intestines. Ileal, jejunal and duodenal tissues were taken from selected animals and stored at -80 °C for further analysis.

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7094983/> (archived)

In this experiment, a similar virus to SARS-CoV-1, SADS-CoV, was intentionally injected into piglets to study its symptoms. This, along with Paper 2, proves without a doubt that WIV has performed experiments on live animals involving bat coronaviruses.

### 8.5.6 Paper 6

To further drive home the point that the WIV was heavily researching bat coronaviruses, here is a study on the efficacy of a specific disinfectant:

#### Evaluation of MICRO-CHEM PLUS as a Disinfectant for Biosafety Level 4 Laboratory in China (March 5, 2018)

MICRO-CHEM PLUS Detergent Disinfectant Cleaner (MCP) is a commonly used disinfectant at biosafety level 4 (BSL-4) laboratories where research activities involving the most dangerous pathogens must be conducted. Using bat severe acute respiratory syndrome (SARS)-like coronavirus (CoV) WIV1 as a surrogate pathogen, we extensively evaluated the disinfection efficacy of 5% MCP in the first BSL-4 laboratory in China. WIV1 was completely inactivated in 1 minute of contact time by a 27-fold dilution

of 5% MCP with a titer reduction of more than 7 lg 50% tissue culture infectious dose (TCID<sub>50</sub>)/mL, while a 243-fold dilution of 5% MCP showed very weak activity.

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Source: <https://journals.sagepub.com/doi/full/10.1177/15335676018758891> (archived)

They even used a bat coronavirus to test their disinfecting methods!

### 8.5.7 Paper 7

Yet another animal test involving piglets and a TGEV coronavirus was carried out in early 2019:

#### **The N-Terminal Domain of Spike Protein Is Not the Enteric Tropism Determinant for Transmissible Gastroenteritis Virus in Piglets (March 30, 2019)**

Transmissible gastroenteritis virus (TGEV), one of the representative CoVs of the Alphacoronavirus genus, is the etiologic agent of transmissible gastroenteritis (TGE) in pigs [12]. TGEV is widespread in the pork industry, causes high mortality in neonatal pigs, and is generally thought to share a common ancestor with porcine respiratory coronavirus (PRCV) [13].

...

Thirteen 2-day-old piglets from a TGEV-free sow were randomly divided into three groups and fed fresh liquid milk diluted in warm water every 4 h. All piglets were confirmed to be free of TGEV, PEDV, porcine delta coronavirus (PDCoV), and rotavirus (RV) through a RT-PCR assay of piglet feces before viral challenge. The piglet weights were measured and recorded at the beginning of the challenge. The piglet challenge group was intranasally and orally inoculated with 500  $\mu$ L ( $1 \times 10^5$  TCID<sub>50</sub>) of chimeric virus, and the mock-infected control group was intranasally and orally inoculated with 500  $\mu$ L of DMEM.

The piglets were monitored for their clinical status every 4 h. Any piglet exhibiting moribund signs were euthanized. At 7 days post-inoculation, all surviving piglets were euthanized consecutively to reduce the stress of the other piglets. Before necropsy, the weight of each piglet was recorded. At necropsy, five sections of the duodenum, jejunum, ileum, colon and stomach were collected, fixed in 10% formalin for histopathological examination and stained with hematoxylin and eosin (HE). After necropsy, samples of jejunal contents and lung tissue were collected for virus detection by nested RT-PCR using the specific primers F1/R1 and F2/R2 (Table 2) [50].

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6520731/> (archived)

### 8.5.8 Paper 8

We're not done with piglets yet!

#### **A conserved region of nonstructural protein 1 from alphacoronaviruses inhibits host gene expression and is critical for viral virulence (July 26, 2019)**

To test the pathogenicity of TGEV(91–95sg), an animal experiment was carried out. Piglets that had not been breastfed at birth were randomly divided into two groups with five piglets in each group; in addition, a mock-infected control group was formed that contained three piglets. The piglets were orally inoculated at a dose of  $1 \times 10^6$  50% tissue culture infective dose (TCID<sub>50</sub>) with the respective chimeric virus or mock-infected with Dulbecco's modified Eagle's medium (DMEM). The animal experiments showed that replacement of the selected motif (amino acids 91–95) reduced the pathogenic properties of TGEV. Furthermore, in the TGEV group, all five piglets exhibited obvious dehydration and weight loss. Severe diarrhea began at 48 h postinfection, and all piglets died within 96 h, indicating the acquisition of lethal characteristics (Fig. 7C).

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6746460> (archived)

### 8.5.9 Paper 9

#### **Molecular mechanism for antibody-dependent enhancement of coronavirus entry (November 27, 2019)**

Antibody-dependent enhancement (ADE) of viral entry has been a major concern for epidemiology, vaccine development, and antibody-based drug therapy. However, the molecular mechanism behind ADE is still elusive. Coronavirus spike protein mediates viral entry into cells by first binding to a receptor on the host cell surface and then fusing viral and host membranes. In this study, we investigated how a neutralizing monoclonal antibody (MAb), which targets the receptor-binding domain (RBD) of Middle East respiratory syndrome (MERS) coronavirus spike, mediates viral entry using pseudovirus entry and biochemical assays.

...

Our study reveals a novel molecular mechanism for antibody-enhanced viral entry and can guide future vaccination and antiviral strategies.

Source: <https://jvi.asm.org/content/94/5/e02015-19> (archived)

You may need to click the PDF button to access the actual paper.

As recently reported, WIV was conducting research on SARS-CoV, with the first sample of SARS-CoV-1.

### 8.5.10 Lack of PPE during Sample Collection

Personal Protective Equipment (PPE) is crucial in preventing infection among lab workers. One WIV press release itself points to a lack of PPE usage amongst personnel.

Thank you to GitHub users ribagi and f-pound for providing links to this press release.

#### [China Youth Daily] Batwoman team finds the source of SARS virus (December 14, 2017)

As the team leader, Shi Zhengli often leads a team to climb mountains and drill holes. Sampling work is usually a group of 4 people. The team members wore N95 masks, gloves and headlights, and jackets, and set up bird catchers at the entrance of the bat cave in the evening.

...

Despite wearing gloves, the risk of being bitten by a bat remains. Fan Yibi, a research team member, drew the length of the bat's teeth. Not long ago, his index finger was bitten by a bat.

"Before sampling in the field, we will inject rabies vaccine in advance. Among the viruses carried by bats, this is the most dangerous." Fan Yi said.

Page translated to English via Google Translate.

Source: [http://www.whio.v.cas.cn/xwdt\\_105286/kydt/201712/t20171214\\_4916301.html](http://www.whio.v.cas.cn/xwdt_105286/kydt/201712/t20171214_4916301.html) (archived)

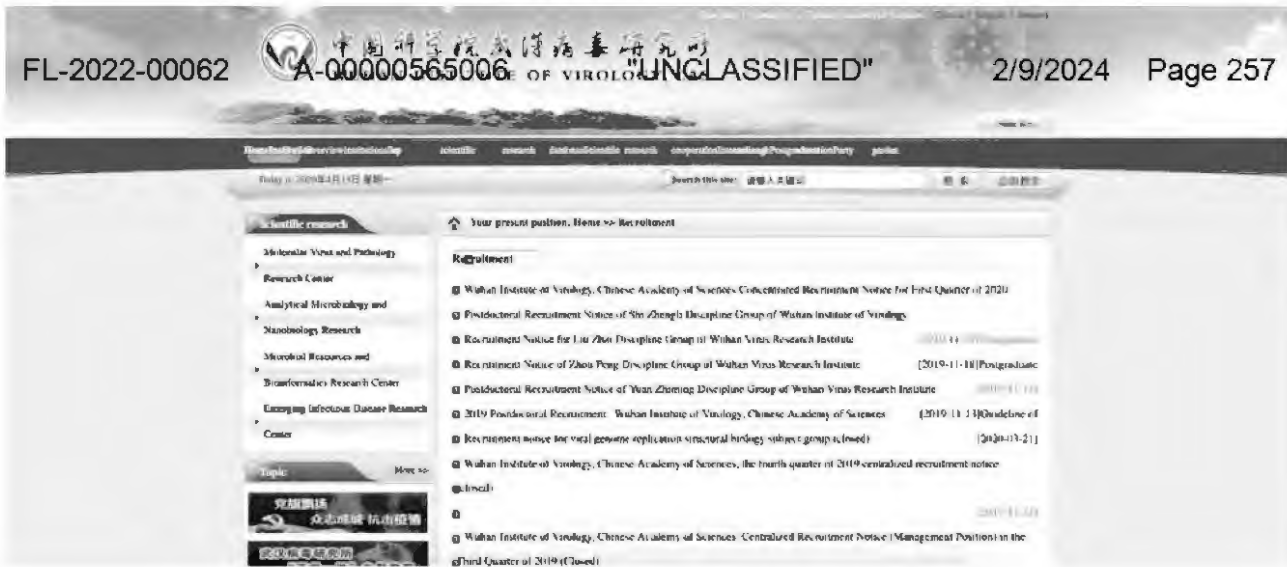
This image was attached to the article:



Note the lack of gloves on the researcher in the center and the lack of any facial protection such as safety glasses. This is despite the article mentioning the risk of being bitten by a bat, and even including that a researcher was already bitten by a bat.

### 8.5.11 Job Postings

From November to December, WIV uploaded two job postings to its website:



<http://www.whiov.cas.cn/105341/> (archived)

Page translated to English via Google Translate.

The November 18, 2019, job posting, titled "武汉病毒研究所周鹏学科组博士后招聘启事", contains the following section:

**Postdoctoral Recruitment Notice of Zhou Peng Discipline Group of Wuhan Virus Research Institute (November 18, 2019)**

The main research directions of the research group:

**Taking bat as the research object**, answer the molecular mechanism that can coexist with Ebola and SARS- related coronavirus for a long time without disease, and its relationship with flight and longevity. Virology, immunology, cell biology and multiple omics are used to compare the differences between humans and other mammals.

Page translated to English via Google Translate.

Source: [http://www.whiov.cas.cn/105341/201911/t20191118\\_5438006.html](http://www.whiov.cas.cn/105341/201911/t20191118_5438006.html) (archived)

The second posting, "武汉病毒所石正丽学科组博士后招聘启事", uploaded December 24, 2019 (7 days before China reported cases of unknown pneumonia to the WHO), says:

**Postdoctoral Recruitment Notice of Shi Zhengli Discipline Group of Wuhan Virology Institute (December 24, 2019)**

1. Recruitment positions: 1-2 postdoctors

Proposed recruitment direction 1: Ecological study of bat migration and virus transmission

Prospective direction 2: bat virus cross-species infection and its pathogenicity

...

**Introduction to PI**

Shi Zhengli, Ph.D., researcher, team leader of the Department of Emerging Viruses, Wuhan Institute of Virology, Chinese Academy of Sciences, director of the Center for Emerging Infectious Diseases, Wuhan Institute of Virology, Chinese Academy of Sciences, director of the Key Laboratory of Pathogenic Biology and Biosafety, Chinese Academy of Sciences, Editor-in-chief of "Virologica Sinica" magazine. **Long-term research on the pathogenic biology of bats carrying important viruses has confirmed the origin of bats for major human and animal infectious diseases such as SARS and SADS, and discovered and identified a large number of new viruses in bats and rodents.**

...

The New Virus Discipline Group focuses on the etiology of new viruses and their infection mechanisms, including bat and rodent virus discovery, early warning and transmission rules research, cross-species infection mechanism and pathogenicity of coronavirus and other important bat virus Research, new virus serology and molecular diagnostic technology. The subjects undertaken by the discipline group include the National Natural Science Foundation's major instrument research and development projects, key projects, general projects, the Chinese Academy of Sciences pilot project, the Chinese Academy of Sciences China-Africa Research Center project, the US NIH project, etc.

Page translated to English via Google Translate.

Source: [http://www.whiov.cas.cn/105341/201912/t20191224\\_5471634.html](http://www.whiov.cas.cn/105341/201912/t20191224_5471634.html) (archived)

From these job postings, it cannot be denied that the WIV was looking for personnel to research bat coronaviruses, including the "cross-species infection mechanism," at the time of the SARS-CoV-2 spillover event.

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### 8.5.12 Conclusion: Highly Likely

It is worth addressing the Editor's Note, now placed above Paper 3:

Editors' note, March 2020: We are aware that this story is being used as the basis for unverified theories that the novel coronavirus causing COVID-19 was engineered. There is no evidence that this is true; scientists believe that an animal is the most likely source of the coronavirus.

Indeed; the claim here is not that SARS-CoV-2 was engineered. Rather, what this story and the associated papers prove, is that the Wuhan Institute of Virology has:

- Conducted research involving the SARS-CoV-1 virus
- "Recombined" and "synthetically derived" different viruses based on SARS-CoV-1, some of which could be far more dangerous than SARS proper
- Conducted tests on live cells ("in vitro") involving variants of SARS-CoV-1
- Conducted live animal tests ("in vivo") involving variants of SARS-CoV-1
- Conducted live animal tests ("in vivo") involving SARS-CoV
- Conducted live piglet tests ("in vivo") with TGEV coronavirus as recently as July 2019
- Conducted experiments with MERS-CoV in November 2019
- Used variants of SARS-CoV-1 to test disinfecting procedures
- Was actively hiring researchers to study bat coronaviruses and how they can infect other species in late November and December 2019

Disregarding the possibility of a lab accident, which will be investigated in Claim 2, the likelihood that WIV did not store bat coronaviruses within its labs is extremely low. What is the likelihood that one of these stored coronaviruses was SARS-CoV-2?

How can we be certain it was not?

### 8.5.13 Shi Zhengli's Response

#### How China's 'Bat Woman' Hunted Down Viruses from SARS to the New Coronavirus (March 11, 2020)

BELING—The mysterious patient samples arrived at Wuhan Institute of Virology at 7 P.M. on December 30, 2019. Moments later, Shi Zhengli's cell phone rang. It was her boss, the institute's director. The Wuhan Center for Disease Control and Prevention had detected a novel coronavirus in two hospital patients with atypical pneumonia, and it wanted Shi's renowned laboratory to investigate.

...

Shi—a virologist who is often called China's "bat woman" by her colleagues because of her virus-hunting expeditions in bat caves over the past 16 years—walked out of the conference she was attending in Shanghai and hopped on the next train back to Wuhan. "I wondered if [the municipal health authority] got it wrong," she says. "I had never expected this kind of thing to happen in Wuhan, in central China." Her studies had shown that the southern, subtropical areas of Guangdong, Guangxi and Yunnan have the greatest risk of coronaviruses jumping to humans from animals—particularly bats, a known reservoir for many viruses. If coronaviruses were the culprit, she remembers thinking, "could they have come from our lab?"

...

On the train back to Wuhan on December 30 last year, Shi and her colleagues discussed ways to immediately start testing the patient samples. In the following weeks—the most intense and the most stressful time of her life—China's bat woman felt she was fighting a battle in her worst nightmare, even though it was one she had been preparing for over the past 16 years. Using a technique called polymerase chain reaction, which can detect a virus by amplifying its genetic material, the first round of tests showed that samples from five of seven patients contained genetic sequences known to be present in all coronaviruses.

Shi instructed her team to repeat the tests and, at the same time, sent the samples to another laboratory to sequence the full viral genomes. Meanwhile she frantically went through her own laboratory's records from the past few years to check for any mishandling of experimental materials, especially during disposal. Shi breathed a sigh of relief when the results came back: none of the sequences matched those of the viruses her team had sampled from bat caves. "That really took a load off my mind," she says. "I had not slept a wink for days."

Source: <https://www.scientificamerican.com/article/how-chinas-bat-woman-hunted-down-viruses-from-sars-to-the-new-coronavirus/> (archived)

**Coronavirus: bat scientist's cave exploits offer hope to beat virus 'sneakier than Sars'** (February 6, 2020)

FL-2022-00062 A-00000565006 "UNCLASSIFIED"  
Daily internet searches for Shi's name increased 2,000 times from the average in a recent week, yet most posts on China's internet and social media about her were negative. Some people called Shi the "mother of the devil".

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The flood of attacks came with allegations that the new coronavirus had escaped from her laboratory, which is in the same city, Wuhan, where the outbreak happened.

As the attacks increased, Shi felt forced to respond. On Sunday afternoon she sent a message to all her friends on the social media site WeChat: "I swear with my life, [the virus] has nothing to do with the lab."

...

When asked to comment about the social media attacks, she said only: "My time must be spent on more important matters."

Source: <https://www.scmp.com/news/china/society/article/3049397/bat-ladys-cave-exploits-offer-hope-beat-virus-sneakier-sars> (archived)

Dr. Shi Zhengli (archived) is listed as an author for almost all of these papers. She is a chief scientist at the WIV and has been working there for decades. She likely understands SARS-CoV-1 and SARS-CoV-2 more than anyone reading or writing this document.

So, it is more than telling that she, too, considered the lab outbreak theory. Of course, after doing her research, she denies it. If she is correct, then we can indeed cross WIV off of our list of theories.

While we greatly respect Dr. Shi and her work, it would be foolish to discount the obvious bias involved. If this is an accident being covered up, why would she tell the truth?

Without independent, unbiased confirmation, how can we be certain that Dr. Shi is correct?

"We have investigated ourselves, and found nothing wrong."

---

#### 8.5.14 Yuan Zhiming's Response

##### **Wuhan Lab Denies Any Link to First Coronavirus Outbreak (April 20, 2020)**

Yuan Zhiming, the Wuhan Institute of Virology's Communist Party chief, hit back at those promoting theories that the virus had escaped from the facility and caused the outbreak in the central Chinese city.

"There is absolutely no way that the virus originated from our institute," Yuan said in an interview Saturday with the state-run China Global Television Network.

Yuan rejected theories that the yet-to-be identified "Patient Zero" for Covid-19 had contact with the institute, saying none of its employees, retirees or student researchers were known to be infected. He said U.S. Senator Tom Cotton, an Arkansas Republican, and Washington Post journalists were among those "deliberately leading people" to mistrust the facility and its "P4" top-level-security pathogen lab.

...

"What we know is that the ground zero for this virus was within a few miles of that lab," Peter Navarro, a Trump trade adviser, said Sunday on Fox News. "If you simply do an Occam's razor approach that the simplest explanation is probably the most likely, I think it's incumbent on China to prove that it wasn't that lab."

...

"They don't have any evidence on this, what they rely on is only their guess," Yuan told CGTN on Saturday. "I hope such a conspiracy theory will not affect cooperation among scientists around the world."

Source: <https://www.bloomberg.com/news/articles/2020-04-20/wuhan-virus-lab-denies-any-link-to-first-coronavirus-outbreak> (archived)

Once again, without independent, unbiased confirmation, how can we be certain that Yuan Zhiming is correct?

Furthermore, we actually know for a fact that Mr. Zhiming lied during his interview:

##### **China lab rejects COVID-19 conspiracy claims, but virus origins still a mystery (April 28, 2020)**

"The WIV does not have the intention and the ability to design and construct a new coronavirus," he said in written responses to questions from Reuters. "Moreover, there is no information within the SARS-CoV-2 genome indicating it was manmade."

...

Yuan also rejected theories that the lab had accidentally released a coronavirus it had harvested from bats for research purposes, saying the lab's biosecurity procedures were strictly enforced.

...

"High-level biosafety labs have sophisticated protective facilities and strict measures to ensure the safety of laboratory staff and protect the environment from contamination," he said.

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Asked whether his institute would cooperate with an international inquiry into the pandemic, Yuan said that he was unaware of "such a mechanism", but that the laboratory was already inspected regularly.

He added that his institute was committed to transparency and would share all available data about the coronavirus in a timely fashion.

"I hope everyone will put aside their prejudices and biases in order to provide a rational environment for research on tracing the origin of the virus," he said.

Source: <https://www.reuters.com/article/us-health-coronavirus-china-lab/china-lab-rejects-covid-19-conspiracy-claims-but-virus-origins-still-a-mystery-idUSKCN22A0MM> (archived)

- The WIV does not have the ability to "design and construct a new coronavirus"? Perhaps he has not read Paper 1 or Paper 2, in which new coronavirus variants were designed and synthetically developed?
- Whatever "strict measures to ensure safety" were in place at the time of the outbreak were superseded by Post Outbreak Biosafety Guidelines in early January meant to address deficiencies in lab safety.
- Claiming that the laboratory is inspected regularly is useless if such inspections are not carried out by unbiased independent entities that can report safety issues.
- The WIV is not committed to transparency and did not share coronavirus data in a timely fashion.

We agree with Mr. Zhiming in that we "hope everyone will put aside their prejudices and biases in order to provide a rational environment for research on tracing the origin of the virus."

## 8.6 Wuhan Centre for Disease Control

WIV was the prime suspect until a mysterious paper, released on ResearchGate in early February, pointed at the possibility of an infection acquired from the Wuhan Centre for Disease Control. Indeed, its close proximity to the Huanan Seafood Market - less than 3 miles away - combined with its lower BSL rating (BSL-2), also makes it a likely candidate.

The paper was released by Botao Xiao and Lei Xiao, from the South China University of Technology. It has since been redacted from ResearchGate. Attempting to access it (such as from <http://doi.org/10.13140/RG.2.2.21799.29601>) results in the following error page:

This content has been removed by the author

Sorry, the content associated with this DOI is no longer available on ResearchGate.

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Botao Xiao and Lei Xiao's profiles also appear to have disappeared from ResearchGate. [https://www.researchgate.net/profile/Botao\\_Xiao](https://www.researchgate.net/profile/Botao_Xiao) leads to a directory search page.

According to Google Scholar, Botao Xiao has published peer reviewed papers in the fields of "Biophysics, Synthetic Biology, Molecular Biology, Biomedical Engineering, Biomechanics":

**Botao Xiao**  
 Professor South China University of Technology  
 1000000565006 "UNCLASSIFIED"

Physics Synthetic Biology Molecular Biology Biomedical Engineering Bioinformatics

Cited by: All Since 2015

Year	Citations	h-index	i10-index
2015	278	10	11
2016	70	10	11
2017	35	10	11
2018	35	10	11
2019	35	10	11
2020	35	10	11
2021	35	10	11
2022	35	10	11

Co-authors:

- John F. Marko, Professor, Molecular Bioscience
- Rebekah HEALD
- Jie Yan, Professor, Department of Physic
- Thomas J. Mareca, University of Massachusetts Am

<https://scholar.google.com/citations?user=ap6QWmcAAA&hl=en> (archived)

He received his PhD from Northwestern University and spent two years at Harvard Medical School:

**Botao Xiao**

**Education**

Ph.D., Northwestern University, Evanston, IL, USA, 2011

M.S., Chongqing University, Institute of Mechanics, Chinese Academy of Sciences, 2004

B.S., Chongqing University, 2000

**Professional Experience**

2017-Present: Professor, South China University of Technology

2013-2017: Professor, Huazhong University of Science and Technology

2011-2013: Postdoctoral Research Fellow, Harvard Medical School, Boston Children's Hospital

[http://www2.scut.edu.cn/biology\\_en/2017/0614/c5951a169022/page.htm](http://www2.scut.edu.cn/biology_en/2017/0614/c5951a169022/page.htm) (archived)

All of this is to say: Dr. Botao Xiao is not your common fool. He is certainly more educated than the average person in this area.

**The possible origins of 2019-nCoV coronavirus**

The 2019-nCoV has caused an epidemic of 28,060 laboratory-confirmed infections in human including 564 deaths in China by February 6, 2020. Two descriptions of the virus published on Nature this week indicated that the genome sequences from patients were almost identical to the Bat CoV ZC45 coronavirus. It was critical to study where the pathogen came from and how it passed onto human. An article published on The Lancet reported that 27 of 41 infected patients were found to have contact with the Huanan Seafood Market in Wuhan. We noted two laboratories conducting research on bat coronavirus in Wuhan, one of which was only 280 meters from the seafood market. **We briefly examined the histories of the laboratories and proposed that the coronavirus probably originated from a laboratory.** Our proposal provided an alternative origin of the coronavirus in addition to natural recombination and intermediate host.

[https://web.archive.org/web/20200214144447/https://www.researchgate.net/publication/339070128\\_The\\_possible\\_origins\\_of\\_2019-nCoV\\_coronavirus](https://web.archive.org/web/20200214144447/https://www.researchgate.net/publication/339070128_The_possible_origins_of_2019-nCoV_coronavirus) (original page no longer available)

We will evaluate the paper in order of its claims as they related to WHCDC.

**8.6.1 There Are Few Bats in Wuhan**

The bats carrying CoV ZC45 were originally found in Yunnan or Zhejiang province, both of which were more than 900 kilometers away from the seafood market. Bats were normally found to live in caves and trees. But the seafood market is in a densely-populated district of Wuhan, a metropolitan of ~15 million people. The probability was very low for the bats to fly to the market. According to municipal reports and the testimonies of 31 residents and 28 visitors, the bat was never a food source in the city, and no bat was traded in the market. There was possible natural recombination or intermediate host of the coronavirus, yet little proof has been reported.

Earlier, Dr. Xiao asserted that SARS-CoV-2 is "86 to 96 percent" similar to the already known Bat-CoV-ZC45 virus, and uses this to claim that SARS-CoV-2 likely originated in bats. As we know from Paper 4, bat origin is now backed up by the Wuhan Institute of Virology as well.



His next claim is that it is very unlikely that there would be bats naturally living in the metropolitan district of Wuhan, and in fact no bats were traded at the market at all.

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Let us go one step further: there were no bats in Wuhan in December, because bats hibernate in the winter!

**Genomic characterisation and epidemiology of 2019 novel coronavirus: implications for virus origins and receptor binding (January 30, 2020)**

However, despite the importance of bats, several facts suggest that another animal is acting as an intermediate host between bats and humans. **First, the outbreak was first reported in late December, 2019, when most bat species in Wuhan are hibernating. Second, no bats were sold or found at the Huanan seafood market, whereas various non-aquatic animals (including mammals) were available for purchase.**

...

Therefore, on the basis of current data, it seems likely that the 2019-nCoV causing the Wuhan outbreak might also be initially hosted by bats, and might have been transmitted to humans via currently unknown wild animal(s) sold at the Huanan seafood market.

Source: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30251-8/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30251-8/fulltext) (archived)

The Lancet study suggests that there may have been a second animal involved in the spillover event. Several animals, such as snakes or pangolins, have been suggested, but the scientific community has not yet reached a consensus at this point in time.

What is confirmed are Dr. Xiao's claims that bats were not sold at the market, and it would be highly unlikely for a bat to find itself in Wuhan (especially when it should be hibernating).

Therefore, the only likely way bats could be in Wuhan would be if they were brought there by humans. For example, if they were to be studied in a bio-laboratory.

---

### 8.6.2 Horseshoe Bats Were Once Present in WHCDC Labs

WHCDC hosted animals in laboratories for research purpose, one of which was specialized in pathogens collection and identification[4-6]. In one of their studies, 155 bats including *Rhinolophus affinis* were captured in Hubei province, and other 450 bats were captured in Zhejiang province[4].

Here is the paper referenced as [4]:

**Phylogeny and Origins of Hantaviruses Harbored by Bats, Insectivores, and Rodents (February 7, 2013)**

A total of 450 bats of eight different species were captured in Longquan city and Wenzhou city, Zhejiang Province in the spring of 2011 (Figure 1 and Table 1). Similarly, 155 bats representing eight species were captured in Hubei Province in the spring of 2012. A total of 81 insectivores (representing two species – *Anourosorex squamipes* and *Suncus murinus*) were captured in Lianghe county, Yunnan Province in the spring of 2010 and autumn of 2011. In 2006, two shrews (from the species *Sorex isodon* and *Suncus murinus*) were collected from Yakeshi city, Inner Mongolia Autonomous Region.

Source: <https://journals.plos.org/plospathogens/article?id=10.1371/journal.ppat.1003159> (archived)

Dr. Xiao is correct again, however these bats were collected "in the spring of 2010 and autumn of 2011." It is unknown whether horseshoe bats were present in the WHCDC in late 2019. What is certain is that the WHCDC has engaged in bat collection activities before.

---

### 8.6.3 Researcher Was Once Attacked By Bats

The expert in collection was noted in the Author Contributions (JHT). Moreover, he was broadcasted for collecting viruses on nation-wide newspapers and websites in 2017 and 2019 7,8. He described that he was once by attacked by bats and the blood of a bat shot on his skin. He knew the extreme danger of the infection so he quarantined himself for 14 days[7]. In another accident, he quarantined himself again because bats peed on him. He was once thrilled for capturing a bat carrying a live tick[8].

The references [7] and [8] are news articles.

Thank you to GitHub user caltaojihun for providing links to these references.

- [7] Tao P. Expert in Wuhan collected ten thousands animals: capture bats in mountain at night. *Changjiang Times* 2017.
- [8] Li QX, Zhanyao. Playing with elephant dung, fishing for sea bottom mud: the work that will change China's future. *thepaper* 2019.

**Entering the mountains late at night to catch bats Wuhan experts catch tens of thousands of worms to study viruses (May 5, 2017)**

"There are a large number of unknown viruses in bats, and the more thorough their research, the more beneficial it is to maintaining human health." In 2012, Tian Junhua began research on bats, and the extremely dangerous on cliffs; bats carry a large amount of viruses and there is a risk of infection if they are not careful. Apart from knowing bats in books, Tian Junhua's knowledge of bats can be said to be almost zero. But without fear, he took his wife to the mountain to catch bats.

...

However, in the operation, Tian Junhua forgot to take protective measures. The urine of the bat dripped like raindrops from the top of his head. If he was infected, he could not find the medicine. Tian Junhua tried to calm himself down: "As long as the incubation period of 14 days does not occur, he can be lucky to escape." After returning home, he took the initiative to keep a distance from his wife and children, isolated for half a month, until he found no physical abnormalities, he was comfortable A breath.

The wings of the bat carry sharp claws, and a clip is needed to catch the bat. The big bat is easy to spray blood after being injured by the clip; several times the bat blood is directly sprayed on Tian Junhua's skin. If it is infected, the consequences will be unimaginable. But Tian Junhua did not flinch at all, and fortunately he escaped the infection.

...

With his strong perseverance, Tian Junhua captured nearly 10,000 bats, and sincerely focused on the laboratory to study these bat samples. In 2012, Tian Junhua discovered a virus in the bat samples collected by Huangpi, named "Yellow Virus". The research report was published on the cover of the internationally renowned academic journal "PloS Pathogens" in 2013 and caused a sensation.

Page translated to English via Google Translate.

Source: <http://www.changjiangtimes.com/2017/05/567037.html> (archived)

**Playing with elephant dung, fishing for mud on the seabed ... I'm afraid you have never heard of these jobs that will change China's future ... (December 14, 2019)**

To build an invisible line of defense for humans

He catches mice all over the mountains

Drilled hundreds of bat holes

Exposure to various dangerous viruses

His name is Tian Junhua

Is a member of Wuhan CDC

Vector biology control technician

...

However, the capture of vector organisms is not only difficult

It is accompanied by danger at any time.

...

**Bat excrement containing large amounts of unknown viruses Like raining on Tian Junhua's body**

..

When talking about these things

Although Tian Junhua always repeats

"It's really scary"

But his footsteps continue to move forward but never stop

...

When found from the bat

**Very rare when the Ixodes longibraus [deer tick] live**

He was so excited that his eyes glowed,

It's hard to hide the excitement after mentioning this one month later

Page translated to English via Google Translate.

Source: [https://www.thepaper.cn/newsDetail\\_forward\\_5240333](https://www.thepaper.cn/newsDetail_forward_5240333) (archived)

We also found a secondary source in the Washington Post:

**How did covid-19 begin? Its initial origin story is shaky. (April 2, 2020)**

<https://project-evidence.github.io>

Richard Ebright, a Rutgers microbiologist and biosafety expert, told me in an email that "the first human infection could have occurred as a natural accident," with the virus passing from bat to human, **FL 2022-00062** **A-00000565006** **"UNCLASSIFIED"** that it "also could have occurred as a laboratory accident, with, for example, an accidental infection of a laboratory worker." He noted that bat coronaviruses were studied in Wuhan at Biosafety Level 2, "which provides only minimal protection," compared with the top BSL-4.

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Ebright described a December video from the Wuhan CDC that shows staffers "collecting bat coronaviruses with inadequate [personal protective equipment] and unsafe operational practices." Separately, I reviewed two Chinese articles, from 2017 and 2019, describing the heroics of Wuhan CDC researcher Tian Junhua, who while capturing bats in a cave "forgot to take protective measures" so that "bat urine dripped from the top of his head like raindrops."

Source: [https://www.washingtonpost.com/opinions/global-opinions/how-did-covid-19-begin-its-initial-origin-story-is-shaky/2020/04/02/1475d488-7521-11ea-87da-77a8136c1a6d\\_story.html](https://www.washingtonpost.com/opinions/global-opinions/how-did-covid-19-begin-its-initial-origin-story-is-shaky/2020/04/02/1475d488-7521-11ea-87da-77a8136c1a6d_story.html) (archived)

Tian Junhea is almost certainly the "expert in collection" noted by Dr. Xiao, and Richard Ebright confirms that he did once come into contact with bat urine.

---

#### 8.6.4 Surgery was Performed On Live Animals

Surgery was performed on the caged animals and the tissue samples were collected for DNA and RNA extraction and sequencing [4,5]. The tissue samples and contaminated trashes were source of pathogens. They were only ~280 meters from the seafood market. The WHCDC was also adjacent to the Union Hospital (Figure 1, bottom) where the first group of doctors were infected during this epidemic. It is plausible that the virus leaked around and some of them contaminated the initial patients in this epidemic, though solid proofs are needed in future study.

We have already shown that the WHCDC is extremely close to the Huanan Seafood Market. The referenced paper is again [4], and does indeed confirm that surgery was performed:

##### Phylogeny and Origins of Hantaviruses Harbored by Bats, Insectivores, and Rodents

Bats were captured with mist nets or harp traps in caves of natural roosts in Zhejiang Province in the spring of 2011, or in villages or caves in Hubei Province in the spring of 2012 (Figure 1). According to protocols described previously [47], insectivore animals were trapped in cages using fried foods as bait in the Inner Mongolia Autonomous Region in 2006 or in Yunnan Province in the autumns of 2010 and 2011. All animals kept were alive after capture. They were initially identified by morphological examination according to the criteria for bats described by Wang [48] and for insectivores by Chen [49], and further confirmed by sequence analysis of the mt-cyt b gene. **All animals were anesthetized with ether before surgery, and all efforts were made to minimize suffering. Tissue samples of heart, liver, spleen, lung, kidney and brain were collected from bats and insectivores for detecting hantaviruses.**

However, this surgery was most likely performed in 2010, a decade ago. It is not a direct link to the SARS-CoV-2 outbreak.

---

#### 8.6.5 Conclusion: Plausible

The second half of the paper discussed the possibility of an infection arising from the WIV; we have already covered that quite well.

In summary, Botao Xiao and Lei Xiao lay the following claims:

- WIV and WHCDC are extremely close to Huanan Seafood Market (correct)
- There were likely no bats naturally living in Wuhan at the time of outbreak (correct)
- Horseshoe bats were once present in the WHCDC (correct, but unknown if in 2019)
- A researcher once quarantined himself twice due to coming into contact with bat blood and urine (confirmed that he came into contact with bat urine)
- Surgery was performed on bats in the WHCDC (correct, in the early 2010s)

Overall, the paper is largely made up of circumstantial evidence, which likely led to its withdrawal. However, if the claims of the researcher quarantining himself are true, that does show a lapse in biolaboratory safety that could contribute to an outbreak if not rectified. This, on top of the possible presence of bats, lead us to believe that the WHCDC could have been a viable source for a spillover event.

Regardless of the accuracy of the paper, we do very much agree with one part of it:

In summary, somebody was entangled with the evolution of 2019-nCoV coronavirus. In addition to origins of natural recombination and intermediate host, the killer coronavirus probably originated from a laboratory in Wuhan. **Safety level may need to be reinforced in high risk biohazardous laboratories. Regulations may be taken to relocate these laboratories far away from city center and other densely populated places.**

8.6.6 Botao Xiao's Response

From the Wall Street Journal

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Coronavirus Epidemic Draws Scrutiny to Labs Handling Deadly Pathogens (March 5, 2020)

Also, a Northwestern University-trained DNA specialist in China who formerly worked in Wuhan, Botao Xiao of South China University of Technology, published a paper stating "the killer coronavirus probably originated from a laboratory in Wuhan."

Just over a page long and known as a "pre-print," the Feb. 6 paper didn't go through a formal peer-review process. Its evidence included lab locations in Wuhan, reference to past incidents of mishandled pathogens elsewhere in China and the fact that a Wuhan researcher connected to the institute was famous for collecting thousands of bats, and sometimes getting bitten.

After British tabloids broadcast Mr. Xiao's theory, and elements were propagated by Arkansas Sen. Tom Cotton, the institute, China's government and state media issued stern and detailed denials that there had been any accident. "Conspiracy theories do nothing but create fear, rumours, and prejudice that jeopardise our global collaboration in the fight against this virus," over two dozen virologists said in a joint letter carried in the Lancet medical journal.

...

Last week, Mr. Xiao told The Wall Street Journal he had withdrawn his paper. "The speculation about the possible origins in the post was based on published papers and media, and was not supported by direct proofs," he said in a brief email on Feb. 26.

https://www.wsj.com/articles/coronavirus-epidemic-draws-scrutiny-to-labs-handling-deadly-pathogens-11583349777 (archived)

We mostly agree. However, it is curious is that Dr. Xiao did not just withdraw the paper, but deleted his profile entirely.

8.7 Outside of Wuhan

Paper 4 shows us that the cave most likely containing bats infected with SARS-CoV-2 is in Yunnan province. Yunnan province is nearly 1,100 miles away from Wuhan, according to Google Maps. As Dr. Botao Xiao correctly stated, it would be unlikely for any bats to be living naturally in Wuhan, as it is a metropolis district that is avoided by most wildlife. Additionally, most bat species would be in hibernation around the time of outbreak.

One possible explanation would be that a farmer or laborer in Yunnan went into this cave (for example, to collect bat feces known as "guano" which is apparently used for agricultural reasons), and then travelled to Wuhan later after being infected. However, if this is the case, it is unlikely that the outbreak would have reached epidemic levels in Wuhan first. Consider that, again according to Google Maps, a trip from Yunnan to Wuhan would take over a day:



https://www.google.com/maps/dir/Wuhan,+Hubei,+China/Yunnan,+China/@27.404319,103.3009215

If Patient Zero had taken a bus or other form of public transport, SARS-CoV-2 would have begun spreading along that route, not in Wuhan. It would be fairly easy for Chinese authorities to determine a mutual connection amongst original cases by simply asking them if they had travelled recently and if so, what bus, train, or flight they took. Consider that this type of "contact tracing" was already used to determine that the Huanan Seafood Market was the original source of the outbreak (at least, according to Chinese state media).

Even if Patient Zero had driven him or herself to Wuhan, they most likely would have stopped along the way for bathroom and food breaks. Again, they would have spread the virus at whatever rest stop they went to. However, if this happened, it has not been reported.

If the outbreak indeed started from the Huanan Seafood Market, that means an animal at the market would have had to be infected with SARS-CoV-2. However, there were no bats sold at the Huanan Seafood Market. There are few other animals that could be sold at the market, but to some other animal, the infection would not have occurred at the Huanan Seafood Market. The intermediary animal would have had to be infected with SARS-CoV-2 before it arrived at the market.

The Huanan Seafood Market is known as a "wet" market, in which animal carcasses are sold rather than individual animal parts (i.e. you would buy a dead pig but not packaged pork). This means that the animal was almost certainly not safely packaged at the time of purchase or at the time it arrived at the market.

Consider the amount of people any type of meat encounters before finally reaching its consumer. First, the animal must be hunted before being sent to a market (wouldn't the hunter be Patient Zero? Surely China would be able to look at its medical records to find hunters who died of unknown causes at the beginning of the outbreak). Depending on where the animal was first killed, this trip could take days and involve multiple modes of transportation, such as an airplane, bus, truck, train, or car. In every case but one (car) the animal would be inserted into the vehicle by employees at an airport, bus station, train station, or warehouse loading ramp. In every case but one, these are typically locations that have very high levels of foot traffic. If transporting the animal took multiple trips, this means that multiple employees at each location would have been exposed to the infected animal before it was finally placed on sale at the Huanan Seafood Market. We assert that it is highly unlikely anyone would drive a car filled with animal carcasses. Consider the stench.

Where are the sick employees who handled this infected animal? Where are the localized epidemics caused by these employees? What are the odds that every single one of them did not get sick until the animal reached the Huanan Seafood Market?

And, let's also not take for granted, that in order for this animal to even get infected with SARS-CoV-2, it itself would have had to be involved in a spillover event with a bat. Remember that bats were hibernating during this time period.

In order for this pandemic to have originated outside of a Wuhan biological laboratory, the following would have had to take place:

- An unknown animal comes into contact with a bat carrying the virus that would become SARS-CoV-2. This bat, for some reason, is not hibernating during the winter unlike most other bats.
- This animal is then hunted and killed by some unknown person who does not fall ill and does not spread SARS-CoV-2 to anyone else.
- This animal is then sent from its original location to the Huanan Seafood Market. Along the way, it is handled by dozens to hundreds of transportation employees, all of whom do not get sick and do not spread the virus.
- The animal finally reaches the market, at which point multiple people who encounter it are hospitalized, and the virus begins to spread at very high rates.

Perhaps this virus had been spreading undetected amongst animal populations for the past few months prior to the outbreak. But if this is the case, why would the spillover event to a human occur in Huanan Seafood Market? China has many hundreds of these markets in every province. We are looking at 1-in-several-thousand-odds that a natural outbreak would begin in this market versus all the others.

Consider the odds we are looking at of a natural outbreak occurring in a market less than 10 miles away from two labs which have previously housed bats and conducted research on bat coronaviruses, rather than any other market in China.

Four months into the outbreak, China, with its vast electronic surveillance network and army of CCTV cameras, still has not been able to provide any evidence that this virus originated anywhere other than the market in Wuhan.

We argue that it would be incredibly unlikely for a virus to materialize out of thin air in this particular market.

---

## 9 Claim 2: Did SARS CoV 2 Begin From an Infected Lab Worker or Animal in Wuhan?

We will begin this claim by first acknowledging that, obviously, the answer to this question remains unknown as of now. However, it is appropriate to collect and highlight all evidence that may support this theory, and evidence that may disprove it.

In Claim 1, we proved that it is highly probable that SARS-CoV-2 could have been present in the WIV or the WHCDC - either as samples in a lab, or in live animals held in cages. In either situation, a single accident could result in exposure ("Laboratory-Acquired Infection") to a human being that would become Patient Zero of the COVID-19 pandemic. Here, we will provide evidence that such accidental exposure is also highly probable.

---

### 9.1 Hypothetical Spillover Events

We claim that a spillover event involving these labs could have occurred in one of several ways:

- A researcher working in a BSL-2, BSL-3, or BSL-4 lab could have been exposed to the pathogen while performing an experiment. Because SARS-CoV-2 has an incubation period between several days and several weeks, and because infected people can spread it asymptotically, a researcher who is infected would not

know they are infected until symptoms appear, possibly hundreds of hours later. This is sufficient time for them to spread the virus to others if they do not self quarantine.

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- Lab animals involved in experiments could have been improperly disposed of or even illegally sold to markets. Whoever comes into contact with infected tissue would be at risk of infection, for example if they touch the animal and then touch their face, or even eat the animal.
- An infected lab animal could have bitten or otherwise exposed a researcher to SARS-CoV-2, and they could either have not quarantined at all or quarantined for too little time (i.e. they would still be contagious past the quarantine period).

We will prove in this claim that evidence exists to support all three possibilities.

---

## 9.2 Bio-Laboratory Accidents Are Not Impossible

There are many factual, peer reviewed accounts of biolab accidents. Some have even resulted in dozens of human deaths. We will list only a fraction here.

As a foreword, accidents in these settings are a byproduct of the human condition. We are all human and we all make mistakes. It would be foolish to attribute malice where one can attribute stupidity (Hanlon's Razor) - a bad day, one missed step, an unpredictable test subject, overworked or overstressed personnel - all of these can, have, and will lead to accidents.

It is also important to mention that these accidents have led to widespread improvements in lab work safety - preventing these types of accidents is the basis of the BSL system.

---

### 9.2.1 "Biohazard"

The following are accidents that allegedly occurred in the Soviet Union, mainly brought to light by Ken Alibek in his 1999 book "Biohazard: The Chilling True Story of the Largest Covert Biological Weapons Program in the World – Told from Inside by the Man Who Ran It" (ISBN 0-385-33496-6).

His book is freely available in PDF form from the National Institute of Health. We highly recommend you read it.

---

#### 9.2.1.1 Aral Smallpox Incident (1971)

The Aral smallpox incident was a July 30, 1971 outbreak of the viral disease which occurred as a result of a field test at a Soviet biological weapons (BW) facility on an island in the Aral Sea. The incident sickened ten people, of whom three died, and came to widespread public notice only in 2002.

[https://en.wikipedia.org/wiki/1971\\_Aral\\_smallpox\\_incident](https://en.wikipedia.org/wiki/1971_Aral_smallpox_incident)

NY1 TRACES OF TERROR: THE BIOERROR THREAT: Report Provides New Details Of Soviet Smallpox Accident

According to Alibek, an open-air aerosolized smallpox bomb was dropped above a group of monkeys to demonstrate its efficacy. While the attempt was successful at infecting and ultimately killing the monkeys, an unfortunate gust of wind allegedly blew the aerosolized smallpox over a small research boat, which infected human Patient Zero.

---

#### 9.2.1.2 Self-Inflicted Marburg Virus Infection (1979)

At least one laboratory accident with MARV, resulting in the death of Koltsovo researcher Nikolai Ustinov, occurred during the Cold War in the Soviet Union and was first described in detail by Alibek.

[https://en.wikipedia.org/wiki/Marburg\\_virus#Biological\\_weapon](https://en.wikipedia.org/wiki/Marburg_virus#Biological_weapon)

Ustinov had been injecting Marburg into guinea pigs with the help of a lab technician, working through a glove box. He was not in a full space suit and was wearing two thin layers of rubber gloves instead of the thick mitts normally required for such work in Zone Three. The gloves provided the flexibility to control the laboratory animals, who will otherwise squirm and try to wriggle out of a technician's grip.

Our rules required that animals targeted for injection be strapped to a wooden board to hold them securely in place. That day, Ustinov wasn't following procedure. He decided to steady the guinea pigs with his gloved hand. Perhaps he thought it would help calm them. Or perhaps he was in too much of a hurry. The technician became distracted and nudged him accidentally. Ustinov's hand slipped just as he was pressing down on the syringe. The needle went through the guinea pig and punctured his thumb, drawing blood.

Biohazard, pg. 128

Ustinov was cared for until death by his wife, who was also a bioweaponer at Koltsovo. Notably, he documented his own ill-fated journey into death, writing down his own symptoms in the hopes that it would be useful to medical research until finally losing consciousness. Alibek writes that the Marburg strain had evolved inside Ustinov's body to become even deadlier; samples of his blood were later taken and became the basis for a second bioweapon based on Marburg virus.

A virus grown in laboratory conditions is liable to become more virulent when it passes through the live incubator of a human or an animal body. Few were surprised, therefore, when samples of Marburg virus after a few passages after a single passage from the original strain to a new host showed that the new variation was much more powerful and stable.

No one needed to debate the next step. Orders went out immediately to replace the old strain with the new, which was called, in a move that the wry Ustinov might have appreciated, "Variant U."

Biohazard, pg. 132

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### 9.2.1.3 Sverdlovsk Anthrax Leak (1979)

On 2 April 1979, spores of anthrax were accidentally released from a Soviet military research facility near the city of Sverdlovsk, Russia (now Yekaterinburg). The ensuing outbreak of the disease resulted in approximately 100 deaths, although the exact number of victims remains unknown. The cause of the outbreak was denied for years by the Soviet authorities, which blamed the deaths on consumption of tainted meat from the area, and subcutaneous exposure due to butchers handling the tainted meat. All medical records of the victims were removed to hide serious violations of the Biological Weapons Convention. The accident is sometimes referred to as "biological Chernobyl".

[https://en.wikipedia.org/wiki/Sverdlovsk\\_anthrax\\_leak](https://en.wikipedia.org/wiki/Sverdlovsk_anthrax_leak)

"Accident At Sverdlovsk", Biohazard, pg. 70

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### 9.2.1.4 Accident at Chinese Bioweapons Facility (1980s)

**Author's note: take this event with a grain of salt, as indicated in the source article.**

#### Soviet Defector Says China Had Accident at a Germ Plant (1999)

The defector, Kanatjan Alibekov, now known as Ken Alibek, says in the book that as deputy director of a top branch of the Soviet program, he knew of the disaster in China because he saw secret Soviet intelligence reports twice a month.

Spy satellites peering down at China found what seemed to be a large biological weapons laboratory and plant near a remote site for testing nuclear warheads, he wrote. Intelligence agents then found evidence that two epidemics of hemorrhagic fever swept the region in the late 1980's. The area had never previously known such diseases, which cause profuse bleeding and death.

"Our analysts," Dr. Alibek said, "concluded that they were caused by an accident in a lab where Chinese scientists were weaponizing viral diseases." Viral scourges that cause intense bleeding include Marburg fever and the dreaded Ebola virus. Both are endemic to Africa.

...

American intelligence officials who know what Dr. Alibek said in secret debriefings after his defection in 1992 give his new account considerable credence. They have called him highly believable about the subjects he knows firsthand, like the Soviet biological weapons program from 1975 to 1992, when he served as one of Moscow's top germ warriors. He is less reliable, they say, on political and military issues that he knows secondhand.

<https://www.nytimes.com/1999/04/05/world/soviet-defector-says-china-had-accident-at-a-germ-plant.html>

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## 9.2 Self-Inflicted Ebola Virus Infection (2004)

#### Russian Scientist Dies in Ebola Accident at Former Weapons Lab

A Russian scientist at a former Soviet biological weapons laboratory in Siberia has died after accidentally sticking herself with a needle laced with ebola, the deadly virus for which there is no vaccine or treatment, the lab's parent Russian center announced over the weekend.

<https://www.nytimes.com/2004/05/25/world/russian-scientist-dies-in-ebola-accident-at-former-weapons-lab.html>

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### 9.2.3 Smallpox Outbreak in the United Kingdom (1978)

The 1978 smallpox outbreak in the United Kingdom resulted in the death of Janet Parker, a British medical photographer, who became the last recorded person to die from smallpox. Her illness and death, which was connected to the deaths of two other people, led to the Shooter Inquiry, an official investigation by government-appointed experts triggering radical changes in how dangerous pathogens were studied in the UK.

The Shooter Inquiry found that Parker was accidentally exposed to a strain of smallpox virus that had been grown in a research laboratory on the floor below her workplace at the University of Birmingham Medical School. Shooter concluded that the mode of transmission was most likely airborne through a

poorly maintained service duct between the two floors. However, this assertion has been subsequently challenged, including when the University of Birmingham was acquitted following a prosecution for breaching Health and Safety legislation following Parker's death. "UNCLASSIFIED"  
 recognised experts produced evidence during the prosecution to show that it was unlikely that Parker was infected by airborne transmission in this way. Although there is general agreement that the source of Parker's infection was the smallpox virus grown at the Medical School laboratory, how Parker contracted the disease remains unknown.

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[https://en.wikipedia.org/wiki/1978\\_smallpox\\_outbreak\\_in\\_the\\_United\\_Kingdom](https://en.wikipedia.org/wiki/1978_smallpox_outbreak_in_the_United_Kingdom)

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#### 9.2.4 Plague Outbreak in Chicago (2009)

##### Fatal Laboratory-Acquired Infection with an Attenuated *Yersinia pestis* Strain — Chicago, Illinois, 2009

On September 18, 2009, the Chicago Department of Public Health (CDPH) was notified by a local hospital of a suspected case of fatal laboratory-acquired infection with *Yersinia pestis*, the causative agent of plague. The patient, a researcher in a university laboratory, had been working along with other members of the laboratory group with a pigmentation-negative (pgm-) attenuated *Y. pestis* strain (KIM D27). The strain had not been known to have caused laboratory-acquired infections or human fatalities. Other researchers in a separate university laboratory facility in the same building had contact with a virulent *Y. pestis* strain (CO92) that is considered a select biologic agent; however, the pgm- attenuated KIM D27 is excluded from the National Select Agent Registry (1). The university, CDPH, the Illinois Department of Public Health (IDPH), and CDC conducted an investigation to ascertain the cause of death. This report summarizes the results of that investigation, which determined that the cause of death likely was an unrecognized occupational exposure (route unknown) to *Y. pestis*, leading to septic shock.

<https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6007a1.htm>

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#### 9.2.5 SARS Outbreak in Taiwan (2003)

The public health authorities in Taipei have reported to WHO a single case of infection with SARS coronavirus in a senior research scientist. The infection appears to have been acquired in the laboratory. The researcher had earlier travelled to Singapore and became ill the day he returned to Taiwan.

[https://www.who.int/csr/don/2003\\_12\\_17/en/](https://www.who.int/csr/don/2003_12_17/en/)

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#### 9.2.6 H1N1 Re-emergence in Humans (1977)

##### Historical perspective—Emergence of influenza A (H1N1) viruses.

Even though human influenza A (H1N1) virus had not circulated since 1957 and the swine influenza A (H1N1) virus that had been identified at Fort Dix did not extend outside the base, in November 1977, the H1N1 strain reemerged in the former Soviet Union, Hong Kong, and northeastern China. This strain affected primarily young people in a relatively mild presentation.<sup>18,30</sup> Careful study of the genetic origin of the virus showed that it was closely related to a 1950 strain but dissimilar to influenza A (H1N1) strains from both 1947 and 1957. This finding suggested that the 1977 outbreak strain had been preserved since 1950.<sup>30</sup> The reemergence was probably an accidental release from a laboratory source in the setting of waning population immunity to H1 and N1 antigens.

<https://www.ncbi.nlm.nih.gov/pubmed/19564632>

<https://www.nejm.org/doi/full/10.1056/NEJMra0904322>

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#### 9.2.7 See For Yourself

These are only a few examples. You can find more on the CDC website. A cursory search for "Laboratory-Acquired Infection" yields 470 results at the time of writing: <https://search.cdc.gov/search/index.html?query=Laboratory-Acquired+Infection>

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#### 9.2.8 Bio-Laboratory Accidents in China

But enough about the rest of the world. What about in China? Are their labs immune from the same mistakes the rest of us make?

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##### 9.2.8.1 SARS-CoV-1 Escaped A Lab in Beijing (Twice)

**China reports additional SARS cases - update**



Chinese authorities have reported a diagnosis of clinically confirmed SARS coronavirus infection in two of these persons. These are the 20-year-old nurse in Beijing, reported yesterday, who remains in intensive care, and a 26-year-old female laboratory researcher, from Anhui Province. In March, the researcher worked at the Chinese National Institute of Virology in Beijing, which is part of China's Center for Disease Control. This institute is known to be engaged in research involving the SARS coronavirus. She developed symptoms on 25 March and was attended, while in a Beijing hospital, by the nurse. Her mother also provided bedside care.

The mother became ill in Anhui on 8 April and died on 19 April. Her clinical symptoms were compatible with SARS, and health authorities have retrospectively diagnosed her as a suspected SARS case.

The fourth person is a 31-year-old male laboratory researcher who also worked at the Beijing virology institute. He developed symptoms on 17 April and was hospitalized in isolation on 22 April. Health authorities have diagnosed him as a suspected SARS case.

In line with WHO definitions of SARS coronavirus infections, WHO has classified two of these persons, the 20-year-old nurse and the 26-year-old laboratory researcher, as probable cases of SARS. The two additional persons remain under investigation; further laboratory tests are being conducted by Chinese authorities.

[https://www.who.int/csr/don/2004\\_04\\_23/en/](https://www.who.int/csr/don/2004_04_23/en/)

This report from the WHO shows that two researchers at the National Institute of Virology were accidentally infected with SARS - one in March, and another in April. This calls into question the efficacy of the safety procedures employed at this lab and others in China. While it is possible for improvements to have been made in the 16 years since this incident, it highlights that the potential for such a problem is not far fetched.

China's government punished the officials at the Chinese CDC for the mistakes leading to the SARS outbreak:

#### **Officials punished for SARS virus leak (July 2, 2004)**

Five top officials of the Chinese Centre for Disease Control and Prevention (CDC) Thursday were punished to take blame for this year's outbreak of SARS.

These officials, including centre Director Li Liming, should take responsibility for the outbreak which started with the infection of two laboratory researchers by the SARS (severe acute respiratory syndrome) virus, Vice-Premier Wu Yi said Thursday at a working conference.

...

Official investigation shows that it is an accident due to negligence.

The cases had been linked to experiments using live and inactive SARS corona virus in the CDC's virology and diarrhea institutes where interdisciplinary research on the SARS virus was conducted.

The CDC's mistakes also include allowing researchers to experiment with biological materials infected with SARS in common laboratories, and the failure to immediately report the abnormal health conditions of its researchers.

Source: [https://www.chinadaily.com.cn/english/doc/2004\\_07/02/content\\_344755.htm](https://www.chinadaily.com.cn/english/doc/2004_07/02/content_344755.htm) (archived)

This incident is further covered in *The Scientist* (archived)

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### 9.2.8.2 Brucella Outbreak In Students Following Anatomy Course (2011)

#### **Chinese University Fires Administrators, Offers Compensation After Lab Accident (September 13, 2011)**

On the heels of a damaging laboratory outbreak that sickened 27 students, leaders at China's Northeast Agricultural University last week dismissed two administrators, apologized for insufficient safety practices, and offered thousands of dollars in compensation to the students, who contracted brucellosis while dissecting goats in an anatomy course last December.

...

Under the supervision of four instructors and two assistants, 110 students gathered to dissect four goats obtained from a local farm. A few months later, students began showing symptoms of brucellosis, an infection caused in goats by the bacteria *Brucella melitensis*. One student became too weak to walk, according to *Shanghai Daily*. An instructor also contracted the disease.

...

University administrators now admit the goats were not properly quarantined prior to reaching the lab and that instructors did not follow standard safety procedures. Infected students told the Chinese press that they did not receive safety training ahead of the dissections. One told the newspaper *Southern Weekend* that after a classmate asked about safety equipment, one instructor discouraged the group from wearing gloves, pointing out that he had been dissecting animals with his bare hands for 30 years. Several students then declined to wear gloves, the student said.

...

To limit damage at the veterinary college, Northeast Agricultural University administrators dismissed both the dean and the school's Communist Party secretary and offered 61,000 yuan (\$9545) to each student. In a press conference on 15 April 2020, President Feng Xiao bowed before news cameras and apologized to students and their parents on behalf of the university.

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...

Basic safety is apparently one of the areas to have suffered. In a survey of 231 fourth-year medical students published in the Chinese journal *Northwest Medical Education* in 2010, 19% were unfamiliar with the term "laboratory biosafety." Seventy-nine percent had heard the term but weren't completely sure what it meant.

Source: <https://www.sciencemag.org/news/2011/09/chinese-university-fires-administrators-offers-compensation-after-lab-accident> (archived)

### 9.2.8.3 Brucella Outbreak in Over 100 Students And Staff (2019)

**Author's Note: We must emphasize that the Brucella bacterium mentioned in the article is not at all related to SARS-CoV-2 - it is a type of bacteria, not a virus.**

#### Chinese institutes investigate pathogen outbreaks in lab workers (December 17, 2019)

Two Chinese agriculture research institutions are investigating how more than 100 students and staff became infected with the bacterium *Brucella*, strains of which are typically found in farm animals but can also trigger potentially fatal complications in people.

...

The Lanzhou Veterinary Research Institute in central China confirmed on 7 December that 96 staff and students have tested positive for the infection. In a statement, the institute said most of the infected people are not experiencing signs of brucellosis, the illness caused by the bacterium, which can include fever and flu-like symptoms.

...

On 10 December, the health commission for the province of Heilongjiang confirmed that 13 students at the Harbin Veterinary Research Institute, around 2,600 kilometres to the northeast of Lanzhou, also had the infection. The 13 students were among 49 students who had previously worked as interns at the Lanzhou institute. The Harbin institute says it is also investigating the outbreak.

...

**The Beijing News also reported that students at the institute often forgo wearing masks and taking other precautions. The research institutes in Harbin and Lanzhou did not respond to Nature's questions about how the outbreak occurred, or their lab's safety procedures.**

Source: <https://www.nature.com/articles/d41586-019-03863-z> (archived)

### 9.2.9 Peer-Reviewed Papers on Bio-Laboratory Accidents

Do not just take Alibek's word or my word; the scientific community recognizes the danger as well.

#### 9.2.9.1 Paper 10

##### Rethinking Biosafety in Research on Potential Pandemic Pathogens (2012)

With the growth of global research on high-containment agents, including PPP [Potential Pandemic Pathogens], the occurrence of documented, accidental exposures and laboratory worker infections has been relatively rare. An estimate for intramural laboratories at the U.S. National Institute for Allergy and Infectious Diseases is that 2 exposures occur for every 100,000 operator-hours and that only 1 of 12 such exposures involved an actual human infection. Another set of data, lacking a denominator of operator-hours, registered 26 incidents with 8 documented infections in U.S. BSL-3 and -4 laboratories and 5 more, all resulting in infections, in BSL-3 and -4 laboratories abroad (10). Because reporting of laboratories' existence, size, and activities, as well as accidents, is all incomplete, it is difficult to obtain precise rates comparable to those of NIAID. Nonetheless, using plausible assumptions, Klotz and Sylvester (5) estimate a historical risk of an accidental laboratory escape of a potentially pandemic pathogen of 0.3% per laboratory per year.

While these figures may sound low, the key problem is that they increase as more laboratories undertake work on PPPs and as they do so over a longer period. Even at the NIAID, the intramural estimated rate of 2 exposures per 100,000 operator-hours, a remarkably low rate that likely reflects very careful practices, one would expect 1 out of every 50 technicians working half-time (1,000 h) in such a laboratory to be exposed each year and 1 of every 600 to become infected. Over a 10-year period, with 100 such laboratories each employing 5 such technicians, one would expect 100 exposures and about 8 infections. Klotz and Sylvester estimate that with 42 laboratories working on PPP and a

0.3% risk of an escape per laboratory-year, there is an 80% risk of an escape of a PPP every 13 years

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(5).  
Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3484391/> (archived)

This paragraph references an op-ed (as "5") by Lynn C. Klotz and Edward J. Sylvester; it can be found at The Bulletin. (archived)

### 9.2.9.2 Paper 11

#### Containing the accidental laboratory escape of potential pandemic influenza viruses (2013)

Model simulations suggest that there is a non-negligible probability (5% to 15%), strongly dependent on reproduction number and probability of developing clinical symptoms, that the escape event is not detected at all. We find that the containment depends on the timely implementation of non-pharmaceutical interventions and contact tracing and it may be effective (>90% probability per event) only for pathogens with moderate transmissibility (reproductive number no larger than  $RO = 1.5$ ). Containment depends on population density and structure as well, with a probability of giving rise to a global event that is three to five times lower in rural areas.

...

Results suggest that controllability of escape events is not guaranteed and, given the rapid increase of biosafety laboratories worldwide, this poses a serious threat to human health. Our findings may be relevant to policy makers when designing adequate preparedness plans and may have important implications for determining the location of new biosafety laboratories worldwide.

Source: <https://bmcmecicine.biomedcentral.com/articles/10.1186/1741-7015-11-252> (archived)

### 9.2.10 Relevance to SARS-CoV-2

These papers make two main assertions:

- The possibility of a lab-based pandemic outbreak will increase over time
- A lab-based outbreak may not be able to be detected until after the possibility of containment has passed

Coupled with the long list of historical events, including one in China which happened as recently as last year, it is clear that a lab-based outbreak is an ever-present threat.

We posit that it is likely that there were, in fact, at least two lab-based outbreaks in China last year.

## 9.3 State Department Cables

We are looking for contributors who can provide these cables, if they have them. The author, Josh Rogin, claims he has obtained the first cable.

#### State Department cables warned of safety issues at Wuhan lab studying bat coronaviruses (April 14, 2020)

Two years before the novel coronavirus pandemic upended the world, U.S. Embassy officials visited a Chinese research facility in the city of Wuhan several times and **sent two official warnings back to Washington about inadequate safety at the lab, which was conducting risky studies on coronaviruses from bats**. The cables have fueled discussions inside the U.S. government about whether this or another Wuhan lab was the source of the virus — even though conclusive proof has yet to emerge.

In January 2018, the U.S. Embassy in Beijing took the unusual step of repeatedly sending U.S. science diplomats to the Wuhan Institute of Virology (WIV), which had in 2015 become China's first laboratory to achieve the highest level of international bioresearch safety (known as BSL-4). WIV issued a news release in English about the last of these visits, which occurred on March 27, 2018. The U.S. delegation was led by Jamison Fouss, the consul general in Wuhan, and Rick Switzer, the embassy's counselor of environment, science, technology and health. **Last week, WIV erased that statement from its website, though it remains archived on the Internet.**

...

"During interactions with scientists at the WIV laboratory, they noted the new lab has a serious shortage of appropriately trained technicians and investigators needed to safely operate this high-containment laboratory," states the Jan. 19, 2018, cable, which was drafted by two officials from the embassy's environment, science and health sections who met with the WIV scientists. (The State Department declined to comment on this and other details of the story.)

...

As many have pointed out, there is no evidence that the virus now plaguing the world was engineered; scientists largely agree it came from animals. But that is not the same as saying it didn't come from the lab. **Feb 2022 00062 A-00000565006 UNCLASSIFIED** animals, said Xiao. La A scientist at the School of Information at the University of California at Berkeley.

...

Sources familiar with the cables said they were meant to sound an alarm about the grave safety concerns at the WIV lab, especially regarding its work with bat coronaviruses. The embassy officials were calling for more U.S. attention to this lab and more support for it, to help it fix its problems.

...

No extra assistance to the labs was provided by the U.S. government in response to these cables.

The cables began to circulate again inside the administration over the past two months as officials debated whether the lab could be the origin of the pandemic and what the implications would be for the U.S. pandemic response and relations with China.

...

"The idea that it was just a totally natural occurrence is circumstantial. The evidence it leaked from the lab is circumstantial. Right now, the ledger on the side of it leaking from the lab is packed with bullet points and there's almost nothing on the other side," the official said.

...

The origin story is not just about blame. It's crucial to understanding how the novel coronavirus pandemic started because that informs how to prevent the next one. The Chinese government must be transparent and answer the questions about the Wuhan labs because they are vital to our scientific understanding of the virus, said Xiao.

We don't know whether the novel coronavirus originated in the Wuhan lab, but the cable pointed to the danger there and increases the impetus to find out, he said.

Source: <https://www.washingtonpost.com/opinions/2020/04/14/state-department-cables-warned-safety-issues-wuhan-lab-studying-bat-coronaviruses/> (archived)

The article mentions a press release deleted by the WIV. Thankfully, it has already been archived:

**The U.S. Counselor visited Wuhan Institute of Virology, CAS (March 3, 2018)**

On March 27th, Mr. Rick Switzer, Counselor of Environment, Science, Technology and Health Section of Embassy of the United States in China, accompanied by the U.S. Consul General in Wuhan, Mr. Jamison Fouss, visited Wuhan Institute of Virology (WIV), Chinese Academy of Sciences (CAS). Prof. Yanyi WANG, the Deputy Director General of the WIV, met with the U.S. delegation. Prof. Zhengli SHI, Director of Center for Emerging Infectious Diseases and Deputy Director of Wuhan P4 Laboratory, and Prof. Zhihong HU, Director of Center for Bacteria and Virus Resources and Application, participated the meeting.

Source: [http://english.whiov.cas.cn/Exchange2016/Foreign\\_Visits/201804/t20180403\\_191334.html](http://english.whiov.cas.cn/Exchange2016/Foreign_Visits/201804/t20180403_191334.html) (archived)

And, just so we are crystal-clear that this meeting did in fact happen, here is a photo attached to the press release with Rick Switzer, Jamison Fouss, and Dr. Shi Zhengli in the center:



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## 9.4 Post Outbreak Biosafety Guidelines

Following the outbreak, the Chinese Ministry of Science and Technology ordered new biosafety rules:

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### Biosafety guideline issued to fix chronic management loopholes at virus labs (February 17, 2020)

The Ministry of Science and Technology issued new rules over the weekend, requiring laboratories nationwide to boost their biosafety in a move that experts said could fix chronic inadequate management issues during the campaign against the coronavirus.

The guideline stressed the importance of strengthening the management of bio labs, especially on viruses, to ensure biosafety, ministry official Wu Yuanbin said at a press conference on Saturday.

The release of the guideline deals with chronic loopholes at laboratories, Yang Zhanqiu, a deputy director of the pathogen biology department at Wuhan University in Hubei Province, told the Global Times on Sunday.

"The mention of biosafety at labs by the ministry has nothing to do with some saying that the coronavirus leaked from the Wuhan Institute of Virology of the Chinese Academy of Sciences," Yang said.

Laboratories in China have paid insufficient attention to biological disposal, Yang said.

Lab trash can contain man-made viruses, bacteria or microbes with a potentially deadly impact on human beings, animals or plants.

Source: <http://www.ccnw.com/news/sci-tech/2020-02-17/detail-itzrnmvi9821649.shtml> (archived)

A well-meaning explanation would be that this move was done to prevent the escape of SARS-CoV-2 and other viruses from a laboratory (as SARS-CoV-1 escaped back in 2004, which was an international embarrassment for China).

A less charitable explanation was that this move was done to prevent the escape of SARS-CoV-2 from a laboratory, again.

It is notable that Yang Zhanqiu pushed back against the WIV outbreak theory, but did not address the WHCDC theory as outlined in the Botao Xiao paper.

This all being said, these changes also reduces the probability of another lab based outbreak in the future, so we wholeheartedly support them, and we are always happy to see these hazards addressed.

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## 9.5 Arrest of Lab Animal Seller

From the same ECNS article in the previous section:

We are looking for contributors who can read Mandarin to help us find and translate the original article from *The Paper* that details the arrest of the 'top academician'.

Medical staff and experts have long been asking for better regulation and supervision of biological research institutes in China, but with mixed results.

A top academician at the Chinese Academy of Engineering earned 10.17 million yuan (\$1.46 million) by illegally selling off lab animals and experimental milk, according to a report in the Shanghai-based *The Paper*.

Li Ning, a leading expert at transgenic technologies at China Agricultural University, was sentenced to 12 years in prison on January 2 for grafting 37.56 million yuan.

**Author's Note: "Li Ning" and the "top academician" appear to be two different people. Li Ning was sentenced to prison for allegedly embezzling research grant funds.**

The academician's arrest shows that the regulations concerning lab safety were either too lacking or not properly enforced and enable a bad actor to put many others in danger for their own profit. The new biosafety rules were likely put in place to rectify these deficiencies.

If a "top academician" was selling lab animals at the Chinese Academy of Engineering, could a worker at the WIV or WHCDC have been doing the same thing? Why not?

Could one of these lab animals have been sold to the Huanan Seafood Market?

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## 9.6 Disappearance of Huang Yanling

In early January, Chinese social media was abuzz with a huge claim: Huang Yanling, a researcher at the Wuhan Institute of Virology, was Patient Zero. This prompted WIV to issue a statement ("中国科学院武汉病毒研究所声明") refuting the claims directly:

**Statement of Wuhan Institute of Virology, Chinese Academy of Sciences (February 16, 2020)**

Unreliable information has been circulating on the Internet recently, saying that our graduate Huang Yanling is the so-called "patient zero" who was the first to be infected with the new coronavirus. After verification, A 000005665006 declares as follows: UNCLASSIFIED"

Huang Yanling graduated from our institute with a master's degree in 2015. During the course of his [her] studies, [s]he studied the functions of bacteriophage lyase and the broad spectrum of antibacterial activity. After graduation, [s]he has been working and living in other provinces. [She has no] Infection and [is in] good health.

At this critical moment in the fight against epidemics, related rumors greatly interfered with the scientific research of our institute. We reserve the right to pursue legal responsibility according to law. I sincerely thank all circles of society for their care, support and help!

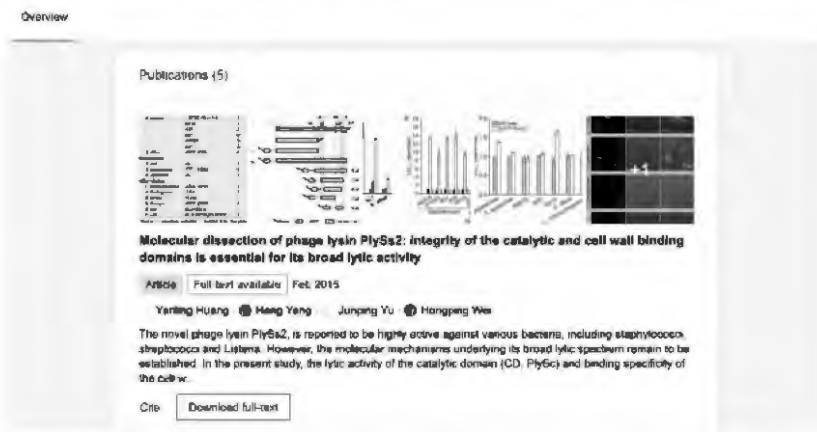
Page translated to English via Google Translate. Words in [brackets] were inserted by us.

Source: [http://www.whiov.ac.cn/tzgg\\_105342/202002/t20200216\\_5500201.html](http://www.whiov.ac.cn/tzgg_105342/202002/t20200216_5500201.html) (archived)

According to ResearchGate, Yanling's last paper was indeed published in February 2015:



Yanling Huang's research while affiliated with Wuhan Institute Of Virology and other places



[https://www.researchgate.net/scientific-contributions/2035568207\\_Yanling\\_Huang](https://www.researchgate.net/scientific-contributions/2035568207_Yanling_Huang) (archived)

She is also still listed as a graduate student on the WIV's Lab of Diagnostic Microbiology webpage:

We are looking for contributors to help us find the domain name for the IP address: 159.226.126.127. It appears to be unregistered. We are confused as to how this web server was found.



<http://159.226.126.127:8082/web/17190/20> (archived)

Notably, her picture is missing, along two other students:

- 黄燕玲 2012级硕士研究生 - Huang Yanling 2012 Masters
- 王孟月 2013级硕士研究生 - Wang Mengyue 2013 Graduate Student
- 魏翠华 2013级硕士研究生 - Wei Cuihua 2013 Master Degree Student

Almost all of the students on this page have a profile page. Here is Mengyue Wang's:



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<http://159.226.126.127:8082/web/17190/47> (archived)

Wei Cuihua also has a profile page.

Who doesn't?

Zhang Yun (张云2011级硕士研究生) and Huang Yanling (黄燕玲 2012级硕士研究生):



<http://159.226.126.127:8082/web/17190/44> (archived)

<http://159.226.126.127:8082/web/17190/46> (archived)

Of 12 researchers listed, Huang Yanling is one of two with no profile picture and an empty profile page.

We are looking for contributors to help find this exchange between Beijing News and the Wuhan Institute of Virology.

A Hong Kong-based reporter for Radio France International wrote:

**The rumors of the leaking virus in Wuhan Research Institute are still in progress, and there is news that 'patient zero' is a researcher (February 17, 2020)**

What made the incident even more confusing is that when a reporter from the Continental Beijing News inquired about the rumors about patient No. 0, the institute first denied the researcher Huang Yanling [worked there], but after learning that the person's name was indeed on the Internet, he Acknowledged that this person had worked in the institute, but now [s]he has left the job and his [her] whereabouts are unknown.

...

The Beijing News asked Shi Zhengli, a researcher specializing in bat coronavirus, and Chen Quanjiao, a researcher in the Influenza Virus Laboratory, both of them said it was unclear whether there was Huang Yanling in the institute. infection. Netizens immediately pointed out that there was a yellow name on the institute's official website, but the content under the name had been deleted.

Page translated to English via Google Translate. Words in [brackets] were inserted by us.

Source: <http://www.rfi.fr/cn/中国/20200217-武汉研究所外泄病毒传言不止又有消息指-零号病人-是研究员> (archived)

To summarize:

- Chinese social media claims Huang Yanling is Patient Zero, although no credible evidence currently exists to prove she was performing any research at WIV in 2019.

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- Huang Yanling hasn't published any academic papers since 2015 according to ResearchGate.
- Her profile picture on the WIV Lab of Diagnostic Microbiology is missing.
- Her entire profile is missing from the same website, although another student's is also missing (Zhang Ynn).
- WIV released a statement saying that Yanling graduated in 2015, and "After graduation, [s]he has been working and living in other provinces. [She has no] Infection and [is in] good health."
- Shi Zhengli (a top scientist at WIV, as we previously covered) and Chen Quanjiao both "said it was unclear whether there was Huang Yanling in the institute."
- However, (it is unclear who is speaking here), "after learning that the person's name was indeed on the Internet, he Acknowledged that this person had worked in the institute, but now [s]he has left the job and his [her] whereabouts are unknown."

What is most interesting about all of these claims is that they could easily be shut down by Huang Yanling's public appearance. When Shi Zhengli was accused of spreading the virus, she posted on WeChat, "I swear with my life, [the virus] has nothing to do with the lab."

We are looking for contributors who can provide evidence that Huang Yanling posted on WeChat in the middle of February. However, we have not found this message. Additionally, we could not find any recent photos of her that may have been attached to the message.

Why has Huang Yanling not done the same? Surely she is aware of the rumors surrounding her on social media. Even if she was not aware, would it really be impossible for the Chinese government to get in touch with her and have her issue an in-person statement to the media?

It would only be impossible if she was dead.

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## 9.7 Chen Quanjiao's Weibo Message

We are looking for contributors who can supply Chen Quanjiao's original Weibo message as well as any news sources corroborating her alleged imprisonment.

### WHO confirms experts' presence at coronavirus epicenter in China (February 18, 2020)

Wuhan, the central Chinese city in Hubei where the outbreak began, is home to the Wuhan Institute of Virology. On Monday, Wang Yanyi, director of the research center, denied allegations that animals used in lab experiments were resold at Huanan Seafood Market, which Chinese authorities have said is ground zero for COVID-19.

The institute had previously denied the outbreak began among lab technicians, including a woman identified as Huang Yanling. Huang was rumored to be "patient zero" on Chinese social media.

**Wang's statement came after messages on Chinese social media claimed the director had been "frequently" reselling lab animals to Huanan market vendors. Chen Quanjiao was the named author of the social media messages, and the posts included photos of Chen, according to NTD Television and other Chinese dissident news services.**

Chen is a researcher at the lab. On Tuesday she made a public statement claiming her identity had been stolen. Chen may have been detained, according to Chinese-language news service Sound of Hope.

Social media posts about the institute were scrubbed by Tuesday. Wang Gaofei, chief executive of social media platform Weibo, condemned the posts as "fake news" and said the messages originated from an overseas IP address, according to multiple press reports.

Source: [https://www.upi.com/Top\\_News/World-News/2020/02/18/WHO-confirms-experts-presence-at-coronavirus-epicenter-in-China/8271582041808/](https://www.upi.com/Top_News/World-News/2020/02/18/WHO-confirms-experts-presence-at-coronavirus-epicenter-in-China/8271582041808/) (archived)

### Wuhan Institute of Virology researcher refutes rumor about COVID-19 source (February 17, 2020)

Chen Quanjiao, a researcher with the Wuhan Institute of Virology, has refuted an online rumor that claimed the novel coronavirus was leaked from the institute, according to a statement published on its official website on Monday evening. Someone faked her identity, she said.

...

The statement came after a rumor went viral on Chinese social media platform Weibo, saying Chen reported Wang Yanyi, director of the institute, for leaking the virus. Her ID number was included in the fabricated post on Weibo.

...



Chen has been working on influenza viruses at the institute since 2001, according to the official website.

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Source: <https://news.cgtn.com/news/2020-02-17/Wuhan-based-researcher-refutes-rumor-about-COVID-19-source-QaemKa4hUI/index.html> (archived)

**Statement by Chen Qunjiao, Wuhan Institute of Virology, Chinese Academy of Sciences  
(February 17, 2020)**

Regarding the so-called whistle-blowing statements published in my name on the Internet today, I solemnly declare:

I have never released any relevant reporting information, and expressed great indignation at the act of using my identity to fabricate the reporting information. I will pursue the legal responsibility of the rumors according to law.

Hereby declare.

Recently, a series of rumors have affected our front-line researchers' scientific research. Please be careful to prevent related conspiracy and sabotage activities.

Chen Qunjiao, Researcher, Wuhan Institute of Virology, Chinese Academy of Sciences

February 17, 2020

Source: [http://www.whiov.ac.cn/tzgg\\_105342/202002/t20200217\\_5500447.html](http://www.whiov.ac.cn/tzgg_105342/202002/t20200217_5500447.html) (archived)

We urge all journalists worldwide to get in touch with Chen Qunjiao directly, so that she may deny all allegations, ideally via a video call.

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## 9.8 Wuhan Legal Response

As you are likely already aware, China's response to COVID-19 is unprecedented. Wuhan's 11 million citizens were placed on strict lockdown in late January, which was only recently lifted. Multiple other major Chinese cities were placed on lockdown as the epidemic spread throughout the country. To date, these actions constitute the largest national quarantine in human history.

We posit that these actions, particularly of local Wuhan officials, accurately align with actions that would be taken following a lab-based outbreak.

Axios provides a timeline of the actions taken by the Chinese Communist Party to handle COVID-19 in the month of January. We will review only some of them; we recommend you read the timeline yourself. All timeline sources are available in the Axios article. Our own comments are marked using brackets [like this].

12/27

Wuhan health officials are told that a new coronavirus is causing the illness.

12/30

Ai Fen, a top director at Wuhan Central Hospital, posts information on WeChat about the new virus. She was reprimanded for doing so and told not to spread information about it.

Wuhan doctor Li Wenliang also shares information on WeChat about the new SARS-like virus. He is called in for questioning shortly afterward.

12/31

China tells the World Health Organization's China office about the cases of an unknown illness. [4 days after Wuhan officials were told.]

1/1

Wuhan Public Security Bureau brings in for questioning eight doctors who had posted information about the illness on WeChat.

An official at the Hubei Provincial Health Commission orders labs, which had already determined that the novel virus was similar to SARS, to stop testing samples and to destroy existing samples.

1/2

Chinese researchers map the new coronavirus's complete genetic information. This information is not made public until Jan. 9.

1/7

Xi Jinping becomes involved in the response.

1/9

China announces it has mapped the coronavirus genome.

[The genome itself is not published until 1/11.]

1/11 - 1/17

Important prescheduled CCP meeting held in Wuhan. During that time, the Wuhan Health Commission insists there are no new cases.

1/14

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WHO announces Chinese authorities have seen "no clear evidence of human-to-human transmission of the novel coronavirus."

1/18

The Wuhan Health Commission announces four new cases.

Annual Wuhan Lunar New Year banquet. Tens of thousands of people gathered for a potluck.

1/19

Beijing sends epidemiologists to Wuhan.

1/20

Zhong Nanshan, a top Chinese doctor who is helping to coordinate the coronavirus response, announces the virus can be passed between people. [1 day after epidemiologists are sent from Beijing.]

1/23

Wuhan and three other cities are put on lockdown. Right around this time, approximately 5 million people leave the city without being screened for the illness.

1/24

China extends the lockdown to cover 36 million people and starts to rapidly build a new hospital in Wuhan. From this point, very strict measures continue to be implemented around the country for the rest of the epidemic.

Analysis

The timeline tells a month-long story of Wuhan officials attempting to hide the virus from the greater world and, arguably, even the Chinese federal government itself.

Do not take our word for it. The Chinese Communist Party admits the coverup was unjust:

**China declared whistleblower doctor Li Wenliang a 'martyr' following a local campaign to silence him for speaking out about the coronavirus (April 3, 2020)**

- China on Thursday awarded Li Wenliang, the doctor who sounded an early alarm about the novel coronavirus, the title of "martyr."
- In December, police in Wuhan made Li admit to lying about the existence of a worrying new virus discovered in the city. Li died on February 7 after contracting the virus.
- An investigation by the Chinese Communist Party found on March 19 that the actions of law enforcement in Wuhan was "irregular" and "improper."
- "Martyr" is the highest honor the Communist Party of China can bestow on a citizen killed working to serve the country. The country will honor him with three minutes of silence on Saturday.

Source: <https://www.businessinsider.com/coronavirus-china-li-wenliang-whistleblower-doctor-martyr-2020-4> (archived)

If you can read Mandarin, here (archived) is the source announcement from Chinese state media. Here (archived) is a direct interview with Dr. Li Wenliang conducted by the New York Times shortly before his death:

If the officials had disclosed information about the epidemic earlier, I think it would have been a lot better. There should be more openness and transparency.

Dr. Li Wenliang, January 31, 2020

Furthermore, in early February, the Chinese Communist Party officially reprimanded Wuhan officials:

**Coronavirus: China purges regional leaders hours after spike in deaths and new cases (February 13, 2020)**

The political fallout from the outbreak also escalated on Thursday with the firing of party chief of Hubei province, the party chief of Wuhan and the head of China's Hong Kong and Macau Affairs office. Ying Yong, the new party chief of Hubei, came up through the ranks in Zhejiang, where the president, Xi Jinping, previously served as party secretary and was also part of anti-corruption campaigns, the president's signature initiative.

Source: <https://www.theguardian.com/world/2020/feb/13/coronavirus-china-purges-regional-leaders-hours-after-spike-in-deaths-and-new-cases> (archived)

Curiously, the lab that first shared the genome has also been closed for "rectification", apparently because it shared it without prior authorization:

**Chinese laboratory that first shared coronavirus genome with world ordered to close for 'rectification', hindering its Covid-19 research (February 28, 2020)**

The laboratory at the Shanghai Public Health Clinical Centre was ordered to close for “rectification” on January 12, a day after Professor Zhang Yongzhen’s team published the genome sequence on open platform <https://gisaac.org/> the following day.

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...

“The centre was not given any specific reasons why the laboratory was closed for rectification. [We have submitted] four reports [asking for permission] to reopen but we have not received any replies,” a source with the centre said, requesting anonymity because of the matter’s sensitivity.

...

It was not clear whether the closure was related to the publishing of the sequencing data before the authorities.

...

China’s National Health Commission announced hours after the release by Zhang’s team that it would share the genome sequence with the World Health Organisation. It later emerged that the information had been sent through the officially designated Wuhan Institute of Virology.

Zhang’s team isolated and finished the genome sequence of the then-unknown virus on January 5, two days before China’s official announcement that mysterious pneumonia cases in Wuhan were caused by a hitherto unknown coronavirus.

...

The Shanghai centre reported its discovery to the National Health Commission on the same day and recommended “relevant prevention and control measures” be taken in public places, because the patient from whom the sample was collected had suffered very severe symptoms and the virus resembled a group previously found in bats.

**The team made the finding public on January 11 after it saw that the authorities had taken no obvious action to warn the public about the coronavirus.**

Source: <https://www.scmp.com/news/china/society/article/3052966/chinese-laboratory-first-shared-coronavirus-genome-world-ordered> (archived)

#### Conclusion

To summarize, Wuhan officials:

- Censored local medical professionals who attempted to sound the alarm on a new outbreak.
- Ordered local labs to destroy samples of the virus.
- Withheld the SARS-CoV-2 genome until Xi’s involvement.
- Continually insisted on no human-to-human transmission. Experts sent from Beijing confirmed it in one day.
- Pretended that everything was normal, still holding a massive 40,000 family banquet despite the clear risk of further transmission.

Containment measures only became widespread after Xi’s involvement. Which leads to the question:

Why were Wuhan officials trying so hard to hide the outbreak? Why did they continue to deny obvious facts until the federal government intervened, and their lies fell apart?

Suppose the outbreak was completely natural and Wuhan officials were not aware of its spillover event. Why would they act so guilty?

Now, suppose Wuhan officials were notified of a lab accident prior to the beginning of the outbreak. Do their actions make more sense, in the context of an employee trying to hide a huge mistake from his or her boss?

#### Alternative Theory: Puppet Government

One alternative theory has been that the federal government was well aware of the outbreak, and opted to fire Wuhan officials after containment measures failed, to show the people that they were actively responding to the crisis. This is the theory asserted by the Guardian article.

However, given the timeline, we believe China’s actions after Xi’s involvement were a late over-reaction to counteract an initial under-reaction. It is clear that Wuhan officials were banking their jobs on being able to contain the outbreak before it spread elsewhere.

Above all, regardless of whether the federal government was involved in the initial cover-up, the fact there was a cover-up at all hints that powerful government figures were trying to hide uncomfortable truths. Is it not likely that one such truth might be the true nature of the outbreak?

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#### 9.9 Notice No.3

The Journalist, a subsidiary of Storm Media (a Taiwanese news company), reports that it has obtained the official Wuhan government notice ordering the destruction of virus samples and blocking the reporting of results.

New News caused the global epidemic disaster - No. 3 looks like this! (April 16, 2020)

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In early December last year, two types of unknown "coronavirus" have been sequenced and shown to be "SARS-like coronavirus", but it was issued on January 3 by the China National Health Commission (National Health and Health Commission). The Circular No. 3 requires the destruction of the existing samples, and also orders not to disclose the information without authorization, thus missing the prime time for epidemic prevention.

...

One of the official documents of the Communist Party obtained by "New News" is the heavy red-headed document "No. 3 Document" issued by the National Health and Health Commission on January 3. This full name "Notice on Strengthening the Management of Biological Sample Resources and Related Scientific Research Activities in the Prevention and Control of Major Emergent Infectious Diseases" was not published on the official website of the National Health and Health Commission.



...

There are several important regulations in the No. 3 document obtained from this journal:

1. Relevant institutions shall provide biological samples to designated pathogen testing institutions to carry out etiological [epidemiological] testing and complete the handover procedures in accordance with the requirements of the health administrative departments above the provincial level.
2. Without approval, it is not allowed to provide biological samples and related information to other institutions and individuals.
3. Institutions and individuals who have obtained biological samples of relevant cases from the relevant medical and health institutions shall immediately destroy the samples on site or send them to the depository institutions designated by the state for safekeeping.
4. During the epidemic prevention and control work, **no organization or individual may publish information about pathogen detection or experimental activities without authorization.**

...

In addition, according to the Caixin.com report, from December 30th, the Chinese Academy of Sciences took the virus samples and put them into the library, to carry out the virus isolation, complete the virus gene sequencing, and isolate the virus strain. "Viral pneumonia" was renamed to "new coronavirus-infected pneumonia", and the viral genome sequence was announced. However, 15 days have passed since the first case of gene sequencing confirmed the new coronavirus on December 27, and the viral genome sequence was released to the public on January 11. The days from the end of December 2019 to the beginning of January this year were supposed to be the crucial moments that determine the fate of countless people, but at that time, the public did not even know the virus.

...

After the National Health and Health Commission issued the No. 3 document, the Wuhan Institute of Virology of the Chinese Academy of Sciences was required to stop pathogen detection, destroy existing samples and destroy existing samples.

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Regulating the potentially unsafe transport of virus samples is fair enough. But there is no charitable explanation for why "information about pathogen detection or experimental activities" needs authorization to be released (these are scientists performing this research, after all) or why the WIV, supposedly the safest and most advanced bio-laboratory in China, was ordered to cease its work and destroy its samples as well at such a crucial time during the outbreak. Regardless of your opinion on the WIV, they most certainly had the capacity to perform medical research that could have aided the global community if they had been allowed to continue performing it.

On the other hand, ordering the WIV to destroy all samples and disassociate itself with the virus makes complete sense if you are trying to invalidate lab outbreak rumors before they become prominent. One cannot easily confirm the presence of a sample in a lab after it has been destroyed. Unfortunately for the publishers of Notice No. 3, it appears that these rumors went viral anyways.

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## 9.10 Academic Censorship

### China clamping down on coronavirus research, deleted pages suggest (April 11, 2020)

Two websites for leading Chinese universities appear to have recently published and then removed pages that reference a new policy requiring academic papers dealing with Covid-19 to undergo extra vetting before they are submitted for publication.

...

China University of Geosciences (Wuhan) appears to have published and then deleted new requirements that academic papers dealing with the origins of the virus be approved by China's ministry of science and technology before publication.

The university's academic committee was expected to first go through the research "with an emphasis on checking the accuracy of the thesis, as well as whether it is suitable for publication," the regulation said.

...

Despite its name, the geosciences university announced elsewhere on its website that it was carrying out coronavirus research.

...

Another notice, which appears to have been published on 9 April by the school of information science and technology at Fudan University in Shanghai, called for "strict and serious" management of papers investigating the source of the outbreak.

...

The person said researchers submitting academic papers on other medical topics did not have to vet their work with government ministries before seeking publication.

Source: <https://www.theguardian.com/world/2020/apr/11/china-clamping-down-on-coronavirus-research-deleted-pages-suggest> (archived)

These harsh measures are likely in response to the Botao Xiao paper, which was published in early January and fueled lab outbreak theories.

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## 9.11 Refusal of Independent Investigation

Since this document was published, no independent investigation of the WIV has been allowed by the Chinese government. All attempts have not only been refused, but in some cases, met with economic blackmail by official Chinese spokespeople.

### China opposes international COVID-19 probe that presumes its guilt: vice foreign minister (April 29, 2020)

SHANGHAI (Reuters) - China "resolutely opposes" any international inquiry into the coronavirus pandemic that presumes its guilt, said Le Yucheng, a vice-foreign minister, in comments published on Thursday.

Citing an interview Le gave to NBC, the Ministry of Foreign Affairs said on its website that Beijing firmly opposes a "politicised" international investigation aimed at stigmatising China.

Source: <https://www.reuters.com/article/us-health-coronavirus-china/china-opposes-international-covid-19-probe-that-presumes-its-guilt-vice-foreign-minister-idUSKBN22C00J> (archived)

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### 9.11.1 U.S.

Coronavirus: US wants to enter Wuhan virology lab, and Trump questions China death toll (April 18, 2020)

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"We are still asking the Chinese Communist Party to allow experts to get into that virology lab so that we can determine precisely where this virus began," said Pompeo on Fox News.

...

Pompeo's statement on Friday highlights an outlier theory that the coronavirus did not come from a Wuhan wildlife market as originally postulated, but from a laboratory in that city.

The Washington Post reported on Tuesday that US officials who had visited the Wuhan Institute of Virology sent diplomatic cables to Washington as early as January 2018 warning about safety and management weaknesses at the lab, and stated outright that the facility's work on bat coronaviruses created a pandemic risk.

Source: <https://www.scmp.com/news/china/politics/article/3080513/coronavirus-us-secretary-state-mike-pompeo-seeks-access> (archived)

The State Department also tweeted:



<https://mobile.twitter.com/StateDept/status/1254508755754135554> (archive: <http://archive.is/EZNAW>)

9.11.2 Australia

Australia wants international probe into coronavirus origins, prompting backlash from China (April 22, 2020)

Australian Prime Minister Scott Morrison has sought support for an international investigation into the coronavirus pandemic in phone calls with US President Donald Trump, and the German and French leaders overnight, the government said on Wednesday.

Australia's push for an independent review of the origins and spread of the pandemic, including the response of the World Health Organisation (WHO), has drawn sharp criticism from China, which has accused Australian lawmakers of taking instructions from the United States.

...

Senior Australian lawmakers have also called for an inquiry into the origins of the coronavirus, and questioned Beijing's transparency over a pandemic now paralysing the world.

Source: <https://www.scmp.com/news/asia/australasia/article/3081020/australia-wants-international-probe-coronavirus-origins> (archived)

**China threatens economic consequences if Australia launches investigation of Beijing's handling of coronavirus (April 27, 2020)**

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Chinese Ambassador to Australia Cheng Jingye said Beijing could encourage Chinese citizens to boycott Australian exports and products if Australia was to initiate the probe, the news outlet reported.

...

Australian Foreign Minister Marise Payne called the Chinese threats "economic coercion" and repeated calls for an investigation into the early handling of the outbreak, which is thought to have originated in the Chinese city of Wuhan.

"Australia has made a principled call for an independent review of the COVID-19 outbreak, an unprecedented global crisis with severe health, economic and social impacts," she reportedly said. "We reject any suggestion that economic coercion is an appropriate response to a call for such an assessment, when what we need is global co-operation."

Source: <https://thehill.com/policy/international/494860-china-threatens-economic-consequences-if-australia-launches> (archived)

**Chinese ambassador's coronavirus inquiry warning was 'reckless, undiplomatic', Alexander Downer says (May 1, 2020)**

Australia's longest serving foreign minister says not since the Cold War has he seen an ambassador behave as "recklessly" as China's ambassador to Australia did this week.

The Federal Government has described Ambassador Jingye Cheng's comments in an interview with the Australian Financial Review as "threats of economic coercion".

Mr Cheng suggested the Chinese public may boycott Australian products or decide not to visit Australia in the future if the Government continued its push for an inquiry into the origins of COVID-19.

"If the mood is going from bad to worse, people would think 'Why should we go to such a country that is not so friendly to China?'," he told the paper.

"Maybe the ordinary people will say 'why should we drink Australian wine? Eat Australian beef?'"

...

Former foreign minister Alexander Downer says the ambassador's conduct is almost unprecedented.

"Not since the days of the Soviet Union have I seen an ambassador behave in such a reckless, undiplomatic way. And what is the problem? I mean the Prime Minister has just said that there should be an investigation," he told ABC RN's *Between The Lines*.

**"The Chinese ambassador's reaction is as though China has been cornered and told that it's guilty."**

...

Mr Downer says there must be an impartial investigation into the cause of the outbreak.

**"We've got to investigate it. And we've got to find out how it happened. And I'm very surprised that the Chinese should be so resistant to getting to the heart of what happened."**

...

In a statement released on Tuesday by China's Embassy, Mr Cheng said he "flatly rejected the concern expressed from the Australian side over his remarks".

It said he "called on Australia to put aside ideological bias, stop political games and do more thing to promote the bilateral relations".

That same day Trade Minister Simon Birmingham said the Government would continue to push for an investigation.

Source: <https://www.abc.net.au/news/2020-04-30/china-ambassador-reckless-over-coronavirus-inquiry-downer-says/12200534> (archived)

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### 9.11.3 World Health Organization

**Coronavirus: WHO 'not invited' to join China's COVID-19 investigations (May 1, 2020)**

China has refused repeated requests by the World Health Organisation to take part in investigations into the origins of COVID-19, the WHO representative in China has told Sky News.

"We know that some national investigation is happening but at this stage we have not been invited to join," Dr Gauden Galea said.

...

Asked by Sky News whether there was a good reason not to include the WHO, Dr Galea replied: "From our point of view, no."

Source: <https://news.sky.com/story/coronavirus-who-not-invited-to-join-chinas-covid-19-investigations-11981193> (archived)

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#### 9.11.4 European Union

##### **Coronavirus: European Union ratchets up pressure on China with call to cooperate with inquiry (May 1, 2020)**

The European Union has urged China to cooperate with an investigation into the origin of the coronavirus, increasing diplomatic pressure on Beijing for greater transparency.

The call from European Commission President Ursula von der Leyen came a day after her foreign policy aide Josep Borrell confirmed that China attempted to put pressure on the EU ahead of a report detailing the Chinese government's disinformation campaigns.

Earlier this week, the Swedish government said it planned to ask the EU to launch an investigation into the origin of the new coronavirus, and into the World Health Organisation's handling of the pandemic.

The deadly virus so far has infected more than 1.3 million people in Europe – over a third of cases worldwide.

...

Other European leaders have also called for more transparency from China, including French President Emmanuel Macron and German Chancellor Angela Merkel, though their exhortations fell short of von der Leyen's stern message for China to cooperate.

Macron's office has dismissed US claims that the virus could have come from a virology lab in Wuhan. Washington floated the possibility after a Chinese foreign ministry spokesman accused the US Army of creating the virus.

Source: <https://www.scmp.com/news/china/diplomacy/article/3082526/european-union-adds-pressure-china-call-cooperate-coronavirus> (archived)

#### 9.11.5 Conclusion

It is understandable that China may think an inquiry led by the United States or Australia may be political and not scientific in nature. What is less understandable is why they would deny the World Health Organization - which is not affiliated with any single nation state and in fact has lost all financial ties to the U.S. after President Trump cancelled its funding - or the European Union, which has not yet officially accepted the lab outbreak theory. The last article even points out that "Macron's office has dismissed US claims that the virus could have come from a virology lab in Wuhan" - so, what harm could there be in allowing independent sources to confirm the origin of SARS-CoV-2?

Recall that, upon its opening, the WIV was referred to as a 'World Health Organization 'reference laboratory' linked to similar labs around the world' and 'a key node in the global biosafety-lab network'. Now that a pandemic has occurred and its cooperation is paramount, China is refusing to allow even the WHO to enter.

That China covered up the early days of its outbreak is widely accepted among the public by this point, but what is less known is if China is also covering up the origin of the outbreak as well. Refusing to allow independent investigations and threatening boycotts for countries that try are generally not regarded as innocent actions.

## 10 Addressing Counter-Claims

Insofar we have only provided evidence in support of our claims. Let us look at some notable arguments against our claims and address them.

### 10.1 Paper 12

#### **The proximal origin of SARS-CoV-2 (2020)**

Our analyses clearly show that SARS-CoV-2 is not a laboratory construct or a purposefully manipulated virus.

...

It is improbable that SARS-CoV-2 emerged through laboratory manipulation of a related SARS-CoV-like coronavirus. As noted above, the RBD of SARS-CoV-2 is optimized for binding to human ACE2 with an efficient solution different from those previously predicted[7,11]. Furthermore, if genetic manipulation had been performed, one of the several reverse-genetic systems available for betacoronaviruses would probably have been used[19]. However, the genetic data irrefutably show that SARS-CoV-2 is not derived from any previously used virus backbone[20].

<https://www.nature.com/articles/s41591-020-0820-9> (archive: <https://archive.is/59xJY>)

To start with, we will once again state that we are not claiming SARS-CoV-2 has been engineered.



That being said, Reference 20 is the paper "Coronavirus reverse genetic systems: infectious clones and replicons" that contains "several reverse-genetic systems available for betacoronaviruses." However, this paper was published in 2014, a year later, in 2015, in the *Journal of Virology*. (Page 00000565006)

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#### A SARS-like cluster of circulating bat coronaviruses shows potential for human emergence (2015)

Using the SARS-CoV reverse genetics system, we generated and characterized a chimeric virus expressing the spike of bat coronavirus SHC014 in a mouse-adapted SARS-CoV backbone.

We are looking for contributors that can help us verify if the 2014 paper "Coronavirus reverse genetic systems: infectious clones and replicons" mentions the "mouse-adapted SARS-CoV backbone" described in the 2015 WIV paper.

While it should be relatively simple to prove whether this "mouse-adapted SARS-CoV backbone" was covered in the 2014 paper, all the WIV would have to do is to simply use a backbone that had not been published previously to invalidate this part of the paper. Indeed, without direct access to the lab it would be impossible to prove what backbones have been used in the past and are currently being used in ongoing studies.

Additionally, this paper does not address the "Infected Animal" theory, which is far more likely to have occurred at the WHCDC. Indeed, the paper itself states:

Although the evidence shows that SARS-CoV-2 is not a purposefully manipulated virus, it is **currently impossible to prove or disprove the other theories of its origin described here**. However, since we observed all notable SARS-CoV-2 features, including the optimized RBD and polybasic cleavage site, in related coronaviruses in nature, we do not believe that any type of laboratory-based scenario is plausible.

While the phrase "laboratory-based scenario" is abstract, given prior context, we will assume this again refers to the "Manipulated Virus" theory. It remains plausible for a lab animal to have been infected with SARS-CoV-2, either prior to arriving at the lab or as part of a spillover event occurring in the lab, afterwards spreading the virus to human Patient Zero. From the layman's explanation of Paper 1 we remember that:

- Multiple coronaviruses can infect the same bat (coinfection)
- Coronaviruses like to mix their genes together (recombine)
- If two coronaviruses infect the same bat and recombine, they can potentially result in a novel (never before recognized) coronavirus
- It only takes a few changes ("exchange of a relatively small sequence segment") between two coronaviruses to result in a third coronavirus that can infect other animals ("host-switching")
- The odds of this happening are pretty good!

Indeed, wouldn't it be far more likely for such a recombination event to occur in a laboratory housing many bats in close quarters, such as the WHCDC, rather than anywhere else in Wuhan?

While not directly related to our claim, we would also like to take a moment to point out what we believe to be ethical concerns regarding this paper:

#### YiSheng BioPharma Announces Research Collaboration With The Scripps Research Institute In Developing New AIDS Vaccine (November 7, 2016)

BEIJING and LA JOLLA, Calif., Nov. 7, 2016 /PRNewswire/ – Yisheng Biopharma Co., Ltd. ("Yisheng Biopharma"), a biopharmaceutical company focusing on research, development, manufacturing, sales and marketing of vaccine products, today announced that it has entered into a collaboration with The Scripps Research Institute ("TSRI") to test a new generation of AIDS vaccine based on novel gp140 trimers and self-assembling nanoparticles designed by TSRI scientists and Toll-Like Receptor 3 (TLR3) agonist adjuvant technology ("PIKA") developed by the company. The cooperative research partnership represents a new opportunity for both organizations to create more effective and safe vaccine products against HIV infection.

<https://www.biospace.com/article/releases/yisheng-biopharma-announces-research-collaboration-with-the-scripps-research-institute-in-developing-new-aids-vaccine/> (archive: <https://archive.is/mhvmF>)

#### The Scripps Research Institute and ShangPharma Innovation Announce Translational Research Collaboration (June 8, 2017)

"We are delighted to partner with an experienced group that has complementary infrastructure and resources," said Peter G. Schultz, Ph.D., President of TSRI and Calibr. "This new initiative allows us to further accelerate our mission of creating new medicines for unmet needs in a nimble partnership structure designed to mature the programs before out-licensing, creating significant value for patients as well as for the institute."

<https://www.scripps.edu/news-and-events/press-room/2017/20170608chempharma.html> (archive: <https://archive.is/VBvWC>)

#### Scripps Research and Shenzhen Bay Laboratory announce international chemical biology research collaboration (November 27, 2019)

"We are delighted to partner with Shenzhen Bay Laboratory and Peking University to advance our understanding of complex biological systems at the molecular level and address unmet medical needs at the Scripps Research Institute. Peter Schlegel, CEO of Scripps Research, said: "We at Scripps Research, Shenzhen Bay Laboratory and Peking University share a commitment to scientific excellence and serving the global public health needs."

<https://www.scripps.edu/news-and-events/press-room/2019/20191127-szbl-collaboration.html>  
(archive: <https://archive.is/rPswU>)

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We are looking for more counter-claims to address. If you find one, please contribute it.

As The Scripps Research Institute has multiple partnerships with Chinese biolaboratories, some of which were established as recently as November of last year, it would obviously be in their best financial interest to claim that such an accident did not occur. While we have little reason to doubt their findings were reported with the utmost integrity, we believe these investments should have been declared in the paper as possible conflicts of interest, as these connections cause subconscious bias.

## 10.2 @trvb Twitter Thread

Trevor Bedford, a scientist at the Fred Hutchinson Cancer Research Center, wrote a thread directly addressing the lab escape theory. We will address snippets here, we recommend you read the full thread on archive.is: <https://archive.is/5VE0w>

As a foreword, we discourage any personal attacks towards Trevor, as he, and all the other scientists we mention in this document, are doing their jobs to the best of their abilities.

Data point #1 (virus group): #SARSCoV2 is an outgrowth of circulating diversity of SARS-like viruses in bats. A zoonosis is expected to be a random draw from this diversity. A lab escape is highly likely to be a common lab strain, either exactly 2002 SARS or WIV1. 5/21

As proved in Claim 1, WIV has engaged in gain-of-function research resulting in new strains of SARS-CoV-1, for example the synthetic SHC014-CoV. Furthermore, we also proved that the WHCDC housed bats and a researcher from the WHCDC had to quarantine twice due to accidental exposure.

Note that previous non-zoonotic outbreaks have been obvious from genetic data, one example being the 1977 "Russian" flu, which was clearly a 1950s human virus that had been in a freezer for 20 years (<https://mbio.asm.org/content/6/4/e01013-15>). 6/21

Data point #2 (receptor binding domain): This point is rather technical, please see preprint by @K\_G\_Andersen, @arambaut, et al at <http://virological.org/t/the-proximal-origin-of-sars-cov-2/398> ... for full details. 9/21

But, briefly, #SARSCoV2 has 6 mutations to its receptor binding domain that make it good at binding to ACE2 receptors from humans, non-human primates, ferrets, pigs, cats, pangolins (and others), but poor at binding to bat ACE2 receptors. 10/21

This pattern of mutation is most consistent with evolution in an animal intermediate, rather than lab escape. Additionally, the presence of these same 6 mutations in the pangolin virus argues strongly for an animal origin: <https://www.biorxiv.org/content/10.1101/2020.02.13.945485v1> ... 11/21

It is indeed likely that we would have been able to tell if SARS-CoV-2 was genetically derived from any research the WIV has made public. Of course, we are unaware of any research they have not published. This also does not address an infected lab animal scenario. We argue that the virus could have easily originated in an animal in one of these labs.

Data point #3 (market cases): Many early infections in Wuhan were associated with the Huanan Seafood Market. A zoonosis fits with the presence of early cases in a large animal market selling diverse mammals. A lab escape is difficult to square with early market cases. 13/21

As proven in Claim 1, at least several dozen cases had no association with the seafood market at all. Furthermore, what if an infected lab animal had ended up being sold to the market, as Chen Quanjiao's Weibo Message allegedly claimed?

Data point #4 (environmental samples): 33 out of 585 environmental samples taken from the Huanan seafood market showed as #SARSCoV2 positive. 31 of these were collected from the western zone of the market, where wildlife booths are concentrated. 15/21 [http://www.xinhuanet.com/english/2020-01/27/c\\_138735677.htm](http://www.xinhuanet.com/english/2020-01/27/c_138735677.htm)

Environmental samples could in general derive from human infections, but I don't see how you'd get this clustering within the market if these were human derived. 16/21

Again, this assumes that a researcher was Patient Zero, which is one possibility. The possibility of a lab animal infection is not addressed.

## 10.3 Scimex Expert Reactions

EXPERT REACTION: Did COVID-19 come from a lab in Wuhan? (April 17, 2020)



An extremely important but still unanswered question is what was the source of COVID-19 virus. While COVID-19 has close similarities to SARS and other bat viruses no natural virus matching to COVID-19 has been identified despite its origins. The question of whether the COVID-19 virus might be the result of human intervention.

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Certainly, our and other analyses of the genomic sequence of the virus do not reveal any artificial gene inserts that would be the hallmark of a gene jockey, genetic engineers who manipulate or even create viruses by splicing in artificial inserts into their genome. These are generally easily recognisable and hence clear signatures of human intervention in the creation of a virus. The fact that these artificial inserts are not present has been interpreted by some to mean this virus is not the result of human manipulation.

However, this logic is incorrect as there are other ways in which humans can manipulate viruses and that is caused by natural selection. What do I mean? All viruses and bacteria mutate and adapt to their environment over time, with selection of the fittest individuals for survival in that particular environment.

Take a bat coronavirus that is not infectious to humans, and force its selection by culturing it with cells that express human ACE2 receptor, such cells having been created many years ago to culture SARS coronaviruses and you can force the bat virus to adapt to infect human cells via mutations in its spike protein, which would have the effect of increasing the strength of its binding to human ACE2, and inevitably reducing the strength of its binding to bat ACE2.

Viruses in prolonged culture will also develop other random mutations that do not affect its function. The result of these experiments is a virus that is highly virulent in humans but is sufficiently different that it no longer resembles the original bat virus. Because the mutations are acquired randomly by selection there is no signature of a human gene jockey, but this is clearly a virus still created by human intervention.

My group in collaboration with other Australian researchers have been using a modelling approach to study the possible evolutionary origins of COVID-19 by modelling interactions between its spike protein and a broad variety of ACE2 receptors from many animals and humans.

This work which we will publish on a prepress server next week shows that the strength of binding of COVID-19 to human ACE2 far exceeds the predicted strength of its binding to the ACE2 of any of the other species. This points to the virus having been selected for its high binding to human ACE2. In the absence of evidence of historic human infections with this virus, which could result in such selection, this either is a remarkable coincidence or a sign of human intervention.

This, plus the fact that no corresponding virus has been found to exist in nature, leads to the possibility that COVID-19 is a human-created virus. It is therefore entirely plausible that the virus was created in the biosecurity facility in Wuhan by selection on cells expressing human ACE2, a laboratory that was known to be cultivating exotic bat coronaviruses at the time. Is so the cultured virus could have escaped the facility either through accidental infection of a staff member who then visited the fish market several blocks away and there infected others, or by inappropriate disposal of waste from the facility that either infected humans outside the facility directly or via a susceptible vector such as a stray cat that then frequented the market and resulted in transmission there to humans.

Whilst the facts cannot be known at this time, the nature of this event and its proximity to a high-risk biosecurity facility at the epicentre of the outbreak demands a full and independent international enquiry to ascertain whether a virus of this kind of COVID-19 was being cultured in the facility and might have been accidentally released.

Professor Petrovsky raises a salient point: although not directly engineered, SARS-CoV-2 could have evolved from an ancestor SARS-CoV through cell culture experiments. We saw this type of experiment at the WIV in P1pcr 2, in which a chimera SARS-CoV gained the ability to bind to ACE2 receptors in vitro (it previously lacked this ability). This is not equivalent to genetic engineering, as the genome of the virus is never edited directly, however it is clearly a result of human intervention.

This also addresses Professor Holmes' point that "the level of genome sequence divergence between SARS-CoV-2 and RaTG13 is equivalent to an average of 50 years (and at least 20 years) of evolutionary change." It may take 20-50 years for RaTG13 to evolve into SARS-CoV-2 naturally, but it could evolve much faster under the right conditions in a cell culture.

We are looking for Professor Petrovsky's paper whenever it is released. If you find it, please contribute it.

Professor Petrovsky mentions that he is publishing a paper which "shows that the strength of binding of COVID-19 to human ACE2 far exceeds the predicted strength of its binding to the ACE2 of any of the other species." We will wait until this paper has been peer reviewed before commenting further.

Of course, Professor Petrovsky is only one person, and we should wait for independent confirmation of his claims. However, given what we know about natural selection, the idea that viruses mutate faster in cell cultures than in nature is not without merit, and we already know that RaTG13 and similar SARS-CoVs were experimented on at the WIV.

There is no substance to this claim and other conspiracy theories about the origin of COVID-19.

We've been aware of the time that SARS and MERS emerged as a cause of pandemic, and so in many ways, the emergence of a new coronavirus with pandemic potential is not a surprise.

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Whilst there is absolutely no evidence to support the conspiracy theories being propagated by a few individuals, there actually is evidence to support the natural emergence of the novel coronavirus, with preliminary genotyping studies showing its relationship with other bat viruses. We have to be careful to not aid those irresponsibly using this global crisis for political point-scoring by giving any oxygen to these and other rumours.

Associate Professor Vally is correct that we have been aware of the pandemic potential of coronaviruses. However, up until now, the general consensus was that such a coronavirus would originate in a remote area of China, like SARS-CoV-1 did. In Paper 4 the WIV found a cave in Yunnan Province that most likely contained SARS-CoV-1. Such caves do not exist in Hubei Province, where SARS-CoV-2 originated, and certainly not in Wuhan which is a bonafide metropolis. Even Dr. Shi Zhengli of the WIV immediately questioned whether the virus could have come from her lab, noting that 'I had never expected this kind of thing to happen in Wuhan, in central China.'

Professor Vally also states "whilst there is absolutely no evidence to support the conspiracy theories being propagated by a few individuals, there actually is evidence to support the natural emergence of the novel coronavirus." We agree - SARS-CoV-2 was most likely created naturally. However, this evidence does not disprove that the SARS-CoV-2 outbreak began at the WIV, either through an infected lab worker or infected lab animal. Nor does it prove that the outbreak began at the The Huanan Seafood Market.

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## 11 Miscellaneous Coincidences

The following are notable coincidences that do not directly support Claim 1 or 2. We list them here to address alternative theories and judge their probability of occurring.

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### 11.1 WIV and France

The WIV BSL-4 lab was an international collaboration between Chinese and French institutions. However, it appears the deal soured towards the end of its construction.

#### Coronavirus: China bars safety experts from Wuhan lab (April 27, 2020)

The facility opened in 2015 after being built in partnership with France, which was meant to supply the technical expertise with 50 high-level French researchers due to work there between 2017 and 2022. They did not do so as the Chinese came to dominate the arrangements, according to the officials.

...

French specialists have knowledge in building and running BSL 4 laboratories, which were described by a senior civil servant in Paris as a "bacteriological atomic bomb". But French firms got only minor roles in the building of the laboratory, according to Le Figaro and France Inter, the state broadcaster.

France Inter said that Technip, the French company supposed to certify that the building complied with safety standards, refused to do so after pulling out of the project in 2015. In the same year

Alain Mérieux, the French pharmaceutical tycoon, resigned from the joint chairmanship of the committee heading the project. The French government has refused to say whether the 50 French researchers meant to move to Wuhan were blocked by the Chinese authorities or whether Paris failed to provide the funding.

Source: <https://www.thetimes.co.uk/edition/news/coronavirus-china-bars-safety-experts-from-wuhan-lab-brbm9rvtm> (archived)

The fact that the BSL-4 lab was not independently certified by Technip as was planned should be a warning sign that we do not know the type of security standards or protocols being observed at the WIV. The only non-Chinese company that was supposed to verify this apparently bailed out for unknown reasons, and French scientists that were supposed to go work at the lab (who could have reported safety concerns) were never sent there.

It is fair to say that the international community is not aware of what is going on at the WIV.

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### 11.2 Lijian Zhao vs. Cui Tiankai

On March 12, Lijian Zhao, a spokesperson for the Foreign Ministry of China (as described in his Twitter profile) tweeted the following:

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**Lijian Zhao 赵立坚** 28/03/20 Follow

1/2 CDC Director Robert Redfield admitted some Americans who seemingly died from influenza were tested positive for novel #coronavirus in the posthumous diagnosis, during the House Oversight Committee Wednesday. #COVID19

Global Times



(archived)

**Lijian Zhao 赵立坚** 28/03/20 Follow

2/2 CDC was caught on the spot. When did patient zero begin in US? How many people are infected? What are the names of the hospitals? It might be US army who brought the epidemic to Wuhan. Be transparent! Make public your data! US owe us an explanation!

Global Times



(archived)

His words, "It might be US army who brought the epidemic to Wuhan," can be seen as official CCP approval of the theory that SARS-CoV-2 was introduced to China, perhaps intentionally, by the United States Army.

In late March 2020, China's ambassador to the United States, Cui Tiankai, disowned the theory on "Axios on HBO":

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ALL EXCERPTS MUST BE ATTRIBUTED TO "AXIOS ON HBO"

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Jonathan Swan [15:36:07] Yeah. Your quote was, quote, "There are people who are saying that this virus, these virus are coming from some military lab, not of China, maybe in the United States. How can we believe these crazy things?" You were responding to a question about, about Tom Cotton.

Ambassador Cui Tiankai [15:36:22] That's my position all along.  
Jonathan Swan [15:36:24] OK. But your own...  
Ambassador Cui Tiankai [15:36:26] That was my position then and that's my position now. I think that these questions, of course, we have to find eventually,  
we must have an answer to where the virus originally came. But, this is the job  
for the scientists to do, not for diplomats, not for journalists to speculate. Because  
such speculation will help nobody. It's very harmful. So why not let our scientists  
do their own professional job and give us some answer, eventually?

Jonathan Swan [15:37:00] Well, it's good to hear you say that, Mr. Ambassador, because it was actually your own spokesman, the spokesman for the Chinese Ministry of Foreign Affairs, Zhao Lijian, who has been spreading this conspiracy that the virus originated in the U.S. laboratory. Does he have any evidence to support that theory?

Ambassador Cui Tiankai [15:37:18] Maybe you could go and ask him.  
Jonathan Swan [15:37:20] I mean, have you asked him? You're the ambassador.  
Ambassador Cui Tiankai [15:37:23] No. I'm here representing my head of the state and my government. Not any particular individual.

Jonathan Swan [15:37:29] Does he repr... speak for the Chinese government? Does Zhao, or do you?

Ambassador Cui Tiankai [15:37:35] I am the representative of China in the United States.

ALL EXCERPTS MUST BE ATTRIBUTED TO "AXIOS ON HBO"

Axios on HBO, pg. 4

ALL EXCERPTS MUST BE ATTRIBUTED TO "AXIOS ON HBO"

5

Jonathan Swan [15:37:39] OK, so we shouldn't take his words literally, what he's saying. We shouldn't take them as a representation of the Chinese government, even though he's the spokesman.

Ambassador Cui Tiankai [15:37:49] Well, you could try to interpret somebody else's statement. I'm not in the position, and I don't have the responsibility to  
explain everybody's view to you.

Jonathan Swan [15:37:59] OK. I mean, it's not a matter of interpretation. It's what he said. But I think it's clear what you mean by that. We'll move on. Mr.

Axios on HBO, pg. 5

<https://www.axios.com/china-coronavirus-ambassador-cui-tiankai-1b0404e8-026d-4b7d-8290-98076f95df14.html> (archived)

It is unknown whether Lijian Zhao has been reprimanded for his statements. As of today, his tweets have not been deleted.

The only evidence that we have been able to find that supports the U.S. Army theory is Paper 2, which lists the "University of North Carolina at Chapel Hill" as an author.

11.3 Removal of Dr. Xiangguo Qiu and Dr. Keding Cheng From Canada National Microbiology Lab

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**Canada police probing 'possible policy breaches' at National Microbiology Lab (July 15, 2019)**

"We can confirm that we have received a referral from the Public Health Agency of Canada," Julie Courchaine, spokeswoman for the Royal Canadian Mounted Police (RCMP), said in a statement. "We will not speculate on the potential outcome of the investigation. In order to maintain the integrity of the investigative process, we have no further comment at this time."

...

The Public Health Agency of Canada (PHAC) said it advised the RCMP of the "possible policy breaches" in late May. The agency declined to provide any specifics, saying only that it is "looking into an administrative matter" at the lab and "taking steps to resolve it expeditiously."

...

CBC News on Sunday reported that Xiangguo Qiu, a Chinese-educated doctor who is head of the Vaccine Development and Antiviral Therapies section in the Special Pathogens Program at the lab, was escorted out of the National Microbiology Lab (NML) in Winnipeg earlier this month amid the investigation. Qiu, who was part of a team working out of the NML that developed ZMapp, a vaccine for Ebola used during the 2014 outbreak in West Africa, had also been an adjunct microbiology professor at the University of Manitoba.

...

"There is no employee from the NML under arrest or confined to their home," Eric Morrisette, spokesman for the PHAC, said. "We can assure Canadians that there is no risk to the public and that the work of the NML continues in support of the health and safety of all Canadians."

...

Qiu, who is still listed on the university's website, could not be reached via multiple attempts for comment.

...

CBC News reported that Qiu's husband, Keding Cheng, a biologist at the NML, and an unknown number of her students from China were also removed from the lab.

Reuters also could not reach Cheng for comment.

...

The CBC reported that Qiu's removal came several months after IT specialists at the NML entered her office after hours and replaced her computer.

Source: <https://www.reuters.com/article/us-canada-china-researcher/canada-police-probing-possible-policy-breaches-at-national-microbiology-lab-idUSKCN1UA2GU> (archived)

This Reuters article references the following CBC News article published July 12, 2019: 'RCMP investigate possible policy breach at National Microbiology Lab' (archived).

Later in 2019, CBC News and other sources began to report that the NML had shipped Ebola and Henipah viruses to Beijing:

**Questions Surround Canadian Shipment of Deadly Viruses to China (August 9, 2019)**

Canada's National Microbiology Laboratory shipped Ebola and Henipah viruses to Beijing on March 31, raising suspicions from experts in biochemical warfare, who say they think China may use the pathogens to develop offensive biological agents.

The Public Health Agency of Canada (PHAC) and the Royal Canadian Mounted Police (RCMP) report that the incident has not introduced any known risk to public health, according to the Winnipeg Free Press.

The same lab is the focus of an ongoing investigation by the RCMP. The inquiry began following the recent dismissal of the head of the National Microbiology Laboratory's (NML) Vaccine Development and Antiviral Therapies section in the Special Pathogens Program, virologist Xiangguo Qiu. Qiu, her colleague and husband Keding Cheng, and a number of her international students lost security clearance to their lab on July 5.

In 2018, Governor General Julie Payette presented Qiu with an innovation award for her helping to lead the development of the Ebola vaccine ZMapp, according to the Winnipeg Free Press. There are no reports as to whether she was involved in the March shipment.

Although health officials insist all protocols were met, **anonymous sources report that the shipment lacked an agreement spelling out intellectual property rights, known as a "material transfer agreement,"** according to the Winnipeg Free Press. The document would protect Canada's claim over the viruses, assuming they had been patented through the Budapest Treaty deposit, an internationally recognized system for patenting intentions involving microorganisms.



"If China was leveraging these scientists in Canada to gain access to a potentially valuable pathogen or to elements of a virus without having to license the patent . . . it makes sense with the idea of China trying to get a valuable IP asset out of the country." — Leah West, an associate professor of law at the Norman Paterson School of International Affairs, in an interview with CBC News.

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Source: <https://www.the-scientist.com/news-opinion/questions-surround-canadian-shipment-of-deadly-viruses-to-china-66254> (archived)

**Author's Note: Henipah virus is not related to any coronavirus, however it is a BSL-4 pathogen along with Ebola.**

We are looking for contributors who can provide further evidence and sources that can expand on the lack of a Material Transfer Agreement for this shipment, as well as Dr. Qiu's involvement.

Is it unlikely that the "administrative matter" being looked into involves the lack of a Material Transfer Agreement for this shipment? What could have "IT specialists at the NML" have discovered on Dr. Qiu's computer?

But even then, Dr. Qiu is just one Chinese scientist out of many in Canada. The odds are extremely unlikely that she would be at all involved with the WIV or WHCDC, right?

#### Canadian government scientist under investigation trained staff at Level 4 lab in China (October 3, 2019)

A Canadian government scientist at the National Microbiology Lab in Winnipeg made at least five trips to China in 2017-18, including one to train scientists and technicians at China's newly certified Level 4 lab, which does research with the most deadly pathogens, according to travel documents obtained by CBC News.

...

"This will be third-party funded, and therefore no cost to [the Public Health Agency of Canada]," say the documents, obtained through access to information requests. The identity of the third-party was redacted.

...

During a Sept. 19-30, 2017, trip, she also met with collaborators in Beijing, the documents say, but their names have also been blacked out.

...

The staff member claims RCMP officers have not yet interviewed key people at the lab, because senior management has not made them accessible to police or allowed staff to contact them with relevant information.

...

A spokesperson confirms the police investigation is ongoing. Both agencies have said repeatedly there is no threat to public safety.

...

Qiu and Cheng have not responded to multiple requests for comment.

Source: <https://www.cbc.ca/news/canada/manitoba/national-microbiology-lab-scientist-investigation-china-1.5307424> (archived)

As we all know, there is only one BSL-4 lab in China.

This is not the first time this connection has been made, prompting FactCheck.org to ask Canadian officials for a response directly:

#### Coronavirus Wasn't Sent by 'Spy' From Canada (January 28, 2020)

Suggestions have been circulating on social media that a "Chinese spy team" sent the deadly coronavirus to Wuhan, China — the epicenter of the outbreak — from a Canadian research lab.

...

However, Eric Morrissette, a spokesman for the Public Health Agency of Canada, told us by email, "this is misinformation and there is no factual basis for claims being made on social media."

...

A third CBC story in August reported that the Winnipeg lab had sent two viruses — Ebola and Henipah — to Beijing on March 31. It didn't connect Qiu, specifically, to that shipment, but it referred to the investigation, saying, "while the Public Health Agency of Canada says all federal policies were followed, there are questions about whether that shipment is part of an ongoing RCMP investigation."

...

But Cpl. Caroline Duval, of the Royal Canadian Mounted Police, told us by email, "There is no connection between the outbreak in China and any RCMP investigation."

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But, the fact is, Qiu wasn't "removed" from the Canadian lab "for sending pathogens to the Wuhan facility," as the tweet says."

Source: <https://www.factcheck.org/2020/01/coronavirus-wasnt-sent-by-spy-from-canada/> (archived)

We agree that, based on publicly available information and the interviews FactCheck.org conducted with the PHAC and the RCMP, Dr. Qiu likely was not removed for shipping any coronavirus to the WIV.

However, the NML has specific importance as it was one of the few labs in the world to receive a sample of MERS (Middle East Respiratory Syndrome) coronavirus:

#### Canada's national lab has sample of new coronavirus (May 14, 2013)

TORONTO – Canada's National Microbiology Laboratory in Winnipeg has a sample of the new coronavirus that is causing infections in a number of countries, most notably Saudi Arabia.

Scientific director Dr. Frank Plummer says the lab obtained the virus from the Erasmus Medical Centre in Rotterdam, the Netherlands.

...

Plummer says the coronavirus arrived at the Winnipeg facility on May 4.

...

He says the lab is growing up stocks of the virus and will use it to assess diagnostic tests being used in Canada.

Source: <https://www.ctvnews.ca/mobile/health/health-headlines/canada-s-national-lab-has-sample-of-new-coronavirus-1.1281929> (archived)

While there is currently no evidence to support that this sample was shipped to China, either in the same March 2019 shipment or otherwise, these news articles confirm:

- The NML received a sample of MERS virus in 2013 and grew "stocks" of it
- The NML shipped BSL-4 pathogens to China in March, 2019
- There is still an ongoing investigation into Dr. Qiu and her husband over an "administrative matter"
- Dr. Qiu specifically trained workers at the BSL-4 lab at the Wuhan Institute of Virology

We ask you, the reader, to use your best judgement to determine if an investigation into a minor clerical or bureaucratic error, such as a misplaced form, would take nearly a year to conclude. Consider, especially, that the RCMP and PHAC are aware of the theories surrounding Dr. Qiu, and still have not opted to end the investigation or provide any more details. We believe it is far more likely that this investigation involves matters of national security.

Without more evidence, it is impossible to know what Dr. Qiu is being investigated for, and if she has assisted in the transfer of knowledge or biological material (such as viruses) between the NML and China. The most direct address to this controversy is still the quote from Cpl. Caroline Duval, who wrote to FactCheck.org: "There is no connection between the outbreak in China and any RCMP investigation."

What, then, is the connection between the RCMP investigation and Dr. Qiu?

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## 11.4 Arrest of Dr. Charles Lieber and Two Chinese Nationals

On January 28, the Department of Justice issued the following press release:

### Harvard University Professor and Two Chinese Nationals Charged in Three Separate China Related Cases (January 28, 2020)

Dr. Charles Lieber, 60, Chair of the Department of Chemistry and Chemical Biology at Harvard University, was arrested this morning and charged by criminal complaint with one count of making a materially false, fictitious and fraudulent statement. Lieber will appear this afternoon before Magistrate Judge Marianne B. Bowler in federal court in Boston, Massachusetts.

Yanqing Ye, 29, a Chinese national, was charged in an indictment today with one count each of visa fraud, making false statements, acting as an agent of a foreign government and conspiracy. Ye is currently in China.

Zaosong Zheng, 30, a Chinese national, was arrested on Dec. 10, 2019, at Boston's Logan International Airport and charged by criminal complaint with attempting to smuggle 21 vials of biological research to China. On Jan. 21, 2020, Zheng was indicted on one count of smuggling goods from the United States and one count of making false, fictitious or fraudulent statements. He has been detained since Dec. 30, 2019.

Up to 2022-00082 University of Technology (WUT) in China and was a contractual participant in China's Thousand Talents Plan from in or about 2012 to 2017.

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Under the terms of Lieber's three-year Thousand Talents contract, WUT paid Lieber \$50,000 USD per month, living expenses of up to 1,000,000 Chinese Yuan (approximately \$158,000 USD at the time) and awarded him more than \$1.5 million to establish a research lab at WUT.

According to court documents, on April 20, 2019, federal officers interviewed Ye at Boston's Logan International Airport. During the interview, it is alleged that Ye falsely claimed that she had minimal contact with two NUDT professors who were high-ranking PLA officers. However, a search of Ye's electronic devices demonstrated that at the direction of one NUDT professor, who was a PLA Colonel, Ye had accessed U.S. military websites, researched U.S. military projects and compiled information for the PLA on two U.S. scientists with expertise in robotics and computer science. Furthermore, a review of a WeChat conversation revealed that Ye and the other PLA official from NUDT were collaborating on a research paper about a risk assessment model designed to decipher data for military applications. During the interview, Ye admitted that she held the rank of Lieutenant in the PLA and admitted she was a member of the CCP.

In August 2018, Zheng entered the United States on a J-1 visa and conducted cancer-cell research at Beth Israel Deaconess Medical Center in Boston from Sept. 4, 2018, to Dec. 9, 2019. It is alleged that on Dec. 9, 2019, Zheng stole 21 vials of biological research and attempted to smuggle them out of the United States aboard a flight destined for China. Federal officers at Logan Airport discovered the vials hidden in a sock inside one of Zheng's bags, and not properly packaged. It is alleged that initially, Zheng lied to officers about the contents of his luggage, but later admitted he had stolen the vials from a lab at Beth Israel. Zheng stated that he intended to bring the vials to China to use them to conduct research in his own laboratory and publish the results under his own name.

Source: <https://www.justice.gov/opa/pr/harvard-university-professor-and-two-chinese-nationals-charged-three-separate-china-related> (archived)

**Author's Note: The lab Dr. Lieber was reportedly paid to build is *not* the BSL-4 lab at the Wuhan Institute of Virology.**

However, consider that this press release was issued 5 days after Wuhan entered lockdown, on the 23rd.

What are the odds this is unrelated?

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## 11.5 Event 201

### Statement about nCoV and our pandemic exercise

In October 2019, the Johns Hopkins Center for Health Security hosted a pandemic tabletop exercise called Event 201 with partners, the World Economic Forum and the Bill & Melinda Gates Foundation. Recently, the Center for Health Security has received questions about whether that pandemic exercise predicted the current novel coronavirus outbreak in China. To be clear, the Center for Health Security and partners did not make a prediction during our tabletop exercise. For the scenario, we modeled a fictional coronavirus pandemic, but we explicitly stated that it was not a prediction. Instead, the exercise served to highlight preparedness and response challenges that would likely arise in a very severe pandemic. We are not now predicting that the nCoV-2019 outbreak will kill 65 million people. Although our tabletop exercise included a mock novel coronavirus, the inputs we used for modeling the potential impact of that fictional virus are not similar to nCoV-2019.

<http://www.centerforhealthsecurity.org/newsroom/center-news/2020-01-24-Statement-of-Clearification-Event201.html> (archived)

We could not find evidence to support the involvement of the Johns Hopkins Center for Health Security, the World Economic Forum, or the Bill & Melinda Gates Foundation in the spreading of SARS-CoV-2, other than Event 201's relative closeness in time to the first reports of an outbreak.

We would like to say that, if any of these organizations had malicious motives, we likely would not know of Event 201. Only in movies do evil villains explain their plan to the audience before carrying it out. Real life has no plot.

To the best of our knowledge, no measure were taken to hide the existence of Event 201 from the public.

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## 11.6 2019 Military World Games

### 2019 Military World Games

The 2019 Military World Games, officially known as the 7th CISM Military World Games and commonly known as Wuhan 2019, was held from October 18–27, 2019 in Wuhan, Hubei, China.  
 FL-2022-00062 A-00000565006 "UNCLASSIFIED"  
[https://en.wikipedia.org/wiki/2019\\_Military\\_World\\_Games](https://en.wikipedia.org/wiki/2019_Military_World_Games) (archived)

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What brought the 2019 World Games to the spotlight was its connection to Event 201 - both began on the same day, October 18, 2019:

#### About the Event 201 exercise

The next severe pandemic will not only cause great illness and loss of life but could also trigger major cascading economic and societal consequences that could contribute greatly to global impact and suffering. The Event 201 pandemic exercise, conducted on October 18, 2019, vividly demonstrated a number of these important gaps in pandemic preparedness as well as some of the elements of the solutions between the public and private sectors that will be needed to fill them.

<https://www.centerforhealthsecurity.org/event201/about> (archived)

Again, as previously stated, the only connection to these two events is the date in which they occurred. We could not find any other evidence that connect these together. 1 in 365 odds are not unlikely.

What is interesting, however, is the theory that SARS-CoV-2 emerged from an infected soldier at the World Games, as claimed in Lijian Zhao vs. Cui Tiankai. From the Wikipedia article, "This was also the second biggest international sport event to be held in the year 2019 in China after hosting the 2019 FIBA Basketball World Cup." A lot of people, from all around the world, gathering in a relatively small area, could indeed be a genuine source of outbreak.

However, given that there are no known reservoirs of SARS-CoV-1 anywhere else in the world other than China, it is unlikely any international soldier was infected with it before the Military World Games.

We could not find any evidence that shows an infected soldier began the pandemic in Wuhan. It is likely that if China had any such evidence they would have already revealed it by now.

## 11.7 "HIV Inserts"

### Uncanny similarity of unique inserts in the 2019-nCoV spike protein to HIV-1 gp120 and Gag

We are currently witnessing a major epidemic caused by the 2019 novel coronavirus (2019-nCoV). The evolution of 2019-nCoV remains elusive. We found 4 insertions in the spike glycoprotein (S) which are unique to the 2019-nCoV and are not present in other coronaviruses. Importantly, amino acid residues in all the 4 inserts have identity or similarity to those in the HIV-1 gp120 or HIV-1 Gag. Interestingly, despite the inserts being discontinuous on the primary amino acid sequence, 3D-modelling of the 2019-nCoV suggests that they converge to constitute the receptor binding site. **The finding of 4 unique inserts in the 2019-nCoV, all of which have identity /similarity to amino acid residues in key structural proteins of HIV-1 is unlikely to be fortuitous in nature.** This work provides yet unknown insights on 2019-nCoV and sheds light on the evolution and pathogenicity of this virus with important implications for diagnosis of this virus.

<https://www.biorxiv.org/content/10.1101/2020.01.30.927871v1.full.pdf> (archived)

This now-withdrawn paper claims that SARS-CoV-2 has "uncanny similarity" to HIV-1, implying that it was engineered or recombined with it in some way.

It has been widely debunked by other scientists. Such inserts can also be found in bacteria, bacteriophages (viruses that only attack bacteria), and other viruses, including other coronaviruses (directly contradicting the paper). In fact, any six-letter sequence is likely to match against an HIV protein.

At this time we do not believe this paper's claims have merits.

## 11.8 Map Manipulation

Some earlier theories pointed out that the location of the Wuhan Institute of Virology had changed on Google Maps following its exposure as a possible outbreak source. The theories concluded that this move was intentionally done to increase its distance from the Huanan Seafood Market, so as to make its proximity seem less suspicious.

In reality, unlicensed mapping activities in China are illegal, and a mandatory algorithm must be applied to randomize the locations of all landmarks (including buildings) in China:

### Restrictions on geographic data in China

Due to national security concerns, the use of geographic information in the People's Republic of China is restricted to entities that obtain a special authorization from the administrative department for surveying and mapping under the State Council.

...

According to articles 7, 26, 40 and 42 of the Surveying and Mapping Law of the People's Republic of China, private surveying and mapping activities have been illegal in mainland China since 2002. The

law prohibits:

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 authorization and the release of geographic information and the protection of the territorial air, land and waters, as well as other sea areas under the jurisdiction of the People's Republic of China." — The National Administration of Surveying, Mapping and Geoinformation of China, Surveying and Mapping Law of the People's Republic of China

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...

GCG-02 (colloquially Mars Coordinates, officially Chinese: 地形图非线性保密处理算法; literally: "Topographic map non-linear confidentiality algorithm")[15] is a geodetic datum formulated by the Chinese State Bureau of Surveying and Mapping (Chinese: 国测局; pinyin: guó-cè-jú), and based on WGS-84.[16] It uses an obfuscation algorithm[17] which adds apparently random offsets to both the latitude and longitude, with the alleged goal of improving national security.[14][18] There is a license fee associated with using this mandatory algorithm in China.[15]

A marker with GCG-02 coordinates will be displayed at the correct location on a GCG-02 map. However, the offsets can result in a 100 - 700 meter error from the actual location if a WGS-84 marker (such as a GPS location) is placed on a GCG-02 map, or vice versa.

[https://en.wikipedia.org/wiki/Restrictions\\_on\\_geographic\\_data\\_in\\_China](https://en.wikipedia.org/wiki/Restrictions_on_geographic_data_in_China)

We therefore conclude that the manipulation of WIV's location was performed algorithmically, and not intentionally ordered by any individual or group.

## 12 Conclusion

Up until this point, we have been presenting each of our claims in a vacuum. Let us put them together:

At some point in late 2019, many people who visited the The Huanan Seafood Market fell ill due to a new disease. To date the origin of this disease is unknown.

This market is less than 9 miles away from The Wuhan Institute of Virology, Chinese Academy of Sciences, which:

- Collaborated with French authorities to construct its BSL-4 lab, however the company meant to inspect its safety standards bailed out of the project and French scientists who were supposed to work there were never sent there
- Developed chimeric SARS like coronaviruses
- Conducted 'dangerous' gain-of-function research on the SARS-CoV-1 virus
- Established a 96.2% match with SARS CoV 2 and a virus they sampled from a cave over 1,000 miles away from Wuhan
- Injected live piglets with bat coronaviruses as recently as July 2019: Paper 5, Paper 7, Paper 8
- Tested its disinfecting procedures with a bat coronavirus
- Published a paper on a close descendant of SARS CoV 1, MERS CoV, in November 2019
- Collected bat samples with improper PPE even after a researcher was bitten by one
- Was hiring researchers to work on bat coronaviruses as recently as November 2019
- The United States State Department claimed had 'inadequate safety'
- Deleted a press release detailing a U.S. State Department visit
- Has not provided concrete evidence that one of their prior researchers is still alive, despite rumors on Chinese social media that they are 'Patient Zero', despite one of their other top researchers coming out and swearing the virus had nothing to do with her lab
- Had a researcher accuse the director of the Institute of selling infected lab animals to vendors on Weibo (with pictures of herself and her employee ID included); afterwards, she claimed she was 'hacked'
- Had staff trained by a Chinese-Canadian scientist at Canada's only BSL-4 lab who has now been under RCMP investigation for nearly a year following a shipment of Ebola and Henipavirus from that lab to a lab in China

The market is also less than 3 miles away from the Wuhan Centre for Disease Control, which:

- Was actually already accused of being the source of the outbreak from a now-withdrawn academic paper from a notable Chinese scholar at the South China University of China
- Once kept horseshoe bats, a known reservoir of SARS-CoV-1, within its labs
- Once performed surgery on live animals within its labs
- Had a researcher who quarantined on two separate occasions; once upon coming into contact with bat blood after being 'attacked' and another time when he was urinated upon in a cave while wearing inadequate personal protection

Let us also look at the actions of China before and after the outbreak, which:

- Handle SARS-CoV-2 escape from a lab  
 Title: 2022-00062 A-00000585006 "UNCLASSIFIED" 2/9/2024 Page 299
- **Compensated families** after 27 students were infected with Brucella bacteria during an anatomy course in 2011
  - **Is currently investigating a similar Brucella outbreak** amongst "over 100 Students and Staff" in December 2019
  - Issued bio-safety guidelines to 'fix chronic management loopholes at virus labs'
  - Arrested a 'top academician' for illegally selling lab animals and 'experimental milk' in January 2020
  - Censored local medical professionals who attempted to report the outbreak
  - Ordered local labs to destroy any samples of the new virus
  - Withheld the virus's genome nearly a week after they sequenced it
  - Continually insisted on no human-to-human transmission
  - Launched the largest national quarantine in human history once containment faded
  - Issued an order preventing the unauthorized publishing of any academic material related to SARS CoV 2
  - **Allowed a Party spokesperson** to accuse the United States Army of intentionally bringing SARS-CoV-2 to Wuhan
  - Is continuing to refuse an independent investigation into the outbreak origins **and threatened Australia with boycotts if they investigated**

**Also in January 2020, the** United States Department of Justice arrested two Chinese nationals and the Chair of the "Department of Chemistry and Chemical Biology at Harvard University" for allegedly receiving illegal payments from China, "acting as an agent of a foreign government," and "attempting to smuggle 21 vials of biological research to China."

**Back to the market:** the The Huanan Seafood Market **didn't even have** bats for sale, and most bats species in Wuhan would be hibernating at the time of outbreak. **It was reported that 34%** of cases had no contact with the market, and No epidemiological link was found between the first patient and later cases'.

**If an infected animal was indeed the culprit, why did it fail to infect a single person outside of the market? It could not have been infected at the market, because there were no bats that could serve as sources of infection. So, where were all the infected people outside of Wuhan by the time SARS CoV 2 started spreading in the market?**

We hope that this document adequately addressed each claim with what evidence is available and fulfilled its secondary responsibility of educating you on biolaboratory safety. By now, we hope you understand that these claims are not impossible; they are in fact more than likely.

We may never be certain of the truth. What we are certain of, however, is that these claims shouldn't be discounted, and far more research must be done to disprove either one.

Our work as a global community must continue.

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## 13 Revisions

Revision 2. Published May 2, 2020.

- Amended Abstract to include a link to the conclusion.
- Amended Authors to clarify that we are not funded by any individual or organization.
- Amended Contribution Policy to include a link to the GitHub repository.
- Amended Either Way to clarify that anthrax is a bacteria and not a virus.
- Amended The Huanan Seafood Market to address community transmission.
- Amended Suspected Laboratories to include updated Google Maps screenshot with distances included.
- Added Lack of PPE during Sample Collection.
- Added Yuan Zhiming's Response.
- Amended Researcher Was Once Attacked By Bats to include links to the news article references.
- Added Notice No.3.
- Added Academic Censorship.
- Added Refusal of Independent Investigation.
- Added Scimex Expert Reactions.

- Added WIV and France.

- Amended 2/20/2021 to include bullet points for the 50 new additions.

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## 14 References

The following are academic papers or sources cited throughout this document. All cited papers have passed the peer review process and all cited sources come from prestigious medical or scientific journals.

Please note that many other sources are cited in this document, including Wikipedia, The New York Times, Wall Street Journal, Southern China Morning Post, the U.S. Center for Disease Control, the World Health Organization, and others. These sources are used when the claim being proven is trivial (i.e. defining GCI-02 through Wikipedia) or when other sources could not be found (i.e. State Department Cables). Whenever possible, we prefer an academic or prestigious source over a news report. If you believe you have important sources that can help us with our mission, please visit our Contribution Policy.

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**From:** "Matthew Turpin" (b)(6)  
**To:** Matthew Turpin (b)(6)  
**Subject:** China Articles - January 10, 2021  
**Date:** Sun, 10 Jan 2021 09:50:48 -0500

Friends,

Welcome back and I'm pleased to bring you our first issue of 2021. As you know, this newsletter remains focused on bringing you articles and reports from outlets across the world that detail the malign activities of the Chinese Communist Party. Unfortunately, the material for this newsletter seems to be growing each week.

The 'Must Read' section this week includes a number of important pieces. But I recommend taking a look at #36 as well, a [joint statement](#) by 75 student groups at Harvard Law School demanding the release of Ekpar Asat, a Uyghur entrepreneur who was forcibly disappeared by the Chinese government in 2016 after attending the International Visitors Leadership Program sponsored by the U.S. State Department. The signatories of this joint statement accuse the PRC of committing genocide against the Uyghur community, as well as a systemic campaign of forced labor. They call for action by the international community to bring these crimes to an end and hold the PRC government accountable.

Thanks for reading!

Matt

### **MUST READ/WATCH**

1. [VIDEO – Confronting Chinese Communist Party Aggression](#)  
H.R. McMaster, PolicyEd, January 5, 2020
2. [The 'China, Inc.' Challenge to Global Trade Governance](#)  
Mark Wu, Harvard International Law Journal, May 15, 2016
3. [The scope of forced labor in Xinjiang is bigger than we knew](#)  
Bethany Allen-Ebrahimian, Axios, January 5, 2021
4. [China a No-Show at Joint Military Safety Meeting with U.S.](#)  
Chun Han Wong, Wall Street Journal, December 17, 2020
5. [The Lab-Leak Hypothesis](#)  
Nicholson Baker, New York Magazine, January 4, 2021

### **Authoritarianism**

6. [Mass Arrests of Pro-Democracy Politicians](#)

Human Rights Watch, January 8, 2021

7. How the pandemic strengthened the Chinese Communist party  
The Economist, December 30, 2020

8. Fauci sees greater China role in COVID-19 spread, one year on  
Eileen Drage O'Reilly, Axios, January 6, 2021

9. How the U.S. Misread China's Xi: Hoping for a Globalist, It Got an Autocrat  
Jeremy Page, Wall Street Journal, December 23, 2020

10. Ant Turning from Windfall to Nightmare for Global Investors  
Bloomberg News, December 27, 2020

11. China clamps down in hidden hunt for coronavirus origins  
Dake Kang, Maria Cheng and Sam McNeil, NBC News Boston, December 30, 2020

12. China jails a citizen journalist for vlogging about covid  
The Economist, January 2, 2021

13. Biden Plans to Build a Grand Alliance to Counter China. It Won't Be Easy.  
Bob Davis and Lingling Wei, Wall Street Journal, January 6, 2021

14. Hong Kong: China jails 10 who fled by boat to Taiwan for up to three years  
Helen Davidson, The Guardian, December 30, 2020

15. 'Is it OK to say this?' Police officer hesitates reading out 'liberate' slogan on protester's flag during court testimony  
Coconuts Hong Kong, November 12, 2020

16. Continuous Purges: Xi's Control of the Public Security Apparatus and the Changing Dynamics of CCP Elite Politics  
Guoguang Wu, China Leadership Monitor, December 1, 2020

17. China Covid-19: How state media and censorship took on coronavirus  
BBC, December 29, 2020

18. Xi's China Crafts Campaign to Boost Youth Patriotism  
Liza Lin, Wall Street Journal, December 30, 2020

19. Independence of Hong Kong courts on Beijing's target list  
Didi Tang, Times of London, January 6, 2021

#### **Environmental Harms**

20. China biodegradable plastics 'failing to solve pollution crisis'  
Joel Gunter, BBC, December 17, 2020

21. China's Green NGO Climate Propaganda Enablers  
Rupert Darwall, Real Clear Energy, December 21, 2020
22. The murky process of licensing the Amazon's meatpackers  
Flavia Milhorange, Dialogo Chino, October 7, 2020
23. The new geopolitics of China's climate leadership  
Kevin Rudd, China Dialogue, December 11, 2020
24. China's foreign coal push risks global climate goals  
Japan Times, December 10, 2020
25. Mekong Mainstream at Chiang Saen, Thailand (Golden Triangle) drops >1 meter in 48 hours as Jinghong Dam upstream fills  
Brian Eyler, Planet, January 4, 2021

### **Foreign Interference and Coercion**

26. Apologise, Afghanistan tells China after busting its espionage cell in Kabul  
Shishir Gupta, Hindustan Times, December 25, 2020
27. Public safety minister details China's foreign interference efforts in letter to MPs  
Sam Cooper and Stewart Bell, Global News Canada, January 6, 2021
28. China blocks entry to WHO team studying Covid's origins  
Sarah Boseley, The Guardian, January 5, 2021
29. China doubles down on COVID narrative as WHO investigation looms  
David Stanway, Reuters, January 5, 2021
30. Daryl Morey's tweet controversy follows him to Philadelphia as streaming giant Tencent blocks 76ers  
Patrick Blennerhassett, South China Morning Post, December 28
31. Did UK higher education institutions export more to China in 2019 than any other sector?  
David Law, Higher Education Policy Institute, December 18, 2020
32. The influence environment  
Alex Joske, Lin Li, Alexandra Pascoe, and Nathan Attrill, Australian Strategic Policy Institute, December 17, 2020
33. Countering Russian and Chinese Influence Activities  
Heather Conley, Rachel Ellehuus, Timothy Kostelancik, Jeffrey Mankoff, Cyrus Newlin, Amy Searight and Devin Stewart, Center for Strategic and International Studies, July 2020
34. In U.S. backyard: How China embedded itself in Canada  
Cleo Paskal, Sunday Guardian Live, January 2, 2021

35. An Australian student denounced his university's ties to China. Then he became a target  
Shashank Bengali and Maria Petrakis, Los Angeles Times, December 21, 2020

#### **Human Rights and Religious Persecution**

36. Joint Statement – Call to Free Ekpar Asat and End Mass Atrocities Against the Uyghur Community in Xinjiang  
Harvard Law School Advocates for Human Rights, January 1, 2021

37. Nuns arrested as Beijing turns up heat on Church in Hong Kong  
Greg Torode, Reuters, December 30, 2020

38. UK says credible evidence of forced labour in China's Xinjiang region  
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39. Apple's longtime supplier accused of using forced labor in China  
Reed Albergotti, Washington Post, December 29, 2020

40. 'Chilling Echoes': British Jews Join the Fight for Uighur Human Rights in China  
Shachar Peled, Haaretz, December 25, 2020

41. China detains record number of journalists in bleak year for free speech, followed by Turkey  
Didi Tang, Times of London, December 17, 2020

42. China: Repression Threatens Winter Olympics  
Human Rights Watch, December 22, 2020

43. Chinese Journalist Who Documented Communist History Is Detained in Beijing  
Amy Qin, New York Times, December 18, 2020

44. Pompeo Weighs Genocide Designation for China  
Colum Lynch, Robbie Gramer, and Amy MacKinnon, Foreign Policy, December 23, 2020

#### **Industrial Policies and Economic Espionage**

45. China plots 'rectification' drive to bring Jack Ma's Ant Group to heel  
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48. Party Committees in the Private Sector: Rising Presence, Moderate Prevalence  
Neil Thomas, Marco Polo, December 16, 2020

49. Amazon Banned from Using AWS Logo in China Trademark Ruling

Yang Jie, Wall Street Journal, January 5, 2021

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51. German ministers agree security law with high hurdles for suppliers  
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52. Exclusive: U.S. warns Pacific islands about Chinese bid for undersea cable project – sources  
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55. Trump Bans Alipay and 7 Other Chinese Apps  
Ana Swanson, New York Times, January 5, 2021

### **Military and Security Threats**

56. China puts tanks to the test in a mock street battle for Taiwan  
Minnie Chan, South China Morning Post, December 17, 2020

57. Japan official, calling Taiwan 'red line,' urges Biden to 'be strong'  
Ju-min Park, Reuters, December 25, 2020

58. China used stolen data to expose CIA operatives in Africa and Europe  
Zach Dorfman, Foreign Policy, December 21, 2020

59. US Navy to adopt 'more assertive posture' against China and Russia  
Helen Davidson, The Guardian, December 18, 2020

60. China blasts NATO with British aircraft carrier 'heading to South China Sea'  
Catherine Wong, South China Morning Post, January 1, 2021

### **One Belt, One Road Strategy**

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Marwaan Macan-Markar, Nikkei Asia, December 29, 2020

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### **Opinion Pieces**

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Daniel Finkelstein, Times of London, January 5, 2021

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Craig Singleton, The Hill, January 5, 2021

68. AUDIO - [Essential Geopolitics: China vs. Australia](#)

Emily Donahue and Evan Reese, Stratfor, December 8, 2020

69. [The Bill Is Coming Due for China's 'Capitalist' Experiment](#)

Michael Hochberg and Leonard Hochberg, National Review, January 1, 2021

70. [Trapped by Thucydides? Updating the Strategic Canon for a Sinocentric Era](#)

John Sullivan, War on the Rocks, December 28, 2020

71. [Christmas is Canceled in the U.K., and it's China's Fault](#)

Nigel Farage, Newsweek, December 22, 2020

72. [The West Should Not Abandon Hong Kong](#)

Guy Sorman, City Journal, December 29, 2020

73. [A Farewell to the Hong Kong I Loved](#)

Matthew Brooker, Bloomberg, December 22, 2020

74. [Is the CCP guilty of crimes against humanity?](#)

Charles Parton, The Standpoint, December 23, 2020

75. [Europe has handed China a strategic victory](#)

Gideon Rachman, Financial Times, January 4, 2021

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#### **MUST READ/WATCH**

1. VIDEO – [Confronting Chinese Communist Party Aggression](#)

H.R. McMaster

PolicyEd, January 5, 2020

<https://www.youtube.com/watch?v=7WkXp0haYX4&feature=youtu.be>

- Despite the long-held belief that China would liberalize its economy and political system, the Chinese Communist Party has stuck to an ideology and system that stifles human freedom. Free and open societies must work together to prevent China from exporting its authoritarian model throughout the world by promoting the ideals of liberal democracy.

2. The 'China, Inc.' Challenge to Global Trade Governance

Mark Wu

Harvard International Law Journal, May 15, 2016

[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2779781](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2779781)

- Abstract
- In the past decade, the World Trade Organization (WTO) has adjudicated over forty disputes involving China and other powerful economies. These cases are often trumpeted as a sign of the enduring strength of the trade regime and the efficacy of international law in managing geopolitical tensions associated with China's rise. This Article suggests that this positive assessment obfuscates dangers lurking on the horizon. It explains why the rise of China presents a major challenge to the multilateral trade regime. At the heart of this challenge is the fact that China's economic structure is sui generis — having evolved in a manner largely unforeseen by those negotiating WTO treaty law.
- As a result, the WTO is equipped to deal effectively with only a limited range of disputes — those in which Chinese policies largely resemble elements of other alternative economic structures. Outside of this set of issues, the WTO faces two very different but equally serious challenges. The first is reinterpreting certain legal concepts to adapt and fit an unforeseen Chinese context. The second is deciding whether to expand the scope of its legal rules to accommodate issues that currently fall outside its jurisdiction. This Article explores options for meeting these challenges. It suggests that the most likely outcome is one in which China's rise will exacerbate the diminishing centrality of WTO law for global trade governance.

3. The scope of forced labor in Xinjiang is bigger than we knew

Bethany Allen-Ebrahimian

Axios, January 5, 2021

<https://www.axios.com/xinjiang-forced-labor-uyghurs-a3b58b6e-c98f-4ce4-ae52-7b4a37fa61f5.html>

- China has constructed a vast string of factories inside the walls of Xinjiang mass internment camps, and Chinese authorities are forcing thousands of Muslim minorities to work in cotton fields, according to two recent investigations.

- Why it matters: Xinjiang products are deeply integrated into lucrative supply chains around the world. The Chinese Communist Party's official embrace of coerced labor will force Western governments and institutions to choose between pleasing business leaders or enforcing universal human rights values.
- Details: In the past three years, the Chinese government has forced hundreds of thousands of Uighurs and other Muslim minorities in Xinjiang to perform seasonal labor in the region's cotton fields, according to a December investigation from the BBC.
- People are sent to the fields as part of a "labor transfer program," the BBC reports, drawing on Chinese government documents provided by Adrian Zenz, a leading expert on China's policies in Xinjiang.
- Beijing claims the programs alleviate poverty by providing well-paid employment for rural residents without a regular income.
- But researchers and rights groups say the labor transfer programs are part of the system of control, indoctrination and forced assimilation the Chinese government has deployed against Uighurs.
- Workers fear they will be sent to detention camps if they don't participate and are often underpaid.
- A new report from BuzzFeed, based on satellite imagery, interviews and government documents, found more than 100 mass detention facilities in Xinjiang that together contain more than 21 million square feet of factory space.
- Researchers identified more than 1,500 companies located in or near these facilities, with dozens of the companies exporting products to countries around the world.
- The global response: Forced labor goes against international human rights conventions, but so far the U.S. is the only geopolitical power that has responded with substantive action.
- The Trump administration last year sanctioned numerous Chinese officials and government bureaus deemed complicit in human rights violations in Xinjiang, including the Xinjiang Production and Construction Corps (XPCC), a quasi-military organization that owns vast swaths of farmland in Xinjiang and operates some mass internment camps.
- The Commerce Department added to an export blacklist numerous Chinese companies deemed complicit in Xinjiang repression.
- On Dec. 2, the U.S. blocked cotton imports associated with the XPCC.
- But many feel pressure from China to avoid taking similar actions — a pressure that often manifests through economic ties.



- By his own admission, President Trump resisted most action on Xinjiang until the U.S.-China phase one trade deal negotiations were finished and an agreement signed, in order to avoid losing leverage.
- Despite its stated concern over forced labor, the EU just signed an investment agreement with China, with language that barely flicks at the massive violations in Xinjiang.
- And some major companies, including Nike and Coca-Cola, have lobbied hard against a draft bill, the Uyghur Forced Labor Prevention Act, which aims to keep products made with forced labor out of the U.S.
- U.S. law already prohibits the importation of products made with forced labor. But the office tasked with enforcing the ban, the Forced Labor Division, housed in Customs and Border Protection in the Department of Homeland Security, doesn't have the resources to trace the complex and opaque supply chains originating in Xinjiang, and it often relies on reports from news outlets and watchdog organizations.
- This draft bill would instead put the onus on companies to prove their supply chains aren't tainted by coerced labor.
- The bottom line: New investigations are revealing the expanded scope and scale of China's forced labor policies in Xinjiang. But so far, governments and companies around the world continue to put profits first.

#### 4. China a No-Show at Joint Military Safety Meeting with U.S.

Chun Han Wong

Wall Street Journal, December 17, 2020

<https://www.wsj.com/articles/u-s-stood-up-by-china-at-military-safety-meeting-11608199871>

- HONG KONG—The U.S. and Chinese militaries traded blame after a planned bilateral discussion on aviation and maritime safety fell through, adding fresh tension to a soured relationship between Washington and Beijing.
- In a statement issued late Wednesday, the U.S. Indo-Pacific Command said the PLA “declined to participate” in a teleconference meeting scheduled to run from Monday to Wednesday under a regular dialogue process that the two militaries established in a 1998 pact.
- The Chinese absence is “another example that China does not honor its agreements, and this should serve as a reminder to all nations as they pursue agreements with China going forward,” Adm. Phil Davidson, commander of the U.S. Indo-Pacific Command, said in the statement.
- A spokesman for the PLA Navy, Senior Col. Liu Wensheng, responded Thursday by saying the U.S. bore full responsibility for torpedoing the dialogue with unprofessional and bullying behavior. The U.S. allegations against China, he said, were attempts to confuse public opinion by “inverting black and white.”

- ...

##### 5. The Lab-Leak Hypothesis

Nicholson Baker

New York Magazine, January 4, 2021

<https://nymag.com/intelligencer/article/coronavirus-lab-escape-theory.html>

- For decades, scientists have been hot-wiring viruses in hopes of preventing a pandemic, not causing one. But what if ...?
- I. Flask Monsters
  - What happened was fairly simple, I've come to believe. It was an accident. A virus spent some time in a laboratory, and eventually it got out. SARS-CoV-2, the virus that causes COVID-19, began its existence inside a bat, then it learned how to infect people in a claustrophobic mine shaft, and then it was made more infectious in one or more laboratories, perhaps as part of a scientist's well-intentioned but risky effort to create a broad-spectrum vaccine. SARS-2 was not designed as a biological weapon. But it was, I think, designed. Many thoughtful people dismiss this notion, and they may be right. They sincerely believe that the coronavirus arose naturally, "zoonotically," from animals, without having been previously studied, or hybridized, or sluiced through cell cultures, or otherwise worked on by trained professionals. They hold that a bat, carrying a coronavirus, infected some other creature, perhaps a pangolin, and that the pangolin may have already been sick with a different coronavirus disease, and out of the conjunction and commingling of those two diseases within the pangolin, a new disease, highly infectious to humans, evolved. Or they hypothesize that two coronaviruses recombined in a bat, and this new virus spread to other bats, and then the bats infected a person directly — in a rural setting, perhaps — and that this person caused a simmering undetected outbreak of respiratory disease, which over a period of months or years evolved to become virulent and highly transmissible but was not noticed until it appeared in Wuhan.
  - There is no direct evidence for these zoonotic possibilities, just as there is no direct evidence for an experimental mishap — no written confession, no incriminating notebook, no official accident report. Certainty craves detail, and detail requires an investigation. It has been a full year, 80 million people have been infected, and, surprisingly, no public investigation has taken place. We still know very little about the origins of this disease.
  - Nevertheless, I think it's worth offering some historical context for our yearlong medical nightmare. We need to hear from the people who for years have contended that certain types of virus experimentation might lead to a disastrous pandemic like this one. And we need to stop hunting for new exotic diseases in the wild, shipping them back to laboratories, and hot-wiring their genomes to prove how dangerous to human life they might become.
  - Over the past few decades, scientists have developed ingenious methods of evolutionary acceleration and recombination, and they've learned how to trick viruses, coronaviruses in particular, those spiky hairballs of protein we now know so well, into moving quickly from one

species of animal to another or from one type of cell culture to another. They've made machines that mix and mangle the viral code for bat diseases with the code for human diseases — diseases like SARS, severe acute respiratory syndrome, for example, which arose in China in 2003, and MERS, Middle East respiratory syndrome, which broke out a decade later and has to do with bats and camels. Some of the experiments — “gain of function” experiments — aimed to create new, more virulent, or more infectious strains of diseases in an effort to predict and therefore defend against threats that might conceivably arise in nature. The term gain of function is itself a euphemism; the Obama White House more accurately described this work as “experiments that may be reasonably anticipated to confer attributes to influenza, MERS, or SARS viruses such that the virus would have enhanced pathogenicity and/or transmissibility in mammals via the respiratory route.” The virologists who carried out these experiments have accomplished amazing feats of genetic transmutation, no question, and there have been very few publicized accidents over the years. But there have been some.

- And we were warned, repeatedly. The intentional creation of new microbes that combine virulence with heightened transmissibility “poses extraordinary risks to the public,” wrote infectious-disease experts Marc Lipsitch and Thomas Inglesby in 2014. “A rigorous and transparent risk-assessment process for this work has not yet been established.” That’s still true today. In 2012, in *Bulletin of the Atomic Scientists*, Lynn Klotz warned that there was an 80 percent chance, given how many laboratories were then handling virulent viro-varietals, that a leak of a potential pandemic pathogen would occur sometime in the next 12 years.
- A lab accident — a dropped flask, a needle prick, a mouse bite, an illegibly labeled bottle — is apolitical. Proposing that something unfortunate happened during a scientific experiment in Wuhan — where COVID-19 was first diagnosed and where there are three high-security virology labs, one of which held in its freezers the most comprehensive inventory of sampled bat viruses in the world — isn’t a conspiracy theory. It’s just a theory. It merits attention, I believe, alongside other reasoned attempts to explain the source of our current catastrophe.
- II. “A Reasonable Chance”
- From early 2020, the world was brooding over the origins of COVID-19. People were reading research papers, talking about what kinds of live animals were or were not sold at the Wuhan seafood market — wondering where the new virus had come from.
- Meanwhile, things got strange all over the world. The Chinese government shut down transportation and built hospitals at high speed. There were video clips of people who’d suddenly dropped unconscious in the street. A doctor on YouTube told us how we were supposed to scrub down our produce when we got back from the supermarket. A scientist named Shi Zhengli of the Wuhan Institute of Virology published a paper saying that the novel coronavirus was 96 percent identical to a bat virus, RaTG13, found in Yunnan province in southern China. On March 13, I wrote in my journal that there seemed to be something oddly artificial about the disease: “It’s too airborne — too catching — it’s something that has been selected for infectivity. That’s what I suspect. No way to know so no reason to waste time thinking about it.”

- This was just a note to self — at the time, I hadn't interviewed scientists about SARS-2 or read their research papers. But I did know something about pathogens and laboratory accidents; I published a book last year, *Baseless*, that talks about some of them. The book is named after a Pentagon program, Project Baseless, whose goal, as of 1951, was to achieve "an Air Force-wide combat capability in biological and chemical warfare at the earliest possible date."
- A vast treasure was spent by the U.S. on the amplification and aerial delivery of diseases — some well known, others obscure and stealthy. America's biological-weapons program in the '50s had A1-priority status, as high as nuclear weapons. In preparation for a total war with a numerically superior communist foe, scientists bred germs to be resistant to antibiotics and other drug therapies, and they infected lab animals with them, using a technique called "serial passaging," in order to make the germs more virulent and more catching.
- And along the way, there were laboratory accidents. By 1960, hundreds of American scientists and technicians had been hospitalized, victims of the diseases they were trying to weaponize. Charles Armstrong, of the National Institutes of Health, one of the consulting founders of the American germ-warfare program, investigated Q fever three times, and all three times, scientists and staffers got sick. In the anthrax pilot plant at Camp Detrick, Maryland, in 1951, a microbiologist, attempting to perfect the "foaming process" of high-volume production, developed a fever and died. In 1964, veterinary worker Albert Nickel fell ill after being bitten by a lab animal.
- His wife wasn't told that he had Machupo virus, or Bolivian hemorrhagic fever. "I watched him die through a little window to his quarantine room at the Detrick infirmary," she said.
- In 1977, a worldwide epidemic of influenza A began in Russia and China; it was eventually traced to a sample of an American strain of flu preserved in a laboratory freezer since 1950. In 1978, a hybrid strain of smallpox killed a medical photographer at a lab in Birmingham, England; in 2007, live foot-and-mouth disease leaked from a faulty drainpipe at the Institute for Animal Health in Surrey. In the U.S., "more than 1,100 laboratory incidents involving bacteria, viruses and toxins that pose significant or bioterror risks to people and agriculture were reported to federal regulators during 2008 through 2012," reported USA Today in an exposé published in 2014.
- In 2015, the Department of Defense discovered that workers at a germ-warfare testing center in Utah had mistakenly sent close to 200 shipments of live anthrax to laboratories throughout the United States and also to Australia, Germany, Japan, South Korea, and several other countries over the past 12 years. In 2019, laboratories at Fort Detrick — where "defensive" research involves the creation of potential pathogens to defend against — were shut down for several months by the Centers for Disease Control and Prevention for "breaches of containment." They reopened in December 2019.
- High-containment laboratories have a whispered history of near misses. Scientists are people, and people have clumsy moments and poke themselves and get bitten by the enraged animals they are trying to nasally inoculate. Machines can create invisible aerosols, and cell solutions can become contaminated. Waste systems don't always work properly. Things can go wrong in a hundred different ways.

- Hold that human fallibility in your mind. And then consider the cautious words of Alina Chan, a scientist who works at the Broad Institute of MIT and Harvard. “There is a reasonable chance that what we are dealing with is the result of a lab accident,” Chan told me in July of last year. There was also, she added, a reasonable chance that the disease had evolved naturally — both were scientific possibilities. “I don’t know if we will ever find a smoking gun, especially if it was a lab accident. The stakes are so high now. It would be terrifying to be blamed for millions of cases of COVID-19 and possibly up to a million deaths by year end, if the pandemic continues to grow out of control. The Chinese government has also restricted their own scholars and scientists from looking into the origins of SARS-CoV-2. At this rate, the origin of SARS-CoV-2 may just be buried by the passage of time.”
- I asked Jonathan A. King, a molecular biologist and biosafety advocate from MIT, whether he’d thought lab accident when he first heard about the epidemic. “Absolutely, absolutely,” King answered. Other scientists he knew were concerned as well. But scientists, he said, in general were cautious about speaking out. There were “very intense, very subtle pressures” on them not to push on issues of laboratory biohazards. Collecting lots of bat viruses, and passaging those viruses repeatedly through cell cultures, and making bat-human viral hybrids, King believes, “generates new threats and desperately needs to be reined in.”
- “All possibilities should be on the table, including a lab leak,” a scientist from the NIH, Philip Murphy — chief of the Laboratory of Molecular Immunology — wrote me recently. Nikolai Petrovsky, a professor of endocrinology at Flinders University College of Medicine in Adelaide, Australia, said in an email, “There are indeed many unexplained features of this virus that are hard if not impossible to explain based on a completely natural origin.” Richard Ebright, a molecular biologist at Rutgers University, wrote that he’d been concerned for some years about the Wuhan laboratory and about the work being done there to create “chimeric” (i.e., hybrid) SARS-related bat coronaviruses “with enhanced human infectivity.” Ebright said, “In this context, the news of a novel coronavirus in Wuhan \*\*\*screamed\*\*\* lab release.”
- III. “No Credible Evidence”
- The new disease, as soon as it appeared, was intercepted — stolen and politicized by people with ulterior motives. The basic and extremely interesting scientific question of what happened was sucked up into an ideological sharknado.
- Some Americans boycotted Chinese restaurants; others bullied and harassed Asian Americans. Steve Bannon, broadcasting from his living room, in a YouTube series called War Room, said that the Chinese Communist Party had made a biological weapon and intentionally released it. He called it the “CCP virus.” And his billionaire friend and backer, Miles Guo, a devoted Trump supporter, told a right-wing website that the communists’ goal was to “use the virus to infect selective people in Hong Kong, so that the Chinese Communist Party could use it as an excuse to impose martial law there and ultimately crush the Hong Kong pro-democracy movement. But it backfired terribly.”
- In The Lancet, in February, a powerful counterstatement appeared, signed by 27 scientists. “We stand together to strongly condemn conspiracy theories suggesting that COVID-19 does not

have a natural origin," the statement said. "Scientists from multiple countries have published and analyzed genomes of the causative agent, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and they overwhelmingly conclude that this coronavirus originated in wildlife, as have so many other emerging pathogens."

- The behind-the-scenes organizer of this Lancet statement, Peter Daszak, is a zoologist and bat-virus sample collector and the head of a New York nonprofit called EcoHealth Alliance — a group that (as veteran science journalist Fred Gutler explained later in Newsweek) has channeled money from the National Institutes of Health to Shi Zhengli's laboratory in Wuhan, allowing the lab to carry on recombinant research into diseases of bats and humans. "We have a choice whether to stand up and support colleagues who are being attacked and threatened daily by conspiracy theorists or to just turn a blind eye," Daszak said in February in Science magazine.
- Vincent Racaniello, a professor at Columbia and a co-host of a podcast called This Week in Virology, said on February 9 that the idea of an accident in Wuhan was "complete bunk." The coronavirus was 96 percent similar to a bat virus found in 2013, Racaniello said. "It's not a man-made virus. It wasn't released from a lab."
- Racaniello's dismissal was seconded by a group of scientists from Ohio State, the University of Pennsylvania, and the University of North Carolina, who put out a paper in Emerging Microbes and Infections to quiet the "speculations, rumors, and conspiracy theories that SARS-CoV-2 is of laboratory origin." There was "currently no credible evidence" that SARS-2 leaked from a lab, these scientists said, using a somewhat different argument from Racaniello's. "Some people have alleged that the human SARS-CoV-2 was leaked directly from a laboratory in Wuhan where a bat CoV (RaTG13) was recently reported," they said. But RaTG13 could not be the source because it differed from the human SARS-2 virus by more than a thousand nucleotides. One of the paper's authors, Susan Weiss, told the Raleigh News & Observer, "The conspiracy theory is ridiculous."
- The most influential natural-origin paper, "The Proximal Origin of SARS-CoV-2," by a group of biologists that included Kristian Andersen of Scripps Research, appeared online in a preliminary version in mid-February.
- "We do not believe any type of laboratory-based scenario is plausible," the scientists said. Why? Because molecular-modeling software predicted that if you wanted to optimize an existing bat virus so that it would replicate well in human cells, you would arrange things a different way than how the SARS-2 virus actually does it — even though the SARS-2 virus does an extraordinarily good job of replicating in human cells. The laboratory-based scenario was implausible, the paper said, because, although it was true that the virus could conceivably have developed its unusual genetic features in a laboratory, a stronger and "more parsimonious" explanation was that the features came about through some kind of natural mutation or recombination. "What we think," explained one of the authors, Robert F. Garry of Tulane University, on YouTube, "is that this virus is a recombinant. It probably came from a bat virus, plus perhaps one of these viruses from the pangolin." Journalists, for the most part, echoed the authoritative pronouncements of Daszak, Racaniello, Weiss, Andersen, and other prominent natural-originists. "The balance of the scientific evidence strongly supports the conclusion that the new coronavirus emerged from nature — be it the Wuhan market or somewhere else," said the Washington Post's "Fact Checker" column. "Dr. Fauci Again Dismisses Wuhan Lab As Source

of Coronavirus," said CBS News, posting a video interview of Anthony Fauci by National Geographic. "If you look at the evolution of the virus in bats, and what's out there now," Fauci said, "it's very, very strongly leaning toward 'This could not have been artificially or deliberately manipulated' — the way the mutations have naturally evolved."

- Everyone took sides; everyone thought of the new disease as one more episode in an ongoing partisan struggle. Think of Mike Pompeo, that landmass of Cold War truculence; think of Donald Trump himself. They stood at their microphones saying, in a winking, I-know-something-you-don't-know sort of way, that this disease escaped from a Chinese laboratory. Whatever they were saying must be wrong. It became impermissible, almost taboo, to admit that, of course, SARS-2 could have come from a lab accident. "The administration's claim that the virus spread from a Wuhan lab has made the notion politically toxic, even among scientists who say it could have happened," wrote science journalist Mara Hvistendahl in the Intercept.
- IV. "Is It a Complete Coincidence?"
- Even so, in January and February of 2020, there were thoughtful people who were speaking up, formulating their perplexities.
- One person was Sam Hussein, an independent journalist. He went to a CDC press conference at the National Press Club on February 11, 2020. By then, 42,000 people had gotten sick in China and more than a thousand had died. But there were only 13 confirmed cases in the U.S. Halfway through the Q&A period, Hussein went to the microphone and asked the CDC's representative, Anne Schuchat, where the virus had come from. His head was spinning, he told me later.
- "Obviously the main concern is how to stop the virus," Hussein said; nonetheless, he wanted to know more about its source. "Is it the CDC's contention," he asked, "that there's absolutely no relation to the BSL-4 lab in Wuhan? It's my understanding that this is the only place in China with a BSL-4 lab. We in the United States have, I think, two dozen or so, and there have been problems and incidents." (A BSL-4 laboratory is a maximum-security biosafety-level-four facility, used to house research on the most dangerous known pathogens. New York has confirmed there are at least 11 BSL-4 facilities currently operating in the U.S.) Hussein hastened to say that he wasn't implying that what happened in Wuhan was in any way intentional. "I'm just asking, is it a complete coincidence that this outbreak happened in the one city in China with a BSL-4 lab?"
- Schuchat thanked Hussein for his questions and comments. Everything she'd seen was quite consistent with a natural, zoonotic origin for the disease, she said.
- That same month, a group of French scientists from Aix-Marseille University posted a paper describing their investigation of a small insertion in the genome of the new SARS-2 virus. The virus's spike protein contained a sequence of amino acids that formed what Etienne Decroly and colleagues called a "peculiar furin-like cleavage site" — a chemically sensitive region on the lobster claw of the spike protein that would react in the presence of an enzyme called furin, which is a type of protein found everywhere within the human body, but especially in the lungs. When the spike senses human furin, it shudders, chemically speaking, and the enzyme opens

the protein, commencing the tiny morbid ballet whereby the virus burns a hole in a host cell's outer membrane and finds its way inside.

- The code for this particular molecular feature — not found in SARS or any SARS-like bat viruses, but present in a slightly different form in the more lethal MERS virus — is easy to remember because it's a roar: "R-R-A-R." The letter code stands for amino acids: arginine, arginine, alanine, and arginine. Its presence, so Decroly and his colleagues observed, may heighten the "pathogenicity" — that is, the god-awfulness — of a disease.
- Botao Xiao, a professor at the South China University of Technology, posted a short paper on a preprint server titled "The Possible Origins of 2019-nCoV Coronavirus." Two laboratories, the Wuhan Center for Disease Control and Prevention (WHCDC) and the Wuhan Institute of Virology, were not far from the seafood market, which was where the disease was said to have originated, Xiao wrote — in fact, the WHCDC was only a few hundred yards away from the market — whereas the horseshoe bats that hosted the disease were hundreds of miles to the south. (No bats were sold in the market, he pointed out.) It was unlikely, he wrote, that a bat would have flown to a densely populated metropolitan area of 15 million people. "The killer coronavirus probably originated from a laboratory in Wuhan," Xiao believed. He urged the relocation of "biohazardous laboratories" away from densely populated places. His article disappeared from the server.
- And late in the month, a professor at National Taiwan University, Fang Chi-tai, gave a lecture on the coronavirus in which he described the anomalous R-R-A-R furin cleavage site. The virus was "unlikely to have four amino acids added all at once," Fang said — natural mutations were smaller and more haphazard, he argued. "From an academic point of view, it is indeed possible that the amino acids were added to COVID-19 in the lab by humans." When the Taiwan News published an article about Fang's talk, Fang disavowed his own comments, and the video copy of the talk disappeared from the website of the Taiwan Public Health Association. "It has been taken down for a certain reason," the association explained. "Thank you for your understanding."
- ...

## Authoritarianism

### 6. Mass Arrests of Pro-Democracy Politicians

Human Rights Watch, January 8, 2021

<https://www.hrw.org/news/2021/01/08/hong-kong-mass-arrests-pro-democracy-politicians>

- The Hong Kong government should not file charges against the 53 pro-democracy politicians arbitrarily arrested on January 6, 2021, Human Rights Watch said today. All were arrested for "subversion" under Hong Kong's draconian National Security Law (NSL), which the Chinese government imposed on June 30, 2020.



- The 53 men and women arrested span the spectrum of Hong Kong's pro-democracy movement. They include veteran politicians and activists, such as Leung "Long Hair" Kwok-hung and Claudio Mo, and newcomers who joined the movement during the 2019 protests. The latter include Jeffrey Andrews, a social worker serving the city's ethnic minority community, and Lee Chi Yung, a disability rights advocate. Many represent a broad cross-section of grassroots society long excluded from the city's governance.
- "Hong Kong authorities' claims that discussing candidates and advocating for government action is somehow subversive is ludicrous," said Maya Wang, senior China researcher at Human Rights Watch. "It's increasingly clear that Beijing's commitment to Hong Kong's 'high degree of autonomy' isn't worth the paper it's written on."
- Hong Kong police said that a public opinion poll conducted in July 2020 regarding pro-democracy candidates for an upcoming Legislative Council (LegCo) election constituted "subversion." They said those arrested violated article 22 of the National Security Law, which states that anyone who "organizes, plans, commits or participates" in "seriously interfering, disrupting or undermining" the performance of the Hong Kong or central government bodies are subject to a penalty of up to life in prison for "principal offenders." Among the 53 arrested, police said, six were organizers.
- The legal definitions of "subversion" and other NSL crimes are overly broad and vague, and can include the peaceful exercise of human rights, enshrined in Hong Kong's de facto constitution, the Basic Law. These rights are also protected under the International Covenant on Civil and Political Rights, which is incorporated into Hong Kong's legal framework via the Basic Law and expressed in the Bill of Rights Ordinance.
- All but one of those arrested are being released on bail. Charges have yet to be brought against the 53, though they have to surrender their passports as a condition of bail. The prosecution said that Wu Chi-wai, former chairman of the Democratic Party, has kept one of his passports even though he was ordered to surrender his travel documents as part of bail conditions in an earlier case. Wu remains detained.
- In addition, the police have frozen HK\$1.6 million (US\$206,000) in connection with the poll and delivered court warrants to four news organizations that require them to hand over information to the police for investigation. Hong Kong police should release Wu immediately, lift all bail conditions, and return everyone's travel documents, Human Rights Watch said.
- Since the Chinese government imposed the National Security Law in June, the authorities have intimidated and arbitrarily arrested pro-democracy activists, and encouraged people to report on one another to remove pro-democracy figures from key sectors of society, including education, the media, and civil service.
- Beijing and the Hong Kong government have also accelerated their assault on the previously semi-democratic LegCo. Since 2016, they have disqualified pro-democracy activists from running for seats or unseated them after they were elected. Following the passage of the National Security Law, the Hong Kong government delayed the September 2020 LegCo elections for a year. Beijing then expelled four pro-democracy members of the legislature, leading other pro-

democracy legislators to resign in protest. The arrests of the 53 politicians appears part of Beijing's increasing actions to exert full control over the LegCo, Human Rights Watch said.

- Concerned governments, including the United Kingdom, European Union countries, and the incoming Biden administration in the United States, should press for appointment of a United Nations special mandate holder to monitor and report on Hong Kong's human rights developments, Human Rights Watch said. They should also impose coordinated targeted sanctions on officials responsible for violating the human rights of people in Hong Kong. Legislators around the world should express solidarity with their Hong Kong counterparts.
- "Governments should urgently take concerted and concrete actions to ensure that Beijing pays a price for its escalating abusive behavior," Wang said. "Standing with Hong Kong's democrats needs to be more than a rhetorical commitment."

7. How the pandemic strengthened the Chinese Communist party

The Economist, December 30, 2020

<https://www.economist.com/china/2020/12/30/how-the-pandemic-strengthened-the-chinese-communist-party>

- Xi Jinping has tightened his grip at home, but caused nervousness abroad
- THE PAST YEAR will be forever linked with China. It was the year when a rising global power, already causing jitters in the West by challenging American supremacy and democratic values, became linked in many people's minds with a far clearer, more immediate and for many people more terrifying threat. The global pandemic was not a cataclysm of China's design. But China was where, in December 2019, the first cases of a mysterious new pneumonia were detected and a culture of secrecy initially prompted officials to play down the danger and stifle news of the outbreak. Even after they acknowledged the scale of the crisis in January, some analysts in the West wondered, briefly, whether the novel coronavirus would threaten the Communist Party itself. In February the death from covid-19 of a whistleblowing doctor caused an outpouring of rage in China that must have unsettled China's leaders.
- But, strikingly, China's covid-era politics has not been troubled by public anger, or division within a beleaguered leadership over how to respond to the disease. If anything the party has emerged stronger and in higher public esteem than it was a year ago. In late January it switched from hesitancy and obfuscation to all-out mobilisation with the aim not merely of keeping the disease at a manageable level but of crushing it entirely. China's success in achieving this, and in restoring near-normal life in the country without a resurgence of the coronavirus, proved a godsend for the party's propagandists. No message of the truth was required to highlight the contrast between conditions at home and the prolonged agonies of countries in the West. The party's efforts helped it to tighten its political grip and breathe new life into its grassroots organisations.

8. Fauci sees greater China role in COVID-19 spread, one year on

Eileen Drage O'Reilly

Axios, January 6, 2021

<https://www.axios.com/fauci-covid-19-one-year-later-china-role-ef8443f7-4d9c-40b0-8845-b9ce84caf952.html>

- A lack of transparency by Chinese officials — particularly about the novel coronavirus' transmission and the obstruction of a top U.S. scientist from investigating it — played a significant role in allowing COVID-19 to spread outside China, NIAID director Anthony Fauci tells Axios.
- The big picture: Axios first spoke with Fauci one year ago this week about the "mysterious pneumonia" in Wuhan, China, which he suspected was a novel coronavirus but was being reported by Chinese health officials as not that infectious.
  - "Back then, the lack of full appreciation of the seriousness of what we were dealing in, was [due to] a number of reasons," Fauci says. "Some things were absolutely not known by anybody. And, some things were known by the Chinese and they weren't very transparent about it," he adds, citing their delayed reporting on person-to-person and asymptomatic transmission of the virus.
  - Many people outside China "got fooled," he says, because they didn't know the virus causing the pandemic was acting differently from its cousin, SARS-CoV, where people infected with SARS show symptoms.
  - If China had revealed its asymptomatic spread earlier, it would have "changed everything" for guidance around masks, social distancing and contact tracing, he says.
- China also refused to allow foreign scientists to investigate the virus on the ground "for a considerable period," limiting the ability to see how it was transmitting and to trace its origin, he says.
  - When they finally did allow an international group led by the WHO, they still blocked some of those scientists, including one from NIAID, from traveling to Wuhan from Beijing.
  - And this week, China delayed travel authorization for a group of WHO-led international scientists planning to investigate the virus origins.
- Looking back over the prior year, Fauci and other public health experts say there are some lessons learned...
  - 1) Communication is key.
    - "You don't know everything you need to know the first day," and as data accumulate, public health guidelines will evolve, Fauci says.
    - Some public health experts say that process could have been explained to the public more clearly, particularly as guidance changed.

- "The key here is not that we didn't know what to do, but there were barriers that prevented that, whether they be political or other," says Tara Kirk Sell, senior scholar at Johns Hopkins Center for Health Security. "The CDC has this guidance called Crisis & Emergency Risk Communication. It's science-based and works well, but we didn't [use] it."
- 2) Misinformation and disinformation is hugely damaging.
  - These were "incredibly powerful in this pandemic," says Sell, adding they can affect people's health and national security. "We really need a national strategy to combat this."
- 3) "Political divisiveness is a big hindrance to an adequate public health response," Fauci says.
  - "You get people who are making decisions about their own behavior based on political considerations, as opposed to an objective evaluation of the public health threat," Fauci adds.
  - "Public health has always been political, but it's never really been as partisan as it's been this time around. Partisanship in public health has been really incredibly dangerous in this pandemic," says Carlos del Rio, distinguished professor of medicine at Emory University School of Medicine.
- Science advances in vaccine technology are the biggest bright spot this year, Fauci says.
  - Developing and then administering a safe and effective vaccine in 11 months is "a monumental accomplishment. It's just historic in its proportion," Fauci says.
  - "Rebuilding trust in science is a priority and I'm hoping the vaccines will do that.[cut: I think we need to continue to communicate what an incredible achievement that has been, and the fact that these vaccines did not come out of nowhere. Vaccines came from the years of research in mRNA technology and other things,]" Sell adds.
- The bottom line: The pandemic has demonstrated that "the unimaginable can happen" Fauci says. But, he hopes "we're very, very much back to normal a year from now."

9. How the U.S. Misread China's Xi: Hoping for a Globalist, It Got an Autocrat

Jeremy Page

Wall Street Journal, December 23, 2020

<https://www.wsj.com/articles/xi-jinping-globalist-autocrat-misread-11608735769>

- Early hopes that Xi Jinping would want closer integration with the U.S.-led global order have become one of the biggest strategic miscalculations of the post-Cold War era.

- In the two years before Xi Jinping became China's leader in 2012, U.S. officials tried to size him up through a series of face-to-face meetings.
- During talks in China in 2011, Mr. Xi, then vice president, asked about civilian control of the U.S. military, shared his thoughts on uprisings in the Middle East and spoke, unprompted, about his father, a renowned revolutionary. When he visited the U.S. in 2012, he was relaxed and affable, chatting with students and posing for pictures with Magic Johnson at a Los Angeles Lakers basketball game.
- The U.S. officials' conclusion: Although Mr. Xi was far more confident and forthright than Hu Jintao, the stiff and scripted leader he would succeed, he likely shared his commitment to stable ties with Washington and closer integration with the U.S.-led global order. Some even hoped Mr. Xi would kick-start stalled economic reforms.
- It was one of the biggest strategic miscalculations of the post-Cold War era.
- In the eight subsequent years, Mr. Xi has pursued an expansive, hypernationalistic vision of China's future, displaying a desire for control and a talent for political maneuvering. Drawing comparisons to Mao Zedong, he has crushed critics and potential rivals, revitalized the Communist Party and even scrapped presidential term limits so he can, if he chooses, rule for life.
- Promising a "China Dream" of national renewal, he has mobilized China's military to enforce territorial claims, forced up to a million Chinese Muslims into internment camps and curbed political freedoms in Hong Kong.
- Now, with Covid-19 under control in China but still widespread across the U.S., he is promoting his self-styled, tech-enhanced update of Marxism as a superior alternative to free-market democracy—a "China solution" to global problems.
- "It was clear he was not going to be a second Hu Jintao," said Danny Russel, who as a senior Obama administration official attended several meetings with Mr. Xi, including in 2011 and 2012. "What I underestimated about Xi Jinping was his tolerance for risk."
- Mr. Xi's swift reversal of more than three decades of apparent movement toward collective leadership and a less intrusive party has surprised both U.S. officials and much of the Chinese elite. In hindsight, though, the roots of his approach are visible in key episodes of his life.
- They include his father's purge from the top party leadership, his teenage years in a Chinese village, his induction into the military and his exposure to nationalist and "new left" undercurrents in the party elite.
- Mr. Xi's autocratic turn also was catalyzed by a 2012 political scandal that upset the balance of power among the party elite and emboldened advocates of stronger, centralized leadership. It gave Mr. Xi the justification he needed to sideline rivals, rebuild the party and revamp its ideology.

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#### 10. Ant Turning from Windfall to Nightmare for Global Investors

Bloomberg News, December 27, 2020

<https://www.bloomberg.com/news/articles/2020-12-27/ant-turning-from-windfall-to-nightmare-for-its-global-investors>

- Two months ago, global investors including Warburg Pincus, Carlyle, Temasek and GIC were on the cusp of a massive windfall from what would have been the world's largest initial public offering.
- Now, returns on the hundreds of millions of dollars they invested with Ant Group Co. are in jeopardy. On Sunday, China ordered Ant to reexamine its fintech businesses -- spanning from wealth management to consumer credit lending and insurance -- and return to its roots as a payments service.
- While the central bank's statement was short on specifics, it presents a serious threat to the growth and most lucrative operations of billionaire Jack Ma's online finance empire. Regulators stopped short of asking directly for a breakup of the company, yet stressed it was important Ant "understand the necessity of overhauling its business" and told it to come up with a plan and timetable as soon as possible.
- Authorities also berated Ant for sub-par corporate governance, disdain toward regulatory requirements, and engaging in regulatory arbitrage. The central bank said Ant used its dominance to exclude rivals, hurting the interests of its hundreds of millions of consumers.
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#### 11. China clamps down in hidden hunt for coronavirus origins

Dake Kang, Maria Cheng and Sam Mcneil

NBC News Boston, December 30, 2020

<https://www.nbcboston.com/news/coronavirus/china-clamps-down-in-hidden-hunt-for-coronavirus-origins-2/2268865/>

- Deep in the lush valleys of southern China lies the entrance to a mine shaft that once harbored bats with the closest known relative to COVID-19.
- The area is of intense interest because it may hold clues to the origins of the coronavirus that has killed more than 1.7 million people worldwide but has become a black hole of no information because of political sensitivity. A bat research team that visited recently had their samples confiscated, two people familiar with the matter said. And a team of Associated Press journalists was tailed by plainclothes police in multiple cars who blocked access to sites in late November.

- More than a year since the first known person was infected with the coronavirus, an AP investigation shows the Chinese government is strictly controlling all research into its origins while promoting fringe theories that the pandemic originated elsewhere.
- The government is monitoring scientists' findings and mandating that the publication of any research first be approved by a new task force managed by China's cabinet under direct orders from President Xi Jinping, according to internal documents obtained by The AP. A rare leak from within the government, the dozens of pages of unpublished documents confirm what many have long suspected: The clampdown comes from the top.
- The AP's investigation was based on interviews with Chinese and foreign scientists and officials, along with public notices, leaked emails and the unpublished documents from China's State Council and the Chinese Center for Disease Control and Prevention. It reveals a pattern of government secrecy and top-down control that has been evident throughout the pandemic.
- "They only select people they can trust, those that they can control," said an expert who works with the China CDC, declining to be identified out of fear of retribution.
- China's foreign ministry said in a fax that "the novel coronavirus has been discovered in many parts of the world" and research should be carried out "on a global scale."
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12. China jails a citizen journalist for vlogging about covid

The Economist, January 2, 2021

<https://www.economist.com/china/2021/01/02/china-jails-a-citizen-journalist-for-vlogging-about-covid>

- In a video posted in February to YouTube, Zhang Zhan (pictured) insisted that people in China had the right to speak freely and monitor officials. She was reflecting on efforts by officials to silence those, like her, who had dared to report independently on the epidemic of covid-19 then engulfing the city of Wuhan. A court in Shanghai plainly disagrees. On December 28th it sentenced Ms Zhang, who has been on a prolonged hunger strike, to four years in prison for "picking quarrels and causing trouble".

13. Biden Plans to Build a Grand Alliance to Counter China. It Won't Be Easy.

Bob Davis and Lingling Wei

Wall Street Journal, January 6, 2021

<https://www.wsj.com/articles/biden-trump-xi-china-economic-trade-strategy-policy-11609945027>

- The president-elect wants a coalition of democracies to pressure Beijing to curtail what he sees as unfair practices; Xi Jinping has been thinking along the same lines.

- With tensions between the U.S. and China rising on many fronts, President-elect Joe Biden will take office aiming to align Western democracies to broadly pressure Beijing, a clear break with President Trump's go-it-alone approach.
- Chinese President Xi Jinping has been thinking along the same lines and is a step ahead, setting up an overt competition for global leadership. He has been busy in recent years trying to draw traditional U.S. allies into China's economic orbit.
- Moves this week by both Washington and Beijing are forcing China higher on the Biden agenda. Upon taking office he'll need to decide whether to overturn recent Trump administration actions. They include delisting Chinese telecommunications companies on the New York Stock Exchange, banning transactions with Chinese-connected apps, including the Alipay payment platform, and blacklisting China's largest computer chip maker and other firms.
- He will also need to decide how hard to press Beijing over its broad crackdown on civil liberties in Hong Kong.
- At the heart of Mr. Biden's China policy is what he calls a Summit of Democracies that would seek to establish a clear alternative to Beijing's autocratic rule, said Biden senior advisers interviewed during and after the presidential campaign. The U.S. will also try to organize smaller groups of democracies to tackle specific issues such as advanced telecommunications and artificial intelligence.
- For Mr. Biden, resetting America's China policy means rejecting the current administration's approach.
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14. Hong Kong: China jails 10 who fled by boat to Taiwan for up to three years

Helen Davidson

The Guardian, December 30, 2020

<https://www.theguardian.com/world/2020/dec/30/hong-kong-china-jails-10-who-fled-by-boat-to-taiwan-for-up-to-three-years>

- Ten people who tried to flee Hong Kong for Taiwan have been sentenced in a Chinese court to up to three years in jail, while two minors have been returned to Hong Kong police custody.
- On Wednesday, the Yantian people's court ordered the group to serve varying sentences of between seven months and three years in jail. Of the two people charged with organising the illegal border crossing, Tang Kai-yin was sentenced to three years and fined RMB20,000 (£2,260), and Quinn Moon to two years and fined RMB15,000.
- The remaining eight people, all charged with illegally crossing the border, were jailed for seven months and fined RMB 10,000.



- The court said Tang purchased the boat, and he and Quinn planned to smuggle the passengers from Hong Kong to Taiwan. It said they had been organised by others to commit the crimes, and so were given reduced sentences as accomplices.
- All members of the group are believed to have pleaded guilty at the one-day trial on Monday, which was effectively closed to the public, as foreign diplomats and press were turned away from the courtroom. The trial date was announced three days earlier, leaving family members no time to travel to Shenzhen and complete quarantine.
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15. 'Is it OK to say this?' Police officer hesitates reading out 'liberate' slogan on protester's flag during court testimony

Coconuts Hong Kong, November 12, 2020

<https://coconuts.co/hongkong/news/is-it-ok-to-say-this-police-officer-hesitates-reading-out-liberate-slogan-on-protesters-flag-during-court-testimony/>

- A police officer showed rare restraint during a court testimony on Wednesday, when he hesitated to read out what was on a protest flag that was waved during a demonstration last year.
- The blasphemous words in question? "Liberate Hong Kong, revolution of our time"—the sensitive phrase that the city's Beijing-backed government has said could be illegal under the national security law.
- According to Apple Daily, the court was trialing the case of a 21-year-old woman, surnamed Wong, over her involvement in a protest in Lan Kwai Fong on Halloween last year.
- Lau Ka-shing, a senior inspector with the police force, recalled the events of the night. When the court played a video taken during the demonstration, he hesitated after being asked to read out the wording on a black flag as if reluctant to answer the question.
- "Is it OK to say this? Because it might breach the national security law," he responded with candor that, coming from a police officer, was uncharacteristically refreshing.
- When pressed by the prosecution, he answered with a dither: "'Liberate Hong Kong,' 'time,' and then the word 'revolution.'" (The phrase "revolution of our time" is syntactically flipped in its original Cantonese iteration.)
- The incident illustrates the air of anxiety that pervades the city's courts, where even a member of the 30,000-strong Hong Kong Police Force—which found itself doing the government's heavy-handed bidding since protests erupted last year—fears his words could incriminate him.
- Last Halloween, protesters took the place of cosplaying revellers in Lan Kwai Fong, chanting protest slogans and swearing at officers who were on stand by.

- Police set up checkpoints in the area and, after declaring the crowd an “unlawful assembly,” fired tear gas into the nightlife district.
- Lau testified that Wong shined a laser light into his eyes, causing them to feel dry and itchy. He denied that he might be identifying the wrong person.
- He also said that police needed to step in and disperse the crowd that night for fear that a stampede would break out on the narrow streets.

16. Continuous Purges: Xi’s Control of the Public Security Apparatus and the Changing Dynamics of CCP Elite Politics

Guoguang Wu

China Leadership Monitor, December 1, 2020

<https://www.prcleader.org/wu>

- This essay identifies three waves of purges in the Ministry of Public Security under the Xi Jinping leadership, and then focuses on the third wave, which, corresponding to similar measures beyond the public security system, featured the cleansing of those who rose to prominence due to their support of Xi’s earlier anti-corruption campaign. Such a development whereby Xi turns his sword against his previous political allies indicates that continuous purges are becoming a new political dynamic in CCP elite politics. The essay finds that Xi’s prolonged tenure in power and the governance challenges he confronts are the two leading factors that have helped to shape China’s current proto-Maoist power struggles and elite politics. According to this line of reasoning, Xi’s ongoing efforts to control the public security apparatus indicates that CCP elite politics is becoming increasingly dominated by internal repression and coercive means.
- This essay will first investigate the recent elite changes in the Chinese Ministry of Public Security that can be described as three waves of purges under the Xi Jinping leadership, with each wave helping Xi to consolidate his control over the ministry and, more generally, the removal of some leading cadres and their replacement by those who are identified with Xi to establish his control over the political-legal system of the Party-state apparatus. It will then focus on the third wave of the purge that began in April 2020, which corresponds to similar measures affecting high-ranking officials beyond the political-legal and public security systems and features the cleansing of those who rose to political prominence due to their support of Xi’s earlier anti-corruption campaigns. This latest development whereby Xi turns his sword against his previous political allies, the essay argues, indicates that continuous purges are emerging as a new political dynamic in CCP elite politics due to Xi’s prolonged tenure in power and the governance challenges he confronts, resulting in proto-Maoist power struggles and elite politics. After a brief analysis of why this has occurred and how Xi’s purges are similar to but also different from traditional Maoist purges, the essay shows that Xi’s ongoing efforts to control the public security apparatus not only are indicative of his neo-totalitarian program in terms of state-society relations but also show that CCP elite politics is becoming increasingly dominated by internal repression and coercive means.

- Firmly Grasping the Handle of the Knife: Xi's Men and Their Political Allies Enter the Public Security Apparatus
- It is well-known that Xi Jinping's ascent to power in 2012–13 was accompanied by a political earthquake that greatly shook China's public security apparatus. Zhou Yongkang (周永康), once the tsar of the Chinese police and, more generally, of the zhengfa system (政法, usually translated into English as "political-legal" but this translation does not capture the Chinese essence of the term), to which the police and the public security apparatus are subordinate, was purged together with many of his protégées who held various critical positions.[1] This was the first time since 1989 that a member of the Politburo Standing Committee (PSC), the supreme decision-making body of the Chinese Communist Party (CCP), fell from power. The purge has profound relevance to Chinese politics to this day because since then, as this essay observes, three waves of purges of leading cadres in the political-legal system in general and in the public security sector in particular have taken place. In effect, the public security ministry has become the epicenter of Chinese elite changes under Xi Jinping's leadership.
- When he was inaugurated in the fall of 2012 in the office of party chief of the CCP and, later in the spring of 2013, as president of the People's Republic of China (PRC), Xi Jinping was a weak leader in terms of both his power bases. Control over the People's Liberation Army (PLA), the Chinese military force, was of course among his first tasks to consolidate power over the Party-state apparatus. However, his first priority for the purpose of power consolidation was to control the public security ministry, as indicated by the purge of Zhou Yongkang, which in fact was even more urgent than his efforts to control the PLA.
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17. China Covid-19: How state media and censorship took on coronavirus  
BBC, December 29, 2020

<https://www.bbc.co.uk/news/world-asia-china-55355401>

- At the start of the year the Chinese government faced two major challenges; an unknown disease which threatened to tear through its population and a wave of voices online telling the world what was happening.
- By the end of 2020, a glance at Chinese state-controlled media shows that both appear to be under control.
- The BBC's Kerry Allen and Zhaoyin Feng take a look back at the country's online government censors who worked harder than ever to suppress negative information, the citizens that managed to break through the Great Firewall, and how the propaganda machine re-wrote the narrative.
- Early attempts to shift blame amid unprecedented online anger

- At the beginning of the year, it was clear something unprecedented was happening. Thousands of messages of public outrage appeared on Chinese social media, asking whether local governments were covering up another Sars-like virus.
- While government censors routinely mute anti-government messaging on platforms like Sina Weibo, they were of such a large volume that many remained visible.
- This is because when facing major disasters, the Chinese government often scrambles to react, and censors are slow to act. In January and February, multiple media outlets took the opportunity to publish hard-hitting investigations, which were widely shared on social media.
- Later, as Beijing came up with a propaganda strategy, these reports were stifled.
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#### 18. Xi's China Crafts Campaign to Boost Youth Patriotism

Liza Lin

Wall Street Journal, December 30, 2020

<https://www.wsj.com/articles/xi-china-campaign-youth-patriotism-propaganda-11609343255>

- In the era of Mao Zedong, China used propaganda posters to urge young people to create a great socialist nation. After the Tiananmen Square protests in 1989, the Communist Party rewrote textbooks to deliver its version of history and to steer its young away from Western ideas.
- Today, China is embarked on another campaign to re-educate its young people. The message is more blatantly nationalistic than anything in recent decades, with President Xi Jinping's image often at the center. And it is far more sophisticated than anything Beijing has attempted in the past.
- Slick videos on social media are notching millions of views. One episode of a popular video series called Year Hare Affair, co-produced by a Communist Party organization, featured a bald eagle dressed in an American flag plotting with talking cockroaches to create chaos in Hong Kong. Cute Chinese rabbits show up to fight off the cockroaches.
- Pan Borui, a 19-year-old freshman at a Beijing college, got hooked last year on the cartoons, which he said will "shape the thinking of the next generation of Chinese." He said he knew they were made with party support, but said most Chinese still considered them very accurate and more accessible than traditional news reports.
- Chinese leaders have always tried to encourage patriotism. In Mao's era, young people learned about "Mao Zedong Thought" and class struggle and sang revolutionary songs. Curriculum changes in the early 1990s began spreading the narrative that China was suffering at the hands of the West.
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19. Independence of Hong Kong courts on Beijing's target list

Didi Tang

Times of London, January 6, 2021

<https://www.thetimes.co.uk/article/independence-of-hong-kong-courts-on-beijing-s-target-list-hnqf9w58m>

- A leading pro-Beijing politician in Hong Kong has publicly challenged the territory's right to continued judicial independence, claiming its legal system was out of control and needed reform.
- Tam Yiu-chung, the only delegate from Hong Kong on the standing committee of the National People's Congress, China's rubber-stamp parliament, is widely seen as an official mouthpiece of Beijing. In an article, Mr Tam accused Hong Kong courts and judges of being out of touch and suggested that the system needed greater supervision and regulation.
- The judicial independence of the territory, enshrined in the agreement under which Britain handed Hong Kong back to China in 1997, is one of the last areas of governance left largely untouched since the territory's pro-Beijing administration set about crushing the democracy.
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## Environmental Harms

20. China biodegradable plastics 'failing to solve pollution crisis'

Joel Gunter

BBC, December 17, 2020

<https://www.bbc.com/news/world-asia-55301203>

- A massive increase in biodegradable plastic production in China is outpacing the country's ability to degrade the materials, according to a new report published by the charity Greenpeace.
- China - the world's largest producer of plastic waste - introduced bans earlier this year on several types of non-degradable single-use plastics, prompting manufacturers to ramp up production of biodegradable versions.
- According to Greenpeace, 36 companies in China have planned or built new biodegradable plastic manufacturing facilities, adding production capacity of more than 4.4 million tonnes per year - a more than sevenfold increase in less than 12 months.
- China's e-commerce industry is on track to generate an estimated 5 million tonnes of biodegradable plastic waste per year by 2025, when the country's single-use plastic bans come into effect nationwide, the charity said.

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## 21. China's Green NGO Climate Propaganda Enablers

Rupert Darwall

Real Clear Energy, December 21, 2020

[https://www.realclearenergy.org/articles/2020/12/21/chinas\\_green\\_ngo\\_climate\\_propaganda\\_enablers\\_654042.html](https://www.realclearenergy.org/articles/2020/12/21/chinas_green_ngo_climate_propaganda_enablers_654042.html)

- Shortly before the Soviet Union collapsed, Greenpeace opened an office in Moscow. It enjoyed the patronage of a leading member of the Soviet Academy of Sciences and enjoyed Kremlin funding, laundered through a state-owned record company. The green activist group made clear that it would have nothing to do with environmental groups in the Baltic republics. Recycling standard Soviet propaganda, Greenpeace denounced them as little more than separatist organizations.
- This was by no means a one-off. The inconvenient truth: the environmental movement fought on the wrong side of the Cold War. In the early 1980s, it used the “nuclear winter” scare to try to stop Ronald Reagan’s nuclear build-up and undermine the West’s ability to negotiate the arms agreement that effectively ended the Cold War. It turns out that nuclear winter had been concocted by the KGB and transmitted to America by executives of the Rockefeller Family Fund. A nuclear winter conference held in 1983 was supported by 31 environmental groups, including the Environmental Defense Fund, Friends of the Earth, and the Natural Resources Defense Council (NRDC).
- This pattern, wherein the West’s enemies use the environmental movement – whether NGOs like Greenpeace, foundations, or “concerned scientists,” to undermine Western interests – is now being repeated, this time in respect to China. A report by Patricia Adams for the London-based Global Warming Policy Foundation released earlier this month lays bare the role of the green movement in acting as China’s propagandists.

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## 22. The murky process of licensing the Amazon's meatpackers

Flavia Milhorance

Dialogo Chino, October 7, 2020

<https://dialogochino.net/en/agriculture/37731-the-murky-process-of-licensing-the-amazons-meatpackers/>

- Meatpackers in the Amazon are eyeing the Chinese market, but getting certified to export is often the result of intense pressure and neglect of environmental requirements.
- Politicians and meatpackers in Brazil’s Amazonian state of Pará gathered for a celebration in September 2019, cheering the official announcement that four processing plants in the state had won approval to export to mainland China. Photos show delighted participants posing with boxes of meat products.

- "The ability to enter the Chinese market is something that meat processing plants in our state have been requesting since 2011," said governor Helder Barbalho who had lobbied hard for the licences.
- Decades of growth in cattle ranching have meant Pará is now the state with the largest herd nationwide. At 20.6 million heads, it has 2.5 cattle for every human inhabitant. At the same time, the region has also broken records for deforestation, sharpening the focus on its contribution to climate change.
- Rampant destruction
- The Amazon region suffered a fire season in August 2019 that shocked the world. And the destruction has continued into 2020. Barbalho explained the fires were "burning the forest to make pasture". In the last twelve months, Pará lost almost 3,000 square kilometres of forest, an area almost the size of Beijing, becoming the state that has destroyed most rainforest in Brazil during this period.
- Environmental devastation was not mentioned in publicly disclosed documents about recent agreements between Brazil and China on beef, as political and economic pressures dominated the negotiations. The lengthy certification process for meat processing plants focuses almost exclusively on sanitary standards, as can be seen from the applications forms, hearings, and protocols analysed by Diálogo Chino for this article.
- Since 2019, China has approved 22 new beef processing plants, 14 located in the Amazon region. The Amazon biome now is home to almost half of the Brazilian meat processing plants authorised to export to China
- Environmentalists are alarmed by the sector's rapid growth: "Clear criteria for controlling deforestation and respecting the land rights of indigenous peoples and communities should be mandatory for exports of Brazilian beef, particularly when it comes from biomes [that are] under attack," says Adriana Charoux, spokesperson for Greenpeace's Amazon campaign.
- For Pará's vast beef farming sector, however, the China licences were doubly welcome following past freezes in the trade because of food safety scandals. In 2017, an exposé caught food inspectors conspiring to approve meat that was unfit for consumption. International embargoes followed, and China temporarily halted new export accreditations for Brazilian meat processors.
- ...

### 23. The new geopolitics of China's climate leadership

Kevin Rudd

China Dialogue, December 11, 2020

<https://chinadialogue.net/en/climate/the-new-geopolitics-of-chinas-climate-leadership/>

- Since 2014, China has embarked on a new era of confident, independent international policy activism under President Xi Jinping – the origins of which can be traced back to the Chinese Communist Party’s 2014 Central Conference on Work Relating to Foreign Affairs. That conference marked the end of Deng Xiaoping’s 30-year-old dictum of “hide your strength, bide your time, never take the lead.”
- The origins of China’s newfound desire to play a leadership role in the global fight against climate change can also be traced back to 2014. This includes Xi’s landmark joint announcement on climate change with President Barack Obama less than three weeks before the Party’s Central Work Conference.
- Since then, China has shown a steady determination to demonstrate its own climate credentials, which increasingly has become a bright spot in China’s position on the world stage. Yet, Xi’s announcement this September that China will aim to achieve carbon neutrality before 2060 marked an important new milestone. For the first time, China has signalled it is not just willing to be a participant in the international fight against climate change, but that climate leadership has crossed the geopolitical Rubicon in Beijing’s eyes. In other words, it has become a central priority for China irrespective of the steps taken by other countries, including the United States.
- This marks an important new era for the geopolitics of China’s climate leadership, but also one in which Beijing must understand that it will be judged more sharply than ever before, including by its developing country compatriots. This is especially the case as President-elect Joe Biden takes office in the United States with a wide-ranging and ambitious programme to tackle climate change both at home and abroad.
- ...

#### 24. China's foreign coal push risks global climate goals

Japan Times, December 10, 2020

<https://www.japantimes.co.jp/news/2020/12/10/world/china-foreign-coal-climate/>

- BEIJING – China’s plan to fund dozens of foreign coal plants from Zimbabwe to Indonesia is set to produce more emissions than major developed nations, threatening global efforts to fight climate change, environmentalists have warned.
- Under the Paris climate deal signed in 2015, China positioned itself as a leader on climate change, and in September President Xi Jinping pledged the country would become carbon neutral by 2060.
- But Chinese state-owned firms are investing billions in coal power abroad, which are not counted in the domestic carbon neutral calculations, and which environmentalists say put at risk the Paris accord’s goal of keeping global warming to well below 2 degrees Celsius.



- “New plants that would potentially be operating for many years beyond 2030 are fundamentally incompatible with global efforts to contain climate change,” said Christine Shearer, head of coal research at the Global Energy Monitor.
- The new carbon-belching power stations already under construction will produce 19 gigawatts of power and emit 115 million tons each year, data from Boston University’s Global Development Policy Center showed.
- ...

25. Mekong Mainstream at Chiang Saen, Thailand (Golden Triangle) drops >1 meter in 48 hours as Jinghong Dam upstream fills

Brian Eyer

Planet, January 4, 2020

<https://www.planet.com/stories/mekong-mainstream-at-chiang-saen-thailand-golden-t-XlhhVOaGg>

- On January 4 2021, locals in Thailand's side of the Golden Triangle near Chiang Saen shared photos on social media of a sudden and unexpected drop in river level along the Mekong mainstream. Stimson's Mekong Dam Monitor estimates the drop at more than 1 meter and China's upstream river gauge at Yunjinghong also shows a similar drop starting late in the evening on December 31, 2020. The Jinghong dam (located just upstream from China's Yunjinghong gauge) filled during the last week of December causing the sudden drop downstream. China sent no notification to downstream countries.

### Foreign Interference and Coercion

26. Apologise, Afghanistan tells China after busting its espionage cell in Kabul

Shishir Gupta

Hindustan Times, December 25, 2020

[https://m.hindustantimes.com/india-news/chinese-espionage-ring-in-afghanistan-busted-10-spies-detained/story-qyPsZY1wUoD2flp9UIYMrK\\_amp.html?\\_twitter\\_impression=true](https://m.hindustantimes.com/india-news/chinese-espionage-ring-in-afghanistan-busted-10-spies-detained/story-qyPsZY1wUoD2flp9UIYMrK_amp.html?_twitter_impression=true)

- Afghanistan’s National Directorate of Security has detained 10 Chinese citizens accused of operating a terror cell in Kabul
- Afghanistan has busted a 10-member Chinese module operating a terror cell in the capital city of Kabul, according to diplomats and security officials in the West Asian country. The crackdown has come as a huge embarrassment for Beijing, which has been trying to persuade the Ashraf Ghani government to hush up the case, people familiar with the matter in Kabul and New Delhi said.
- The 10 Chinese citizens, detained recently in this connection by Afghanistan’s National Directorate of Security (NDS) on charges of espionage and running a terror cell, are believed to be linked to China’s spy agency, Ministry of State Security. The crackdown by the NDS started on 10 December.

- This is the first time in years that Chinese nationals have been caught spying in Afghanistan where the country was looking at rapidly expanding its influence even as the US withdraws its troops. At least two of the 10 Chinese nationals were in contact with the Haqqani Network, the terrorist group that doubles as the sword arm of the Taliban, a senior diplomat in Kabul said.
- President Ashraf Ghani has been briefed about the detentions and has authorised First Vice President Amrullah Saleh, a former chief of the Afghan intelligence agency, to oversee the investigation and engage the Chinese in view of the sensitivities involved, the people cited in the first instance added.
- Amrullah Saleh has held a meeting with the Chinese envoy to Kabul, Wang Yu to brief him about the detention. Saleh is learnt to have indicated that the Afghan government could consider a pardon for the Chinese spies if Beijing submits a formal apology that admits to the violation of international norms and a betrayal of Kabul's trust.
- Otherwise, Amrullah Saleh is believed to have told the Chinese ambassador, the Afghan government would go ahead with criminal proceedings. One of those detained, Li Yangyang, according to a counter-terror official in Kabul, has been operating for the Chinese Intelligence since July-August . He was arrested by the Afghan NDS on 10 December from his house in western Kabul neighbourhood of Kart-e-Char.

27. Public safety minister details China's foreign interference efforts in letter to MPs

Sam Cooper and Stewart Bell

Global News Canada, January 6, 2021

<https://globalnews.ca/news/7558284/public-safety-minister-chinas-foreign-interference-letter/>

- A letter sent to MPs by Public Safety Minister Bill Blair has described China's extensive foreign interference program in Canada, saying Beijing was using a host of covert methods to silence dissent and steal commercial secrets and sensitive technology.
- Addressed to "colleagues," the 12-page letter obtained by Global News called interference by foreign adversaries a "significant threat" to the integrity of the political system and economy, and repeatedly cited examples of China's hostile activities in Canada.
- The letter also claimed that "certain regimes" were targeting Canada with state-sponsored disinformation that aimed to create doubts about the origins of the COVID-19 virus while portraying their own responses to the pandemic as "superior."
- "Through investigations and monitoring, we continue to identify and shed light on the multiple ways foreign interference manifests itself in Canada, allowing us to be well-armed with the knowledge needed to deploy our tools to counter it," Blair wrote.
- ...

28. China blocks entry to WHO team studying Covid's origins

Sarah Boseley  
The Guardian, January 5, 2021

<https://www.theguardian.com/world/2021/jan/05/china-blocks-entry-to-who-team-studying-covids-origins>

- Officials say visas not yet approved for World Health Organization delegation due to visit Wuhan
- China has blocked the arrival of a team from the World Health Organization investigating the origins of the coronavirus pandemic, claiming that their visas had not yet been approved even as some members of the group were on their way.
- The WHO's director general, Tedros Adhanom Ghebreyesus, expressed his dismay and said he had called on China to allow the team in. "I'm very disappointed with this news, given that two members have already begun their journeys, and others were not able to travel at the last minute," he said.
- "But I have been in contact with senior Chinese officials. And I have once again made made it clear that the mission is a priority for WHO and the international team."
- The WHO has been attempting to send in the team of global experts from a number of countries for some months. It has been talking with Chinese officials since July. Scientists have long said it is essential to find out how the virus jumped species into humans.
- The expedition to China was heading to Wuhan to investigate the earliest cases. It was not intending to probe claims that the virus originated in a Chinese lab, which have been dismissed by most scientists.
- ...

#### 29. China doubles down on COVID narrative as WHO investigation looms

David Stanway  
Reuters, January 5, 2021

<https://www.reuters.com/article/health-coronavirus-china-who-int/china-doubles-down-on-covid-narrative-as-who-investigation-looms-idUSKBN29A0LX>

- As a team from the World Health Organization (WHO) prepares to visit China to investigate the origins of COVID-19, Beijing has stepped up efforts not only to prevent new outbreaks, but also shape the narrative about when and where the pandemic began.
- China has dismissed criticism of its early handling of the coronavirus, first identified in the city of Wuhan at the end of 2019, and foreign ministry spokeswoman Hua Chunying said on Monday that the country would welcome the WHO team.

- But amid simmering geopolitical tensions, experts said the investigators were unlikely to be allowed to scrutinise some of the more sensitive aspects of the outbreak, with Beijing desperate to avoid blame for a virus that has killed more than 1.8 million people worldwide.
- “Even before this investigation, top officials from both sides have been very polarised in their opinions on the origins of the outbreak,” said Yanzhong Huang, senior fellow with the Council on Foreign Relations, a U.S. think tank.
- “They will have to be politically savvy and draw conclusions that are acceptable to all the major parties,” he added.
- While other countries continue to struggle with infection surges, China has aggressively doused flare-ups. After a new cluster of cases last week, the city of Shenyang sealed off entire communities and required all non-essential workers to stay home.
- On Saturday, senior diplomat Wang Yi praised the anti-pandemic efforts, saying China not only curbed domestic infections, but also “took the lead in building a global anti-epidemic defence” by providing aid to more than 150 countries.
- But mindful of the criticism China has faced worldwide, Wang also became the highest-ranking official to question the consensus about COVID-19’s origins, saying “more and more studies” show that it emerged in multiple regions.
- China is also the only country to claim COVID-19 can be transmitted via cold chain imports, with the country blaming new outbreaks in Beijing and Dalian on contaminated shipments - even though the WHO has downplayed those risks.
- TRANSPARENCY
- China has been accused of a cover-up that delayed its initial response, allowing the virus to spread further.
- The topic remains sensitive, with only a handful of studies into the origins of COVID-19 made available to the public.
- But there have also been signs China is willing to share information that contradicts the official picture.
- Last week, a study by China’s Center for Disease Control showed that blood samples from 4.43% of Wuhan’s population contained COVID-19 antibodies, indicating that the city’s infection rates were far higher than originally acknowledged.
- But scientists said China must also share any findings suggesting COVID-19 was circulating domestically long before it was officially identified in December 2019.
- An Italian study showed that COVID-19 might have been in Europe several months before China’s first official case. Chinese state media used the paper to support theories that COVID-19

originated overseas and entered China via contaminated frozen food or foreign athletes competing at the World Military Games in Wuhan in October 2019.

- Raina MacIntyre, head of the Kirby Institute's Biosecurity Research Program in Australia, said the investigation needed to draw "a comprehensive global picture of the epidemiological clues", including any evidence COVID-19 was present outside of China before December 2019.
- However, political issues mean they are unlikely to be given much leeway to investigate one hypothesis, that the outbreak was caused by a leak at the Wuhan Institute of Virology, said MacIntyre.
- "I think it is unlikely all viruses in the lab at the time will be made available to the team," she said. "So I do not think we will ever know the truth."

30. Daryl Morey's tweet controversy follows him to Philadelphia as streaming giant Tencent blocks 76ers

Patrick Blennerhassett

South China Morning Post, December 28, 2020

<https://www.scmp.com/sport/article/3115502/nba-china-crisis-daryl-moreys-tweet-controversy-follows-him-philadelphia>

- Morey said he feared for the safety of his family at one point in fallout from supporting Hong Kong's protest movement
- The controversy bleeds into a second season, with the pandemic now a major factor in any move to improve NBA-China relations
- Philadelphia 76ers president of basketball operations Daryl Morey doubled down on what has become one of the most infamous tweets in the past few years.
- In October 2019, Morey tweeted support for Hong Kong's protest movement with an accompanying caption "Fight For Freedom. Stand With Hong Kong". Morey, then general manager of the Houston Rockets, kicked off the National Basketball League's biggest controversy in its storied history.
- The Brooklyn Nets and Los Angeles Lakers, in Shanghai immediately following the tweet, found themselves sucked into the storm as NBA commissioner Adam Silver was able to temper enough minds to see two exhibition games go off in China, but when the league returns to its largest overseas market is anybody's guess.
- Morey did not do a press interview for nearly a year and the NBA found itself squarely in the sights of the Chinese Communist Party. Games were pulled on CCTV and fans stateside held up signs during games supporting Hongkongers as two competing political ideologies crashed headfirst into one another.
- ...

31. Did UK higher education institutions export more to China in 2019 than any other sector?

David Law

HEPI, December 18, 2020

<https://www.hepi.ac.uk/2020/12/18/did-uk-higher-education-institutions-export-more-to-china-in-2019-than-any-other-sector/>

- How valuable are higher education exports to China?
- James Pitman, the Managing Director of Study Group, asked in a blog published by HEPI in March 2017, 'Why does the Office for National Statistics (ONS) fail to measure and monitor the UK's educational exports?'. The question has become more relevant in the light of shifting trade relations with China.
- Over several years HEPI has produced valuable reports on the economic importance of international students both to UK higher education and to the UK economy. See, for example, the HEPI / London Economics / Kaplan reports: The UK's tax revenues from international students post-graduation and The costs and benefits of international students (including by parliamentary constituency) .
- The cost of failing to deal well with COVID will be expensive for the UK. The OECD has forecast that China will grow in 2020 by 1.8 per cent, compared with a 4.2 per cent decline globally and an 11.2 per cent fall in the UK.
- During the pandemic, the UK's imports from China have risen, but exports have declined. At the start of December, The Times reported:
- One pound in every seven of goods bought by the UK came from China in the second quarter. Chinese companies sold goods worth £11 billion to Britain, with a big jump in textiles, such as medical masks for the NHS, and electrical machinery, such as home computers for remote working.
- What I believe to be our main export to China, higher education, has certainly declined in 2020 in comparison with 2019. International student recruitment is down at many universities. One of the reasons for this is the slow and inconsistent response of government to the pandemic. As yet, we do not know the extent of the decline in recruitment. Publication of data will take some time. Here I am less concerned with exact measurement and more interested in relativity.
- ...

32. The influence environment

Alex Joske, Lin Li, Alexandra Pascoe, and Nathan Attrill

ASPI, December 17, 2020

<https://www.aspi.org.au/report/influence-environment>

- What's the problem?
- In the past two decades, Australia's Chinese-language media landscape has undergone fundamental changes that have come at a cost to quality, freedom of speech, privacy and community representation. The diversity of Australia's Chinese communities, which often trace their roots to Hong Kong, Southeast Asia and Taiwan as well as the People's Republic of China, isn't well reflected in the media sector.
- Persistent efforts by the Chinese Communist Party (CCP) to engage with and influence Chinese language media in Australia far outmatch the Australian Government's work in the same space. A handful of outlets generally offer high-quality coverage of a range of issues. However, CCP influence affects all media. It targets individual outlets while also manipulating market incentives through advertising, coercion and WeChat. Four of the 24 Australian media companies studied in this report show evidence of CCP ownership or financial support.
- WeChat, a Chinese social media app created by Tencent, may be driving the most substantial and harmful changes ever observed in Australia's Chinese-language media sector. On the one hand, the app is particularly important to Chinese Australians and helps people stay connected to friends and family in China. It's used by as many as 3 million users in Australia for a range of purposes including instant messaging.<sup>1</sup> It's also the most popular platform used by Chinese Australians to access news.<sup>2</sup> However, WeChat raises concerns because of its record of censorship, information control and surveillance, which align with Beijing's objectives. Media outlets on WeChat face tight restrictions that facilitate CCP influence by pushing the vast majority of news accounts targeting Australian audiences to register in China. Networks and information sharing within the app are opaque, contributing to the spread of disinformation.
- Australian regulations are still evolving to meet the challenges identified in this report, which often mirror problems in the media industry more generally. They haven't introduced sufficient transparency to the Chinese-language media sector and influence from the CCP. Few Australian Government policies effectively support Chinese-language media and balance or restrict CCP influence in it.
- ...

### 33. Countering Russian and Chinese Influence Activities

Heather Conley, Rachel Ellehuus, Timothy Kostelancik, Jeffrey Mankoff, Cyrus Newlin, Amy Searight and Devin Stewart

Center for Strategic and International Studies, July 2020

<https://www.csis.org/features/countering-russian-chinese-influence-activities>

- Moscow and Beijing's toolkit for influencing democratic societies has evolved. Using Germany, the UK, Japan, and Australia as case studies, CSIS explores what traits made these democracies vulnerable to foreign influence as well as the sources of their resiliency.
- ...

34. In U.S. backyard: How China embedded itself in Canada

Cleo Paskal

Sunday Guardian Live, January 2, 2021

<https://www.sundayguardianlive.com/news/u-s-backyard-china-embedded-canada>

- Since the 1970s, there have been important political and economic pro-China vectors emanating out of Montreal and Ottawa. Since then, that have broadened to influential pro-Beijing groups across Canada.
- Canada has been making headlines in India recently, and not in a good way. There were Prime Minister Justin Trudeau's statements about the farmer issue, seen in New Delhi as interference in internal affairs. And then documents were released showing that as late as 2018 Canada was allowing PLA soldiers to observe Canadian winter warfare training, seen as of use to China in its aggression against India in the Himalayas—and when the Canadian military unilaterally decided to stop the training, some in Canadian foreign affairs hit the roof.
- This has raised questions about Canada's foreign policy, and in particular, its relations with China. The questions are legitimate.
- To answer them, it helps to look at three factors that helped shape the early development of China/Canada relations: missionaries, leftist sympathies combined with anti-Americanism, and the business community.
- ...

35. An Australian student denounced his university's ties to China. Then he became a target

Shashank Bengali and Maria Petrakis

Los Angeles Times, December 21, 2020

<https://www.latimes.com/world-nation/story/2020-12-21/student-australia-china-xi-jinping-ughurs-muslims>

- Before the text messages threatening to kill his family arrived, Drew Pavlou gathered a small group of students on a busy walkway at the University of Queensland to protest the Chinese government's repression of Uighur Muslims and crackdown on Hong Kong.
- "Hey-hey, ho-ho — Xi Jinping has got to go!"
- As he denounced the Communist leader, hundreds of counter-demonstrators massed around a colonnade at the campus in Brisbane, Australia. Some were students from China; others appeared older. They yelled pro-Beijing slogans and played the Chinese national anthem over loudspeakers.
- Pavlou, 20, stopped for a moment and smiled, relishing the first protest he'd ever organized.



- Things quickly turned violent. A man in the crowd rushed at Pavlou, snatching his megaphone. A second man shoved him. In the ensuing scuffles, one student from Hong Kong was tackled and grabbed by the throat; another had her shirt ripped open.
- The next day, Chinese state media named Pavlou as a leader of the protest. Xu Jie, Beijing's consul general in Brisbane, praised the "spontaneous patriotic behavior" of those who had attacked him.
- It was an unusual statement for a diplomat, especially considering Xu's other position: adjunct professor at the university's School of Languages and Cultures. His dual roles were an example of the increasingly close ties between Australian universities and China, their biggest source of international students.
- The university didn't chastise Xu for promoting violence. Instead, it defended its relationship with Beijing — and turned on one of its brightest students.
- Pavlou's July 2019 protest, and its turbulent aftermath, revealed how China's economic power had translated into influence in Australia, affecting even what was said and taught at leading research universities.
- ...

### Human Rights and Religious Persecution

#### 36. Joint Statement – Call to Free Ekpar Asat and End Mass Atrocities Against the Uyghur Community in Xinjiang

Harvard Law School Advocates for Human Rights, January 1, 2021

<https://clinics.law.harvard.edu/advocates/2021/01/01/joint-statement-call-to-free-ekpar-asat-and-end-mass-atrocities-against-the-uyghur-community-in-xinjiang/>

- We, the Harvard Law School Advocates for Human Rights ("HLS Advocates"), and the undersigned student organizations of Harvard University, stand in solidarity with our alumna Ms. Rayhan Asat (HLS LLM '16) in calling for the immediate release of her brother, Mr. Ekpar Asat, a member of the persecuted Uyghur community who was forcibly disappeared by the Chinese government in 2016. As Harvard students, we lend our support to Rayhan in her fight to secure her brother's release and to seek justice for the Uyghur community. We join widespread calls for the United States government and the international community to demand that the Chinese government end their long-standing and systematic oppression of the Uyghur ethnic minority, and call for swift accountability for the mass atrocities continuing to be committed against this ethnic group.
- Mr. Asat is a tech entrepreneur and philanthropist from the Xinjiang Uyghur Autonomous Region who is widely-acclaimed for his work in fostering greater understanding between different ethnic groups in China. In February 2016, he traveled to the United States after being invited to take part in the State Department-sponsored International Visitors Leadership Program, one of the few Uyghur entrepreneurs to receive this prestigious honor. Weeks after he

returned to Xinjiang, he disappeared. It was not until nearly four years later, in January 2020, that Rayhan learned that her brother had been sentenced to 15 years in prison for “inciting ethnic hatred and ethnic discrimination,” a charge commonly used by the Chinese government in show trials against prominent Uyghurs. No further details were given, nor any court records to corroborate his trial or sentence.

- Mr. Asat is only one of the millions of Uyghurs, a Turkic-speaking minority ethnic group native to the Xinjiang Uyghur Autonomous Region in Northwest China, directly affected by systematic human rights violations at the hands of the Chinese government. The Uyghurs have long been persecuted and regarded as potential threats by the Chinese regime due to their distinct cultural and ethnic identity. It is estimated that over the past five years alone, at least one million Uyghurs, along with members of other Turkic groups, have been forcibly disappeared and detained in internment camps set up by the Chinese government in the Xinjiang region—although many NGOs and other experts have found credible evidence that that number may be far higher. According to the U.S. State Department and independent rights organizations, those detained in these camps are regularly subjected to political indoctrination, physical, sexual, and psychological abuse, including forced sterilization, torture, forced labor, and prolonged detention without trial on the basis of their religion and ethnicity. There is mounting consensus that China’s suppression of the Uyghurs meets the U.N. definition of genocide. The use of Uyghur forced labor in the region to produce face masks, apparel, and other common goods also continues to taint the global supply chain.
- The ongoing genocide of the Uyghurs and systematic use of Uyghur forced labor by the Chinese government is not only alarming, but is also something that is deeply personal to us as members of the Harvard community. Our alumna, Rayhan Asat (LLM ’16), was the first Uyghur to graduate from Harvard Law School, and has spent countless hours fighting tirelessly for the release of her brother, Ekpar. Rayhan spoke for the first time of her family’s ordeal at a panel on the mass detention of Uyghurs hosted by HLS Advocates last year. She described the heartbreaking last conversation that she had with Ekpar prior to his disappearance, in which he promised to be in attendance at her law school graduation. Unfortunately, his seat remained empty at the ceremony the following month.
- HLS Advocates and the undersigned student organizations from Harvard Law School, Harvard College, Harvard Business School, Harvard Kennedy School, Harvard Graduate School of Education, Harvard Divinity School, and Harvard Medical School, join the many Harvard alumni, scholars, members of Congress, and media outlets that have commended Rayhan’s bravery and strength, and continue to work to draw attention to her calls for Ekpar’s release. We affirm our steadfast support of Rayhan, and call on the U.S. State Department to demand Mr. Asat’s immediate and unconditional release. We are also extremely disturbed and outraged by the ongoing mass atrocities being committed against the Uyghur community, and call on the European Union and the United Nations to ensure that they are given direct and meaningful access by the Chinese government to the Uyghur internment camps in the Xinjiang Region during any future visits. Finally, we also join the international coalition of human rights and advocacy organizations in urging major companies and nations to divest from the Xinjiang Region, where Chinese factories are utilizing Uyghur forced labor in the production of apparel and other goods, thereby tainting the global supply chain. These human rights violations cannot be allowed to continue unchecked.

- Signed,
  - Harvard Law School Advocates for Human Rights
  - Harvard Human Rights & Business Students Association
  - Harvard Law School Immigration Project
  - Harvard Law School Prison Legal Assistance Project
  - Harvard Law School Defenders Student Practice Organization
  - Harvard Law School Chapter of the American Constitution Society
  - Harvard Law School Chapter of the National Lawyers Guild
  - Harvard Law School Labor and Employment Action Project
  - Harvard Law Entrepreneurship Project Board of Directors
  - Harvard Student Labor Action Movement
  - Harvard Law School Antitrust Association
  - Harvard Law School Negotiators
  - Harvard Law School Tenant Advocacy Project
  - Harvard African Law Association
  - Harvard Armenian Law Students Association
  - Harvard Asian Pacific American Law Students Association
  - Harvard Jewish Law Students Association
  - Harvard Muslim Law Students Association
  - Harvard Turkish Law Students Organization
  - Harvard Korean Law Students Association
  - Harvard Mexican Law Students Association
  - Harvard Law School La Alianza
  - Harvard Law School Democrats

- Harvard Law School Republicans
- Harvard Law School Coalition of International Students and Global Affairs
- Harvard Kennedy School Black Students Union
- Harvard Kennedy School Jewish Caucus
- Harvard Kennedy School Muslim Caucus
- Harvard Kennedy School Catholic Caucus
- Harvard Kennedy School LGBTQ Caucus
- Harvard Kennedy School Arab Caucus
- Harvard Kennedy School Pakistan Caucus
- Harvard Kennedy School Progressive Caucus
- Harvard Kennedy School Democratic Caucus
- Harvard College Human Rights Working Group
- Harvard Facilitators for Religious, Ethical, and Spiritual Inquiry
- Harvard Parity Project
- Harvard Chinese Students Association
- Harvard College Democrats
- Harvard Black Students Association
- Harvard Black Community Leaders
- Harvard Pan Asian Coalition for Education
- Harvard Asian American Association
- Harvard Divinity School Muslims
- Harvard Pakistani Students Association
- Harvard South Asian Law Students Association

- Harvard Undergraduate South Asian Americans in Public Service
- Harvard Medical School Native American Health Organization
- Harvard Medical School Racial Justice Coalition
- Harvard Medical School Longwood Muslims Association
- Harvard Medical School Maimonides Society
- Harvard Islamic Society
- Harvard Business School Islamic Society
- Harvard Latinx Law Review
- Latinas Unidas de Harvard College
- Harvard Law School Francophone Society
- Harvard College Hellenic Society
- Harvard College Interfaith Forum
- Harvard Plaintiffs' Law Association
- Harvard Mississippi Delta Project
- Harvard Mather House Council
- Harvard Law School Environmental Law Society
- Harvard Hillel Undergraduate Steering Committee
- Our Harvard Can Do Better Campaign Steering Committee
- Harvard Law School Lambda
- Harvard Law School Alliance on Reproductive Justice
- Harvard Debating Union
- Harvard Small Claims Advisory Service
- Harvard Memorial Church Student Advisory Board
- Harvard Quincy House Committee

- Harvard Law School Recording Artists Project
- Harvard Adams House Committee
- Harvard Undergraduates for Environmental Justice
- Harvard College Undergraduate Research Association
- Harvard Law School Urbanists

37. Nuns arrested as Beijing turns up heat on Church in Hong Kong

Greg Torode

Reuters, December 30, 2020

<https://www.reuters.com/article/us-hongkong-security-church-specialrepor/special-report-nuns-arrested-as-beijing-turns-up-heat-on-church-in-hong-kong-idUSKBN294180>

- In a high-walled Art Deco villa in the Hong Kong suburbs of Kowloon, the Vatican operates an unofficial diplomatic mission, its only political outpost of any kind in China.
- The mission keeps such a low profile that it isn't listed in the Roman Catholic Church's formal directory of every priest and property in the city. The two monsignors who staff the outpost have no formal standing with Beijing or the Hong Kong government, and they don't conduct official work, not even meeting Hong Kong officials. The tenuous foothold is a sign of the delicate position in China of the world's largest Christian denomination, many of whose members in Hong Kong staunchly support the city's democracy movement.
- And now the mission – and the Church as a whole in Hong Kong – is coming under mounting pressure as Beijing moves to extinguish opposition voices in the city under a new national security law.
- In May, two Chinese nuns who work at the mission were arrested by mainland authorities during a visit home to Hebei province, according to three Catholic clerics with knowledge of the matter. The nuns, in their 40s, were detained for three weeks before being released into house arrest without being charged. They are forbidden to leave the mainland, according to one of the clerics. Meanwhile, Western diplomats say, Chinese security agents have stepped up surveillance of the mission in recent months.
- The arrests, which haven't been previously reported, are viewed by top clerics here and in the Vatican as a sign Beijing wants the mission shut. It lacks official standing because the Holy See and China haven't established formal diplomatic ties. While priests are sometimes arrested on the mainland, "it is highly unusual for nuns to be detained," said another of the clerics, who has long-time contacts on the mainland. "Normally they are left alone."
- The pressure is also being felt at the heart of the Church in Hong Kong, by the leadership of the large local diocese.

- Senior members of the clergy in Hong Kong told Reuters that Beijing is trying to extend its control over the diocese, in part by influencing the choice of the city's next bishop, a position that's been open since the last bishop's death two years ago. Beijing, they said, is seeking to apply to Hong Kong a two-year-old agreement with the Holy See that gives the Chinese government a significant say in the appointment of prelates on the mainland.
- According to Vatican officials, Hong Kong wasn't part of the deal because of the city's semi-autonomous status. But with Beijing exerting greater control over Hong Kong, mainland priests have been passing information to priests in the city about which clerics the ruling Communist Party favors to take on the bishop's role, the senior clerics said.
- As the pressure rises, the acting head of the local Church, Cardinal John Tong, has been curbing activist voices in the Catholic hierarchy, according to four people with knowledge of the matter. One target has been the Justice and Peace Commission, a human rights body within the diocese that has traditionally championed political and religious liberty.
- In October, the four people said, Tong's executive committee, known as the curia, censored a statement on Sino-Vatican relations released by the commission. They removed a reference to James Su Zhimin, the Bishop of Baoding, who was arrested by Chinese authorities more than 20 years ago on the mainland and has become a hero to many in the Church. His fate is unknown.
- Tong, 81, has also told his priests not to deliver sermons that are too political, cautioning them that they should avoid using language that causes "social disorder." Tong, like all bishops, has full administrative authority over his diocese.
- "We are at the bottom of the pit – there is no freedom of expression anymore," the former Bishop of Hong Kong, Cardinal Joseph Zen, told Reuters in a written reply to questions. "All these things are normal in mainland China. We are becoming like any other city in China."
- With the exception of 88-year-old Cardinal Zen, all Church leaders, local priests and parishioners interviewed for this article declined to be named. "For any word you say," Zen told Reuters, the authorities "can say you're offending the National Security Law."
- In a written statement, the office of Hong Kong Chief Executive Carrie Lam said the rights and freedoms of Hong Kong residents, including freedom of religion, are safeguarded under both Hong Kong's Basic Law, the city's mini-constitution, and the national security law.
- The Liaison Office, the main arm of the Chinese government in Hong Kong, didn't respond to questions for this article. The Ministry of Foreign Affairs in Beijing didn't answer questions about the nuns' status. Asked whether China sought to shut down the unofficial Vatican mission in the city, the ministry said in a statement: "As far as we know, the Vatican has not set up any official representative institution in Hong Kong."
- A Vatican spokesman declined to comment for this story. In a statement, the Hong Kong diocese said that parishioners are encouraged to express their views. "Hence, instead of

suppression, the Diocese welcomes a wide spectrum of different voices," it said. Cardinal Tong declined an interview request.

- ACTIVISTS ARRESTED

- The pressure on the Catholic Church is building as Beijing advances a broader effort to stamp out independent political forces in Hong Kong. That push began early this year, after months of sometimes violent mass protests. It intensified on June 30, when China imposed the new national security law that makes anything Beijing regards as subversion, secession, terrorism or colluding with foreign forces punishable by up to life in prison.

- Since then, leading pro-democracy activists have been arrested. Democratic lawmakers have been ousted from the legislature, and others have quit in protest. This month, one of Hong Kong's most prominent democrats, media tycoon Jimmy Lai, was charged with colluding with foreign forces under the national security law. And teachers have had their licenses revoked for allegedly making political comments in class.

- The Church is the latest major institution here to feel squeezed by Beijing. Reuters has documented this year how other institutions central to the city's freedoms and rule of law, including its judiciary, its police force and the democracy movement itself, have been weakened, co-opted or cowed. For the ruling Communist Party, Hong Kong's Catholics pose a serious challenge to its authority.

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### 38. UK says credible evidence of forced labour in China's Xinjiang region

Reuters, December 16, 2020

<https://uk.reuters.com/article/britain-china/uk-says-credible-evidence-of-forced-labour-in-chinas-xinjiang-region-idUKKBN28Q1VV>

- LONDON (Reuters) - Britain said on Wednesday there was credible, growing and troubling evidence of forced labour among Uighur Muslims in China's Xinjiang region.

- "Evidence of forced Uighur labour within Xinjiang, and in other parts of China, is credible, it is growing and deeply troubling to the UK government," foreign office minister Nigel Adams told parliament.

- Adams was responding to a BBC report which said some global clothing brands indirectly sourced cotton grown in the region.

- Earlier this month, the United States banned cotton imports from a powerful Chinese quasi-military organization that it says uses the forced labor of detained Uighur Muslims.

- Adams said firms had a duty to ensure their supply chains were free of forced labour.

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39. Apple's longtime supplier accused of using forced labor in China

Reed Albergotti

Washington Post, December 29, 2020

<https://www.washingtonpost.com/technology/2020/12/29/lens-technology-apple-uighur/>

- One of the oldest and most well-known iPhone suppliers has been accused of using forced Muslim labor in its factories, according to documents uncovered by a human rights group, adding new scrutiny to Apple's human rights record in China.
- The documents, discovered by the Tech Transparency Project and shared exclusively with The Washington Post, detail how thousands of Uighur workers from the predominantly Muslim region of Xinjiang were sent to work for Lens Technology. Lens also supplies Amazon and Tesla, according to its annual report.
  - Apple is lobbying against a bill aimed at stopping forced labor in China
- Lens Technology is one of at least five companies connected to Apple's supply chain that have now been linked to alleged forced labor from the Xinjiang region, according to human rights groups. Lens Technology stands out from other Apple component suppliers because of its high-profile founder and long, well-documented history going back to the early days of the iPhone.
- "Our research shows that Apple's use of forced labor in its supply chain goes far beyond what the company has acknowledged," said Katie Paul, director of the Tech Transparency Project.
- Apple spokesman Josh Rosenstock said the company has confirmed that Lens Technology has not received any labor transfers of Uighur workers from Xinjiang. He said Apple earlier this year ensured that none of its other suppliers are using Uighur labor transferred from Xinjiang.
- "Apple has zero tolerance for forced labor," Rosenstock said. "Looking for the presence of forced labor is part of every supplier assessment we conduct, including surprise audits. These protections apply across the supply chain, regardless of a person's job or location. Any violation of our policies has immediate consequences, including possible business termination. As always, our focus is on making sure everyone is treated with dignity and respect, and we will continue doing all we can to protect workers in our supply chain."
- Lens Technology didn't respond to requests for comment.
- In response to faxed questions from The Post, the Foreign Ministry in Beijing called forced labor in China "nonexistent" and accused people with "ulterior motives" of fabricating it. It said a number of companies had hired auditors to conduct investigations, which "confirmed the nonexistence of 'forced labor.'" It did not name the companies.

- Tesla didn't respond to a request for comment. Amazon spokeswoman Samantha Kruse declined to comment. (Amazon chief executive Jeff Bezos owns The Washington Post.)
- Apple products include thousands of components that are made by suppliers all around the world. While some suppliers are small or work for Apple through middlemen, Apple has a much closer relationship with its major suppliers such as Lens. The company has a supplier code of conduct and says it assessed 1,142 suppliers in 49 countries in 2019, ensuring that good labor conditions are upheld. Rosenstock said Lens was one of the audited suppliers. Apple publishes an annual progress report documenting its results.
- ...

40. 'Chilling Echoes': British Jews Join the Fight for Uighur Human Rights in China

Shachar Peled

Haaretz, December 25, 2020

<https://www.haaretz.com/world-news/europe/.premium-chilling-echoes-british-jews-join-the-fight-for-uighur-rights-in-china-1.9398574>

- What started out as a one-man protest over reported abuse of Muslim minority groups has, nearly two years on, become a wider Jewish protest movement where memories of the Holocaust are never far from demonstrators' minds.
- Every Tuesday and Wednesday night, rain or shine, he's there: an Orthodox Jewish man holding a protest sign in front of a Chinese Embassy building in Hampstead, an affluent neighborhood in northwest London.
- He's demonstrating against the alleged atrocities taking place in China's far-west Xinjiang province, where millions of Uighurs and other Muslim minorities are reportedly being detained in camps or used as forced labor.
- Andrew, a northwest London resident, prefers to be identified only by his first name. He's a businessman in his 50s, married with children, and fears potential repercussions from the Chinese.
- "It's more for security than for any other reason; we're dealing with serious matters and people disappear – but we can't sit idly by," he told Haaretz over the phone. "I'm a typical Haredi Jew, I'm not an activist. This isn't my normal day-to-day life," he says. But in early 2019, when pictures of the Uighur indoctrination camps emerged in the press, he says he felt something had to be done.
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41. China detains record number of journalists in bleak year for free speech, followed by Turkey

Didi Tang

Times of London, December 17, 2020

<https://www.thetimes.co.uk/article/beijing-detains-record-number-of-journalists-in-bleak-year-for-free-speech-3pw86gg56>

- China has jailed more journalists than any other country this year, including at least four for reporting on the coronavirus outbreak.
- Beijing detained 47 journalists, the second year it has jailed the most, followed by Turkey and Egypt, which arrested 37 and 27 respectively, according to the Committee to Protect Journalists, a New York-based organisation.
- At least 274 were detained globally in the year to December 1, making 2020 the worst on record, the group said, noting that several governments had cracked down on coverage of the virus or tried to suppress reporting of political unrest.
- ...

#### 42. China: Repression Threatens Winter Olympics

Human Rights Watch, December 22, 2020

<https://www.hrw.org/news/2020/12/22/china-repression-threatens-winter-olympics>

- (New York) –The Chinese government’s heightened repression from Xinjiang to Hong Kong threatens its hosting of the 2022 Winter Olympics, Human Rights Watch said today in a letter to the International Olympic Committee (IOC) President Thomas Bach. The Beijing Winter Olympics are scheduled to begin on February 4, 2022.
- Human Rights Watch detailed extensive concerns about the human rights climate for hosting the games in China. These include the lack of media and internet freedom, the incarceration of more than a million Turkic Muslims in “political education” camps in Xinjiang, the lack of transparency in labor supply chains, and increasing free speech restrictions in Hong Kong. The IOC should immediately conduct robust human rights due diligence around the preparations for the 2022 Beijing Olympics and explain its efforts to manage human rights risks connected to the Games by February 2021, one year ahead of the games.
- “The Chinese government’s intensifying crackdown undermines the basic rights that are essential to hosting the Olympics,” said Minky Worden, director of global initiatives at Human Rights Watch. “By the start of the one-year clock in February, the IOC needs to explain how human rights protections will be met.”
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#### 43. Chinese Journalist Who Documented Communist History Is Detained in Beijing

Amy Qin

New York Times, December 18, 2020

<https://www.nytimes.com/2020/12/18/world/asia/chinese-journalist-du-bin-detained.html>

- As China intensified its clampdown on independent reporting, the authorities detained a journalist who recently worked on books that were critical of Communism and the Chinese Communist Party, the journalist's friends and family said on Friday.
- The journalist, Du Bin, 48, was detained on Wednesday by police officers in Beijing, said his sister, Du Jirong. Police officers told Ms. Du on Thursday that her brother had been placed under administrative detention for "picking quarrels and provoking trouble." The vaguely worded offense is one that the government often uses to quell activism and discussion of social and political issues.
- Friends of Mr. Du, who worked in the past as a freelance photographer for The New York Times, say they believe his detention may have been connected to several of his recent book projects.
- One book, published in Taiwan in 2017, was a historical account of what is known as the "siege of Changchun," when Communist troops blockaded the northeastern Chinese city in 1948 to starve out their rival Nationalist soldiers, leading to the deaths of at least 160,000 civilians. Another book by Mr. Du, about the more nefarious aspects of Lenin's experiments with Communism, was scheduled to be published in Taiwan on Jan. 1, 2021.
- Liu Hua, a friend of Mr. Du's, said that writing books had been a small but important source of income for the journalist. She also said that Mr. Du had recently been summoned several times by police officers and told to stop posting about sensitive subjects online.
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#### 44. Pompeo Weighs Genocide Designation for China

Colum Lynch, Robbie Gramer, and Amy MacKinnon  
Foreign Policy, December 23, 2020

<https://foreignpolicy.com/2020/12/23/pompeo-weighs-genocide-designation-china-uighur-xinjiang/>

- U.S. Secretary of State Mike Pompeo has ordered a review to determine whether China's repression of ethnic Uighurs in Xinjiang amounts to genocide, several officials and people familiar with the matter said, raising expectations that America's top diplomat may charge China with committing genocide before he leaves office next month.
- Pompeo has instructed Morse Tan, the U.S. ambassador-at-large for the Office of Global Criminal Justice, to oversee the internal review. The review would involve an assessment by the State Department's acting legal advisor, Marik String, and the head of the State Department's internal intelligence shop, as well as the department's human rights and regional bureaus, according to current and former officials.
- The review could trigger a final determination from the United States, following years of pressure from U.S. lawmakers and human rights organizations, and would be a significant symbolic and diplomatic message by itself. But what the outgoing Trump and incoming Biden administrations decide to do if and when the determination is made matters as much, if not

more, human rights experts said—as it could include imposing sanctions or other economic penalties.

- Officials said the timing of when the determination will be made is unclear. If it is made in the final weeks of the Trump administration, it could significantly raise tensions between Washington and Beijing just as President-elect Joe Biden enters office—though Biden’s campaign already used the word “genocide” to describe the crackdowns in Xinjiang as early as August.
- ...

### **Industrial Policies and Economic Espionage**

#### 45. China plots ‘rectification’ drive to bring Jack Ma’s Ant Group to heel

Ryan McMorrow and Tom Mitchell

Financial Times, December 30, 2020

<https://www.ft.com/content/84d57797-4211-4658-ac54-ebdcb5146151>

- Beijing is accelerating plans to bring Jack Ma’s Ant Group more closely under its control as part of a “rectification” drive that would make it difficult for one of China’s richest men to fully rebuild his online empire.
- Ant’s consumer lending unit and other fast-growing parts of the financial technology group will be carved out into a new financial holding company to be regulated by the People’s Bank of China, according to people briefed on discussions between the central bank and the company.
- The reorganisation would bring Ant directly under the thumb of the regulators Mr Ma has long brushed up against, with public critiques that irked authorities and officials at China’s state-owned banks. The PBoC issued a public rebuke of Ant at the weekend, calling on the company to be overhauled and accusing it of “turning a blind eye to compliance requirements”.
- One former regulator said: “The best solution is to break up Ant into a finance unit for its online lending, brokerage and insurance businesses that will be under full regulatory oversight, and a less regulated technology and data unit.”
- Mr. Ma has long needed officials with his ambitions to reshape the country’s state-led financial system.
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#### 46. New York Stock Exchange again says it will delist 3 Chinese telecoms

Orion Rummier

Axios, January 6, 2020

<https://www.axios.com/china-new-york-stock-exchange-donald-trump-4288862e-c994-4343-9eca-eb8daf3268d2.html>

- The New York Stock Exchange again reversed course Wednesday and announced it would delist three major Chinese telecom companies — China Mobile, China Telecom, China Unicom Hong Kong.
- The backdrop: The NYSE originally announced it would delist the companies on New Year's Eve in order to comply with a White House executive order. The exchange then reversed course late on Monday and said it would no longer delist the telecoms.
- Why it matters: The delisting complies with a November executive order that restricts American companies and individuals from owning shares in 31 Chinese companies with links to the People's Liberation Army, as part of an eleventh-hour effort from the Trump administration to increase pressure on China.
  - The NYSE said its latest reversal came after the Treasury Department's Foreign Assets Control office told the exchange on Tuesday that President Trump's order explicitly applies to equity-related securities of the three companies.
  - Trump signed a separate executive order on Tuesday to prohibit transactions with eight Chinese software applications, including Alipay and WeChat Pay. The White House deemed the apps a national security threat given their ability to access private information about their users.
- What's next: Trading in securities associated with the three companies will be suspended early on Jan. 11.

#### 47. There's no place for a Jack Ma in today's China

Jane Li

Quartz, December 31, 2020

<https://qz.com/1946723/theres-no-place-for-a-jack-ma-in-todays-china/>

- About a year before Beijing suspended Ant Group's monster IPO, the Communist Party's official mouthpiece broadcast a stark message to Jack Ma, founder of the Alibaba tech empire that launched the fintech giant.
- "There is no so-called Ma Yun era, but only an era that has Ma Yun in it...no matter whether it's Ma Yun, Ma Huateng, Elon Musk, or we ordinary people, those who achieve their greatest potential are those who seize the opportunities that already exist within the era," said an online People's Daily editorial. (Ma Yun is Jack Ma's Chinese name, and Ma Huateng is the founder of Alibaba's rival, the social media and gaming giant Tencent.)
- "We believe, as long as entrepreneurs can have a clear understanding of the era, and embrace and grab the current opportunities, there will be more great enterprises and entrepreneurs in China," it concluded.

- The message came shortly after Ma signed off as Alibaba’s chairman at a ceremony attended by tens of thousands of employees, and was seen by many as signaling the Communist Party’s increasing concern about Ma’s superstar status, and the enormous influence of his e-commerce and fintech businesses on everything from how China shops, to how it spends, and saves. As the face of China tech, and almost an unofficial ambassador for China, Ma was the first Chinese businessman to enjoy international recognition—many of his remarks have become motivational memes on YouTube—thanks to his fluent English and freewheeling personality. He regularly attended international conferences like Davos where he gave politician-like speeches, enchanted employees by dancing dressed up as Michael Jackson at a company event, and even showed off his kung fu skills in a short film in 2017.

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#### 48. Party Committees in the Private Sector: Rising Presence, Moderate Prevalence

Neil Thomas

Marco Polo, December 16, 2020

<https://macropolo.org/party-committees-private-sector-china/?rp=m>

- Despite China’s authoritarian system, business is a powerful force. Private firms constitute 84.1% of all enterprises, increasing from just 443,000 in 1996 to 15.6 million in 2018. That’s why General Secretary Xi Jinping hopes to lift the presence and power of “Party organizations” (dang zuzhi)—to boost private sector compliance with central priorities.
- Although these Party committees have existed in some private companies for decades, concerns about political interference in corporate decision-making are growing. But just how prevalent are Party organizations in the private sector? They are less ubiquitous than one might expect under Xi, according to the All-China Federation of Industry and Commerce (ACFIC), the Party-led group responsible for the political coordination of private business.
- Data based on ACFIC corporate surveys, which are more consistent and contemporary than figures from the Party’s Organization Department, show that: 1) The prevalence of Party organizations in private firms has continued to grow under Xi, but falls short of a majority; 2) Party organizations are widely present in the largest private enterprises; and 3) Party organizations remain uncommon in foreign companies.
- Rising Presence, Moderate Prevalence
- The share of private firms with Party organizations has climbed steadily, according to ACFIC’s Chinese Private Enterprise Survey (CPES), a long-running official survey of thousands of private firms. The most recent CPES found that 48.3% of private firms had Party organizations in 2018, up from 35.6% in 2012, meaning average annual growth of 2.1% over Xi’s tenure (see Figure 1).
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49. Amazon Banned from Using AWS Logo in China Trademark Ruling

Yang Jie

Wall Street Journal, January 5, 2021

<https://www.wsj.com/articles/amazon-banned-from-using-aws-logo-in-china-trademark-ruling-11609841232>

- The AWS trademark belongs to a Chinese software services company, Beijing's high court rules
- Amazon. AMZN 0.73% com Inc. can't use its cloud-computing business's AWS logo in China, a Beijing court ruled, the latest headache for a company that has already been hampered by Chinese regulations and rivals.
- The Beijing Municipal High People's Court ruled that the trademark for the term "AWS" belonged to ActionSoft Science & Technology Development Co., a Chinese software and data services company, according to a court verdict published Dec. 30.
- The court ordered Amazon to stop using the term AWS or any similar logos in China and pay compensation of 76.5 million yuan, equivalent to \$11.8 million, to ActionSoft. The verdict was dated May 2020 but was released at the end of last month. Chinese courts often publish rulings months after they are made.
- An Amazon representative said: "Amazon was the first to use the AWS logo in China to sell cloud services by many years. We strongly disagree with the court's ruling and have appealed the case to the Supreme People's Court."
- Beijing-based ActionSoft didn't reply to a request for comment.
- On Amazon's cloud-computing service website in China, the term AWS, which stands for Amazon Web Services, was still frequently used as of Tuesday. A note at the bottom of its main webpage said AWS is used as an abbreviation and "is not displayed herein as a trademark."
- The Supreme People's Court is China's highest court. When an appeal is submitted, the lower court's decision generally doesn't take legal effect until the higher court reaches a decision, lawyers familiar with Chinese law said.
- Amazon is a relatively small player in China's cloud market, which is dominated by local rivals. Although the verdict is a headache for the U.S. company, the lawyers said it is unlikely to bring Amazon's cloud business in China to a halt, because the company can expect to be able to continue its business by using a different trademark.
- ActionSoft registered AWS as a trademark for its cloud-computing services in China in 2004, while Amazon registered AWS with the smile logo in 2012, according to China's official trademark database.



- Over the years, both companies have filed a series of applications to register their versions of AWS under various business categories. In September 2013, China's trademark regulator overturned some of Amazon's attempts, citing conflicts with ActionSoft's registrations, according to the court filing.
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50. From "China Inc." to "CCP Inc.": A New Paradigm for Chinese State Capitalism

Jude Blanchette

China Leadership Monitor, December 1, 2020

<https://www.prcleader.org/blanchette>

- CCP General Secretary Xi Jinping has overseen a significant transformation of China's domestic economic system, undergirded by important new reforms that have drastically expanded the reach of the Chinese state into the economy and Chinese firms. This has included the integration of CCP organizations into public and private firms, the regulatory shift of SASAC from "managing enterprises" to "managing capital," and the role of government guidance funds in driving industrial policy. The overall change in China's economic and regulatory structure – and the political control wielded by the CCP – combined with the Xi era blending of the public and private, and market and planning, is of such a proportion that it marks a new paradigm in China's development trajectory.
- Aside from perhaps only Deng Xiaoping, no other modern Chinese leader has placed as much emphasis on improving the overall resiliency of the systems and institutions that underpin national power as has Xi Jinping. In addition, Xi, even more than Deng, has expended significant effort on constructing a system to balance the evolving economic realities of global integration with the foundational political imperatives of keeping the Chinese Communist Party (CCP) in power.
- The effects (both intended and otherwise) of Xi's nearly decade-long campaign to reforge the CCP's governing capacity and capabilities have been profound, ranging from the unprecedented campaign of repression in the Xinjiang Uyghur Autonomous Region to the expansion of the Party's de facto and de jure authority over the State Council (i.e., the government).
- But perhaps one of the most far-reaching evolutions to have occurred on Xi's watch is the extended reach and power of the country's global state capitalist system, or what some have dubbed "China Inc." Much of the attention on China Inc. was initially focused on the growing international footprint of Chinese firms – both private and state-owned – via strategic projects such as the Belt and Road Initiative, while less attention was given to Xi's impact on domestic regulatory, policy and the political underpinnings of China's global reach. Yet since Xi's accession in late 2012, and picking up speed in 2015–16, important changes to the political, regulatory, and financial architecture that underpin China's state capitalist system have been so pronounced that it is time to replace the existing "China Inc." framework (which itself was plagued by shifting definitions) in favor of a new name, which I call CCP Inc.

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### Cyber and Information Technology

#### 51. German ministers agree security law with high hurdles for suppliers

Reuters, December 16, 2020

<https://uk.reuters.com/article/germany-huawei-tech/german-ministers-agree-security-law-with-high-hurdles-for-suppliers-idUKKBN28Q1M3>

- BERLIN (Reuters) - German ministers on Wednesday agreed an IT security law setting high hurdles for makers of telecommunications equipment for next-generation networks, such as China's Huawei.
- While the law falls short of a blanket ban on using products made by the Chinese state-owned manufacturer in 5G networks, as demanded by the United States, it sets out circumstances under which individual components or entire companies can be banned.
- Huawei's critics say that close links to China's security services mean that embedding it in the ubiquitous mobile networks of the future could give Chinese spies and even saboteurs access to swathes of essential infrastructure.
- Huawei and the Chinese government reject these claims, saying that they are motivated by a protectionist desire to support non-Chinese rivals.
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#### 52. Exclusive: U.S. warns Pacific islands about Chinese bid for undersea cable project – sources

Jonathan Barrett

Reuters, December 17, 2020

<https://uk.reuters.com/article/uk-china-pacific-exclusive/exclusive-u-s-warns-pacific-islands-about-chinese-bid-for-undersea-cable-project-sources-idUKKBN28R0KY>

- SYDNEY (Reuters) - The United States has warned Pacific island nations about security threats posed by a Chinese company's cut-price bid to build an undersea internet cable, two sources told Reuters, part of an international development project in the region.
- Huawei Marine, which was recently divested from Huawei Technologies Co Ltd and is now majority-owned by another Chinese firm, submitted bids along with French-headquartered Alcatel Submarine Networks (ASN), part of Finland's Nokia, and Japan's NEC, for the \$72.6 million project backed by the World Bank and Asian Development Bank (ADB), the sources with direct knowledge of the project details said.
- The project is designed to improve communications to the island nations of Nauru, Federated States of Micronesia (FSM) and Kiribati.

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53. Huawei to build network equipment factory in France

Reuters, December 17, 2020

<https://www.reuters.com/article/huawei-tech-france/huawei-to-build-network-equipment-factory-in-france-idUSL1N2IX244>

- PARIS (Reuters) - China's Huawei said on Thursday it would invest 200 million euros in building a mobile phone network equipment factory in the east of France, pressing ahead with the roll-out despite French curbs on firms using its 5G gear.
- The plant will initially employ 300 people, growing to 500 in the longer term, and its products will go to Huawei's European clients.
- The Chinese technology company, which had already floated plans for a French factory, said in March it would persevere regardless of whether the French government cracked down on telecoms companies using its equipment.
- The plant is part of efforts to ease worldwide concerns stoked by U.S. charges, repeatedly denied by Huawei, that Beijing could use the company's equipment for spying.
- France has not banned mobile phone operators from using Huawei equipment outright, but in July authorities told telecoms companies planning to buy firm's 5G equipment that they would not be able to renew licences for the gear once they expired, effectively phasing it out of mobile networks.
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54. Alibaba facial recognition tech specifically picks out Uighur minority – report

Reuters, December 17, 2020

<https://uk.reuters.com/article/uk-alibaba-surveillance/alibaba-facial-recognition-tech-specifically-picks-out-uighur-minority-report-idUKKBN28R0IV>

- SHANGHAI (Reuters) - Technology giant Alibaba Group Holding Ltd has facial recognition technology which can specifically pick out members of China's Uighur minority, surveillance industry researcher IPVM said in a report.
- Alibaba itself said it was "dismayed" a unit developed software which can tag ethnicity in videos, and that the feature was never intended to be deployed to customers.
- The report comes as human rights groups accuse China of forcing over 1 million Muslim Uighurs into labour camps in the region of Xinjiang, and call out firms suspected of complicity.

- China has repeatedly denied forcing anyone into what it has called vocational training centres, and has also said Xinjiang is under threat from Islamist militants.
- Still, sensitivities have prompted caution among Chinese internet firms which often self-censor to avoid running afoul of a government which strictly controls online speech, and which last month published draft rules to police livestreaming.
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#### 55. Trump Bans Alipay and 7 Other Chinese Apps

Ana Swanson

New York Times, January 5, 2021

<https://www.nytimes.com/2021/01/05/technology/china-app-ban.html>

- WASHINGTON — President Trump on Tuesday signed an executive order prohibiting transactions with eight Chinese software applications, including Alipay, the payment platform owned by Ant Group, and WeChat Pay, which is owned by Tencent.
- The move, two weeks before the end of Mr. Trump’s term, could help lock in his administration’s harsher stance toward China and is likely to further rankle Beijing. But defining the scope of the order and enforcing it would presumably fall to the incoming Biden administration, which has not clarified whether it will try to enact Mr. Trump’s bans, creating uncertainty about the efficacy of the move.
- The executive order, issued late Tuesday, will bar any transactions with “persons that develop or control” the apps of Alipay, CamScanner, QQ Wallet, SHAREit, Tencent QQ, VMate, WeChat Pay, WPS Office and their subsidiaries after a period of 45 days.
- In the order, the president said that China had been using “bulk data collection” to advance its economic and national security agenda, and that the targeted apps put Americans at risk.
- “The United States has assessed that a number of Chinese connected software applications automatically capture vast swaths of information from millions of users in the United States, including sensitive personally identifiable information and private information,” the order said. “At this time, action must be taken to address the threat posed by these Chinese connected software applications,” he wrote.
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### **Military and Security Threats**

#### 56. China puts tanks to the test in a mock street battle for Taiwan

Minnie Chan

South China Morning Post, December 17, 2020

<https://www.scmp.com/news/china/military/article/3114228/china-puts-tanks-test-mock-street-battle-taiwan>

- The Type 96A tank is shown in a simulated street battle as training for the PLA's mission to take back Taiwan.
- CCTV footage highlights the PLA's understanding that urban combat would be inevitable after landing on the island
- But Taiwan's own military has the advantage of being most familiar with the island's complex geography.
- ...

57. [Japan official, calling Taiwan 'red line,' urges Biden to 'be strong'](https://www.reuters.com/article/us-japan-usa-taiwan-china-idUSKBN28Z0JR)

Ju-min Park

Reuters, December 25, 2020

<https://www.reuters.com/article/us-japan-usa-taiwan-china-idUSKBN28Z0JR>

- A top Japanese defence official on Friday urged U.S. President-elect Joe Biden to "be strong" in supporting Taiwan in the face of an aggressive China, calling the island's safety a "red line."
- "We are concerned China will expand its aggressive stance into areas other than Hong Kong. I think one of the next targets, or what everyone is worried about, is Taiwan," State Minister of Defense Yasuhide Nakayama told Reuters.
- In an interview, Nakayama, Japan's deputy defence minister, urged Biden to take a similar line on Taiwan as outgoing President Donald Trump, who has significantly boosted military sales to the Chinese-claimed island and increased engagement.
- Japan's engagement with Taiwan has also flourished in recent years on a largely non-governmental basis. Tokyo maintains a "one China" policy, delicately balancing its relationships with neighbouring giant China and its longtime military ally in Washington.
- Japan shares strategic interests with Taiwan, which sits in sea lanes through which much of Japan's energy supplies and trade flow.
- "So far, I haven't yet seen a clear policy or an announcement on Taiwan from Joe Biden. I would like to hear it quickly, then we can also prepare our response on Taiwan in accordance," Nakayama said.
- During the presidential campaign, Biden called for strengthening ties with Taiwan and other "like-minded democracies."
- ...

58. China used stolen data to expose CIA operatives in Africa and Europe

Zach Dorfman

Foreign Policy, December 21, 2020

<https://foreignpolicy.com/2020/12/21/china-stolen-us-data-exposed-cia-operatives-spy-networks/>

- Around 2013, U.S. intelligence began noticing an alarming pattern: Undercover CIA personnel, flying into countries in Africa and Europe for sensitive work, were being rapidly and successfully identified by Chinese intelligence, according to three former U.S. officials. The surveillance by Chinese operatives began in some cases as soon as the CIA officers had cleared passport control. Sometimes, the surveillance was so overt that U.S. intelligence officials speculated that the Chinese wanted the U.S. side to know they had identified the CIA operatives, disrupting their missions; other times, however, it was much more subtle and only detected through U.S. spy agencies' own sophisticated technical countersurveillance capabilities.
- The CIA had been taking advantage of China's own growing presence overseas to meet or recruit sources, according to one of these former officials. "We can't get to them in Beijing, but can in Djibouti. Heat map Belt and Road"—China's trillion-dollar infrastructure and influence initiative—"and you'd see our activity happening. It's where the targets are." The CIA recruits "Russians and Chinese hard in Africa," said a former agency official. "And they know that." China's new aggressive moves to track U.S. operatives were likely a response to these U.S. efforts.
- At the CIA, these anomalies "alarmed chiefs of station and division leadership," said the first former intelligence official. The Chinese "never should have known" who or where these undercover CIA personnel were. U.S. officials, lacking a smoking gun, puzzled over how China had managed to expose their spies. In a previous age, they might have begun a mole hunt, looking for a single traitor in a position to share this critical information with the other side, or perhaps scoured their records for a breach in a secret communications platform.
- But instead, CIA officials believed the answer was likely data-driven—and related to a Chinese cyberespionage campaign devoted to stealing vast troves of sensitive personal private information, like travel and health data, as well as U.S. government personnel records. U.S. officials believed Chinese intelligence operatives had likely combed through and synthesized information from these massive, stolen caches to identify the undercover U.S. intelligence officials. It was very likely a "suave and professional utilization" of these datasets, said the same former intelligence official. This "was not random or generic," this source said. "It's a big-data problem."
- The battle over data—who controls it, who secures it, who can steal it, and how it can be used for economic and security objectives—is defining the global conflict between Washington and Beijing. Data has already critically shaped the course of Chinese politics, and it is altering the course of U.S. foreign policy and intelligence gathering around the globe. Just as China has sought to wield data as a sword and shield against the United States, America's spy agencies have tried to penetrate Chinese data streams and to use their own big-data capabilities to try to pinpoint exactly what China knows about U.S. personnel and operations.

- This series, based on extensive interviews with over three dozen current and former U.S. intelligence and national security officials, tells the story of that battle between the United States and China—a conflict in which many believe China possesses critical advantages, because of Beijing’s panopticon-like digital penetration of its own citizens and Chinese companies’ networks; its world-spanning cyberspying, which has included the successful theft of multiple huge U.S. datasets; and China’s ability to rapidly synthesize—and potentially weaponize—all this vast information from diverse sources.
- China is “one of the leading collectors of bulk personal data around the globe, using both illegal and legal means,” William Evanina, the United States’ top counterintelligence official, told Foreign Policy. “Just through its cyberattacks alone, the PRC has vacuumed up the personal data of much of the American population, including data on our health, finances, travel and other sensitive information.”
- This war over data has taken on particularly critical importance for the United States’—and China’s—spy agencies. In the intelligence world, “information is king, and the more information, the better,” said Steve Ryan, who served until 2016 as deputy director of the National Security Agency’s Threat Operations Center and is now the CEO of the cybersecurity service Trinity Cyber. In the U.S.-Soviet Cold War, intelligence largely came in piecemeal and partial form: an electronic intercept here, a report from a secret human source there. Today, the data-driven nature of everyday life creates vast clusters of information that can be snatched in a single move—and then potentially used by Beijing to fuel everything from targeting individual American intelligence officers to bolstering Chinese state-backed businesses.
- Fundamentally, current and former U.S. officials say, China believes data provides security: It ensures regime stability in the face of internal and external threats to the Chinese Communist Party (CCP). It was a combination of those threats that created the impetus for China’s most aggressive counterintelligence campaign against the United States yet.
- The CIA declined to comment for this story. The Chinese Embassy in Washington, D.C., did not respond to multiple requests for comment.
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#### 59. US Navy to adopt 'more assertive posture' against China and Russia

Helen Davidson

The Guardian, December 18, 2020

<https://www.theguardian.com/us-news/2020/dec/18/us-navy-to-adopt-more-assertive-posture-against-china-and-russia>

- The Pentagon has warned that US maritime forces will become more forceful in responding to acts of aggression, expansionism, and breaches of international law, citing Beijing in particular, which has been criticised for expansionist ambitions in the South China Sea.

- A major new report signed by the heads of the US Marine Corps, Navy, and Coast Guard warned the “rules-based international order is once again under assault”, and the security environment had dramatically changed since 2015.
- The report said China and Russia were now “determined rivals” of the US, with China presenting “the most pressing long-term strategic threat”.
- “China is the only rival with the combined economic and military potential to present a long term, comprehensive challenge to the US,” the report said.
- “It seeks to corrode international maritime governance, deny access to traditional logistical hubs, inhibit freedom of the seas, control use of key chokepoints, deter our engagement in regional disputes, and displace the United States as the preferred partner in countries around the world.”
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60. China blasts NATO with British aircraft carrier ‘heading to South China Sea’

Catherine Wong

South China Morning Post, January 1, 2021

<https://www.scmp.com/news/china/military/article/3116146/china-blasts-nato-british-aircraft-carrier-heading-south-china>

- China said it would take necessary measures to safeguard its sovereignty as it warned against the British navy dispatching warships to the disputed South China Sea.
- The remarks were made in response to expectations that Britain’s newest aircraft carrier, HMS Queen Elizabeth, will be deployed to the Pacific region, including the contentious sea, for its first operational mission.
- “The Chinese side believes that the South China Sea should not become a sea of great power rivalry dominated by weapons and warships,” defence ministry spokesman Tan Kefei said when asked about Britain’s plans during a monthly press conference in Beijing on Thursday.
- Former British defence minister Gavin Williamson had said in February 2019 that HMS Queen Elizabeth’s first operational mission would include the South China Sea, “making a global Great Britain a reality”.
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### **One Belt, One Road Strategy**

61. Sri Lanka to scrap Japan-funded infrastructure projects

Marwaan Macan-Markar

Nikkei Asia, December 29, 2020



<https://asia.nikkei.com/Politics/International-relations/Sri-Lanka-to-scrap-Japan-funded-infrastructure-projects>

- COLOMBO -- Sri Lanka's reputation is taking a hit after its year-old government says it wants to pull the plug on two multimillion dollar infrastructure projects funded by Japan and guaranteed by its predecessor. If that happens, it would be the second time that a newly elected Sri Lankan government has backed out of such agreements.
- The ultranationalist government of President Gotabaya Rajapaksa wants to terminate the agreement with Japan, which had for decades been the largest supplier of development assistance to Sri Lanka, for the construction of an elevated commuter rail project through Colombo and the development of a container terminal in the Colombo Port.
- A veteran Sri Lankan diplomat warned that the country will lose out if governments continue to abandon sovereign guarantees. "The last government was ham-handed in the way it handled the Chinese projects and now we face a similar situation with Japan," the diplomat told Nikkei Asia. "Japan's development assistance to Sri Lanka made over the years has been without any strategic or political pressure."
- Government officials recently told local media that the first phase of the \$1.8 billion Light Rail Transit project, to be funded through a Japanese loan, "is not a priority for the government," echoing sentiments voiced since middle of the year. Officials also said the government sees no role for Japan in the Eastern Container Terminal venture, which Tokyo was to fund with a \$500 million loan.
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## 62. China's Belt and Road: Down but not Out

Matthew Mingey and Agatha Kratz

Rhodium Group, January 4, 2021

<https://rhg.com/research/bri-down-out/>

- Recent Boston University (BU) research showing a sharp drop in Chinese overseas policy bank lending has fueled speculation that China's Belt and Road Initiative (BRI) may be fading away. The slowdown in BRI activity is real: in previous research, we showed that China's outbound lending has been in decline since 2016 (see *Booster or Brake*). Beyond the BU numbers, weak economic conditions and debt pressure in several recipient states suggests that lending will have slowed to new lows in 2020. However, we suspect the 2019 slowdown was not as dramatic as the BU numbers indicate. And the numbers do not reflect the changes underway in China's ambitious initiative.
- Our Take on the BU data
- The newly released dataset from Boston University shows a dramatic drop in China's outbound loans after 2016, with new lending commitments from China's two main policy banks,

China Development Bank and the Export-Import Bank of China (China EXIM), falling to USD 3.9 billion in 2019. This would be a drop of around 94 percent from the estimated peak of USD 75 billion in 2016. These numbers have created controversy, with several critics questioning the size of the drop, the completeness of the dataset, and the accuracy of specific country data.

- Our own analysis of the BU dataset supports this criticism—in part. The BU authors make structural and methodological choices that may leave observers with a distorted view of China’s outbound lending and exaggerate the drop in China’s loans. First, the BU dataset excludes loans from China’s commercial banks, which are increasingly active players in China’s cross-border finance. The BU team is clear about this decision, arguing that because policy banks work as “first movers” to unlock later commercial participation, they are the most important lenders to governments and SOEs. Accordingly, they say their data is intended only to describe China’s lending to governments, not to serve as a “sole barometer” for the broader BRI.

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## Opinion Pieces

### 63. [The European Union, CAI, and the abyss](#)

Amrita Narlikar and Samie Saran

Observer Research Foundation, January 2, 2021

<https://www.orfonline.org/expert-speak/the-european-union-cai-and-abyss/>

- The CAI — despite Ursula von der Leyen’s claim that it will help the EU defend multilateralism — is not multilateral at all. It is a bilateral deal with an authoritarian power that seems to have a very different understanding of multilateralism.
- On 30 December 2020, an EU Press Release proudly declared “Leaders concluded in principle the negotiations on the EU-China Comprehensive Agreement on Investment (CAI).” The conclusion — at least of this stage of the negotiations (the agreement will still have to withstand the scrutiny of the European Parliament) — has already spawned a cottage industry of commentaries.
- The great and the good, particularly from the fields of Economics and Law, are having quite a time pondering and speculating over the (rather limited) detail that is available. Academic chatter is bubbling away on a range of issues: On what the agreement could mean for issues of Level Playing Field; how the terms that the EU has secured for itself compare with the US-China Phase 1 agreement (note that even though the EU-China deal is on investment while the US-China was on trade, there are some overlaps on issues like Forced Technology Transfer); how enforceable would social and environmental clauses turn out to be that the EU is touting as a major win; and so on and so forth? But much of this punditry, while tantalisingly delicious in the technocratic safety bubble that it lives in, reminds us of Nero fiddling as Rome burns. This is not the time to be bean-counting economic gains and losses. The abyss, which the EU has been gazing so greedily into, is staring back its Medusa stare.

- The abyss
- There is much that is wrong with the deal, which we could point to, in both process and implications.
- We could look askance upon the remarkable haste with which the European Union — normally a lumbering, complicated, and bureaucratic machine — has pushed this deal through. Or we could suggest that the Zaubertrank at work now be made the official beverage for the bureaucracy in Brussels.
- We could raise an eyebrow at the fact that the final negotiations took place at what is usually expected to be the quietest time of the year: Holiday closures, understaffed newspaper offices, and tired citizens desperately trying to catch a breath or two in the period that is so sweetly described in German as “zwischen den Jahren” (the quiet time in between the years). Our raised eyebrows could perhaps rise further still if we turned our attention to the fact that people across Europe are caught in a surging second wave of the coronavirus pandemic (on the day that the deal was signed, Germany reached a new and depressing record of daily deaths due to COVID-19). And we could applaud that neither the pandemic nor the holiday despair could prevent this ‘systemic rivalry’ from being recast.
- We could question not only the timing of the EU-China party, but also the choice of protagonists: In what capacity was President Macron present at this meeting? The impression that screenshots of the meeting give is that the two largest economies of Europe — Germany and France — are in the driver’s seat; all the attention that the union claims to give to representation and accountability for its remaining 25 members (to be reduced to 24 with Britain exiting on 31 December) is little more than lip-service.
- We could even — if we were thus inclined — point out politely that we are not convinced by the European Commission President, Ursula von der Leyen’s, claim that the “Agreement will uphold our interests and promotes our core values. It provides us a lever to eradicate forced labour.” The clauses, at least as they are reported in the EU’s Press release, are weak. They are, in fact, so weak, that one might almost want to graffiti LOLOL (Laugh Out Loud On Labour standards) all over it, were it not for the tragic and horrendous human rights violations that are reported in Xinjiang.
- We could raise all these issues, and more along such lines. But they still would not get us to the crux of a matter that is deeply political.
- The abyss stares back
- International trade and investment — for all the conceits that many economists and lawyers seem to have about these issues — are inherently political. And they have become even more political in the context of China’s rise: Not only because of the use and abuse of multilateral rules by non-market economies (which is what defenders of CAI tend to focus on), but also because of the fundamental difference in values that should define the goals of multilateral cooperation. Contra the inclination of technocrats to reduce values to labour and environmental standards, values include first-order principles of democracy, liberalism, pluralism, and more.

And international trade and investment, especially in a world where interdependence can be weaponised, have become just too important to be left in disciplinary silos or technocratic bubbles. CAI is not “just” a matter of investment, or even standards; it is a matter that has potentially serious security implications. It begins to dramatically alter who we are as a society, community and people.

- China has, perhaps, more than ever in 2020, given Europe ample evidence of these differences. It has threatened and bullied democratic Australia for having the gumption to push for an enquiry on the origins of the pandemic. Its new security law has all but abolished the promise of “one country two systems” for Hong Kong. Its adventurism in the neighbouring seas has increased. Its border conflict with India has escalated to a new level. Its increasing use of “wolf-warrior diplomacy” has even given up the pretence of sweet talk on many issues that most democracies hold dear.
- Despite all these clear provocations, the EU has done little to update its strategy. It has — almost religiously — continued to repeat its mantra of 2019: It sees China as its partner, competitor, and rival. This, in fact, was nothing but fence-setting — and with the conclusion of the CAI negotiation, the EU has signalled to its own people, its allies, and indeed to China, which side of the fence it prefers.
- The CAI — despite von der Leyen’s claim that it will help the EU defend multilateralism — is not multilateral at all. It is a bilateral deal with an authoritarian power that seems to have a very different understanding of multilateralism. It comes at an especially ill-opportune time. It signals to China that the EU now, not only turns a blind eye to, but actually rewards its increasingly aggressive behaviour. It suggests that the EU has scarce regard for its closest ally — the United States — which, under the incoming Biden administration, had clearly revealed that it would like to work together on China. It does not reassure other democracies — such as Australia, Japan, and India — and it also undermines the potential for alliances with like-minded players. And the deal is a slap in the face of multilateralism: It shows how, for all its talk in favour of reforming multilateralism, the EU actually attaches greater worth to a bilateral deal with a country that has contributed significantly to the breaking of the system.
- In the 1990s, many were determined to embrace the “middle kingdom” and integrate it with the multilateral trading arrangement. The argument was that this would make China more like ‘us’. Tragically, many in the EU today are more like China instead. This agreement marks the move of the Union from ‘values’ to “valuations” and from ideals to trade.
- Importantly, these are all choices that the EU has made. They cannot be fobbed off on China. China has simply gamed a round of Realpolitik rather effectively. Europe, in contrast, has weakened its own hand, given short shrift to its own values, and undermined the position of its friends and allies.

#### 64. Watching China in Europe – January 2021

Noah Barkin

German Marshall Fund, January 5, 2021

[https://sites-gmf.vuturvevx.com/61/6509/january-2021/january-2021\(1\).asp?sid=d56a12d4-ba2c-41df-be8d-127d9afbad20](https://sites-gmf.vuturvevx.com/61/6509/january-2021/january-2021(1).asp?sid=d56a12d4-ba2c-41df-be8d-127d9afbad20)

- Santa Claus Delivers
- Watching Europe's policy towards China evolve over the past years has been an unnerving experience. One step forward can be followed by two steps backward. One day China is a systemic rival. The next day it's a partner. The message diverges depending on which member state you are listening to. And even within European capitals, differences between political parties and coalition partners can make it challenging to discern the broader direction of travel.
- The final weeks of 2020 were especially bewildering. The investment agreement between the European Union and China that many people—including yours truly—thought was dead in the water only a few weeks ago, miraculously came together after all, upsetting the geopolitical landscape only weeks before Joe Biden enters the White House. Matt Pottinger, the sanest voice on China in the outgoing Trump administration, declared Washington "perplexed and stunned" at the turn of events. In Brussels, there is shock of a different kind. EU officials cannot understand why anyone might be surprised by the sudden conclusion, behind closed doors over the Christmas holidays, of a negotiation that had gone nowhere for the better part of seven years. At the time of writing, we had heard nothing from Angela Merkel, the driving political force behind the deal, or Emmanuel Macron, who quietly backed it—reportedly after winning benefits for Airbus and assurances that it would be ceremoniously finalized during the French presidency of the EU in 2022. Instead, Berlin and Paris have left EU trade negotiators to defend the deal and its geopolitical implications. These off-record briefings have played out against a surreally dissonant flurry of tweets from the European External Action Service (EEAS) condemning the latest draconian sentences handed down to Hong Kong activists and Wuhan whistleblowers.
- China seems to be the only country that is crystal clear about what just happened. After a year in which it showed a disturbing face to the world with its COVID-19 cover-up, its security crackdown in Hong Kong, its Xinjiang denial, and the bullying of too many countries to count, it has been given the biggest Christmas gift of all. There is a Santa Claus after all. He resides in Europe, and he doesn't seem to care whether you've been naughty or nice. Chinese Foreign Minister Wang Yi, whose late-summer European charm offensive ended in disaster after he threatened a Czech politician for visiting Taiwan, was jubilant at the outcome. "China and the EU are comprehensive strategic partners, not systemic rivals," he declared. The EU would contest that of course. After all, you can still find the words "systemic rival" in a document sitting somewhere in Brussels. But European capitals should accept that one of the messages coming out of this deal is precisely what Wang chose to highlight here. The agreement, and the way in which it was wrapped up in the week between Christmas and New Year's, is a powerful geopolitical statement—regardless of how long these negotiations have been going on, and whether or not the EU set a goal two years ago to get this done in 2020.
- A lot of good analysis has been written already about the Comprehensive Agreement on Investment (CAI). Not everyone in Washington believes it is grounds for alarm. Others argue that the EU has sacrificed its values and sunk into the abyss. The truth may be somewhere in between. But one week after Merkel, Macron, Ursula von der Leyen, and Charles Michel got on a videoconference with Xi Jinping to conclude this agreement "in principle," there are some lingering questions which deserve closer examination.

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65. The EU is taking a gamble with China

Constantin Eckner

The Spectator, January 2, 2021

<https://www.spectator.co.uk/article/the-eu-is-taking-a-gamble-with-china>

- It took Brussels and Beijing seven years to agree an investment deal. A deal that, until its conclusion a few days ago, had been largely eclipsed by the Brexit process. Once the negotiations had concluded, however, the European side suddenly came under intense criticism — China, detractors said, was not the sort of country the EU should be cosyng up to.
- That the deal was finalised on the penultimate day of the year was a sure sign that Angela Merkel was pushing for closure. She had stated before the pandemic that advancing EU-China relations would be one of the goals of Germany's EU Council presidency (now passed on to Portugal). A goal for Germany perhaps, but there was substantial opposition to the deal among European heads of states.
- The Netherlands feared that China would never obey the mandatory workers' rights regulation and prohibitions on forced labour. Eastern Europeans — particularly reliant on US military spending to secure their borders — argued that it would not be wise to close a deal before Joe Biden's inauguration, thus reducing his room for manoeuvre in any US talks with China. Other sceptics, including French President Emmanuel Macron, eventually agreed to the deal, but doubts remain. How Merkel convinced the French President, in particular, remains a mystery. One possibility is that the deal will not be ratified until the first half of 2022 when France chairs the EU Council. That way Macron would have time to put pressure on China by threatening to let the deal collapse if Beijing does not follow the workers' rights regulations. Even if that scenario comes to fruition, it is still astonishing how both Merkel and Germany got their way yet again.

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66. What we can do to expose China's abuses

Daniel Finkelstein

The Times, January 5, 2021

<https://www.thetimes.co.uk/article/what-we-can-do-to-expose-chinas-abuses-jbcbjfp9t>

- The former Soviet dissident Natan Sharansky tells a story of the superpower summit between Ronald Reagan and Mikhail Gorbachev in November 1985. The Soviet leader was pressing for better relations but in response Reagan pointed to a group of demonstrators outside the meeting.
- One of the protesters was Sharansky's wife, Avital, seeking her husband's release from a Soviet jail. And Reagan said: "You can keep saying that Sharansky is an American spy but my

people trust that woman. And as long as you keep him and other political prisoners locked up, we will not be able to establish a relationship of trust.”

- Sharansky believes this exchange was crucial to his release. Protest, pressure, shaming and exchanging good relations for good behaviour works.

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#### 67. Confronting China's COVID con

Craig Singleton

The Hill, January 5, 2021

<https://thehill.com/blogs/congress-blog/politics/532639-confronting-chinas-covid-con>

- It has been more than a year since initial reports began surfacing about a mysterious virus spreading throughout central China. Yet millions of lives lost and trillions of dollars later, the world is no closer to understanding COVID-19's origins. If the Chinese government get its way, namely by exerting pressure on the World Health Organization (WHO) to limit the UN body's investigation into the outbreak, we may never learn the truth.
- One thing is clear: It is high time to put an end to China's ongoing cover-up and to demand increased transparency from both Beijing and the WHO, whose reputations have suffered on account of their flawed pandemic responses. The real question is whether the WHO's principal funders — Germany, Australia, Japan, the United States, and the United Kingdom — can foil China's subterfuge before a WHO-led investigatory delegation arrives in China in a few weeks.
- For months, governments and virus experts have been calling for a probe into China's initial COVID-19 deceptions. Media leaks detailing a massive cover-up by the Chinese government at the onset of the pandemic have fueled these demands, in part because Beijing's methods closely mirrored tactics China employed in 2002-2003 to conceal SARS. Meanwhile, as the virus began wreaking havoc around the world, the WHO's leaders issued a series of baffling public statements praising China's pandemic response, all the while privately expressing serious reservations among themselves about Beijing's veracity.
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#### 68. AUDIO - Essential Geopolitics: China vs. Australia

Emily Donahue and Evan Reese

Stratfor, December 8, 2020

<https://worldview.stratfor.com/article/essential-geopolitics-china-vs-australia>

- In this episode of the Essential Geopolitics podcast from Stratfor, a RANE company, Emily Donahue speaks to Stratfor's Asia Pacific analyst, Evan Reese. It is no secret that the relationship between China and Australia seems to get tenser with each passing month. What's behind China's pressure tactics and how long can Australia resist?

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69. The Bill Is Coming Due for China's 'Capitalist' Experiment

Michael Hochberg and Leonard Hochberg

National Review, January 1, 2021

<https://www.nationalreview.com/2021/01/the-bill-is-coming-due-for-chinas-capitalist-experiment/>

- Western companies and governments must prepare themselves for the fallout.
- The Chinese Communist Party (CCP) has re-awoken to a profound truth: Rich, secure capitalists are the natural enemies of authoritarian regimes. In a hybrid autocratic-capitalist model, capitalism is the means to generate wealth, but power is the end goal. Successful capitalists naturally begin to demand that their personal and property rights be protected from authoritarian fiat. Capital in the hands of entrepreneurs is a political resource; it poses a threat to the implementation of centralized plans.
- Realizing this, the CCP has begun to assert control over the private sector by “installing . . . Party officials inside private firms” and having state-backed firms invest in private enterprises. In the absence of civil rights or an independent judiciary, “private” companies have no real independence from the government in China. Dissent and demands for civil rights are a threat to the regime and will be crushed.
- China's shift from encouraging external investment and internal market competition toward treating capitalism as a threat has an obvious historical precedent. From 1921–1928, the Soviet Union instituted a policy of economic liberalization, which allowed for the privatization of agriculture, retail trade, and light industry. This partial and temporary return to a controlled and limited capitalism, known as the New Economic Policy (NEP), saved the Soviet economy from collapse and enabled Russia to modernize. But, in 1928, Stalin suddenly reversed course: He collectivized agriculture and liquidated the most prosperous farmers, thereby necessitating the frequent resort to grain imports, notably from the United States.
- China's own experiment with economic liberalization began in 1981, when Premier Deng Xiaoping began to decentralize and privatize economic activity while continuing to assert the ultimate authority of the CCP. With liberalization, international businesses were invited into China. The price was high: the Chinese regime demanded that they work with and train local firms. This arrangement led to widespread theft of intellectual property, and soon enough, domestic competitors displaced their international rivals in the domestic market, often with the help of government subsidies. CCP-sponsored firms leveraged domestic dominance to enter the international marketplace, undercutting their competitors worldwide. International “partners” were then subjected to asymmetric regulatory action, excluding them from China. (Uber is one recent case of this phenomenon. There are countless others.)
- Now that the West is waking up to this game, the inflow of capital to China is slowing. Is China's neo-mercantilist form of capitalism about to end? That seems unlikely; it is too far entrenched to be uprooted quickly. But the freedom of action accorded to Chinese companies and executives is already being dramatically curtailed as Xi Jinping asserts explicit political



control over the economy. For example, in November, the CCP unexpectedly prevented the IPO of Ant Group, a company whose business model was considered misaligned with the goals of the party.

- International businesses that are heavily invested in the PRC must prepare for the worst: “Offers” of the sort that can’t be refused will be made to coerce the sale of onshore facilities and operations. Given the capital controls imposed on the movement of money out of China, it is likely that many Western investments in China will be confiscated as Deng’s experiment is wound down. Western competitors in the global market should finally recognize that their Chinese competitors are both at the mercy of the CCP and backed by instruments of state power.
- The central conceit of Chinese relations with the West has been that while political authority is monopolized by the CCP, China has a free-market economic system, and should be treated as a free-market trading partner. This was always a convenient fiction. But whatever distance might have existed in the past between economic and political activity in China has disappeared as the party takes control of nominally independent companies.
- A number of Chinese state-backed companies, including some in strategically important industries, have begun to default on their debt obligations. Will international creditors be allowed to claim the assets? Will the equity holders — in many cases the CCP or regional and local governments in China — be wiped out? If these companies are bailed out by the government, will domestic and foreign debt-holders be treated equally? Or will foreign creditors find their assets wiped out, while these companies continue operating under nominally new ownership and perhaps a new corporate brand? It seems a safe bet that foreign debts will be repudiated, either explicitly or implicitly. What was previously commercial debt now has the risks that are typically associated with sovereign debt, which can be canceled by government fiat. In short, a wave of write-downs is coming for Western businesses invested in China.
- Western businesses are not competitors operating in a free market in the PRC. As we wrote in a recent article, the CCP consistently treats western firms as adversaries to the sovereign interests of the PRC and uses all the tools at its disposal to target them. Western business executives need to prepare themselves for the very realistic possibility of extensive confiscation of Western assets in China in the near future. Before this happens, the U.S. government should pass legislation allowing Western companies to claim compensation from CCP-controlled entities in U.S. courts for the confiscation of assets. And since the CCP is asserting control over all Chinese companies, all of these companies should be treated as part of a single, government-controlled entity for purposes of litigation and regulation. When the bill comes due for capitalism in China, the West must be ready.

#### 70. Trapped by Thucydides? Updating the Strategic Canon for a Sinocentric Era

John Sullivan

War on the Rocks, December 28, 2020

<https://warontherocks.com/2020/12/trapped-by-thucydides-updating-the-strategic-canon-for-a-sinocentric-era/>

- Ancient Greek roots run deep in America. “What Athens was in miniature,” Thomas Paine predicted, “America will be in magnitude.” From the beginning of the American experiment, Thucydides’ history of the war between Athens and Sparta provided useful lessons for the nation’s founding fathers. John Adams wrote to his ten year old son, John Quincy, that his future country “may require other Wars, as well as Councils and Negotiations,” adding, “[t]here is no History, perhaps, better adapted to this usefull Purpose than that of Thucydides.” Nearly two centuries later as an emerging Cold War threatened America’s sense of security, Secretary of State George Marshall declared, “I doubt seriously whether a man can think with full wisdom and with deep convictions regarding certain of the basic international issues today who has not at least reviewed in his mind the period of the Peloponnesian War and the Fall of Athens.”
- The end of the Cold War did not result in Thucydides’ retirement. “Whenever we get a new war, we get a new Thucydides,” Joseph Lane astutely noted. Most recently, the text was repurposed in the 21st century by Harvard professor Graham Allison to describe the risks of war with a rising China in terms of a supposed “Thucydides Trap.” In its latest reprise the analogy comes off more strained than illuminating. Neither the United States nor China fits neatly into the old Athens-Sparta antagonist roles, nor does the current international system resemble the system of ancient Greece: two roughly equal alliance structures vying for dominance within the confines of a zero-sum competition. Thucydides examines one possible outcome of an extended contest between two great powers not possessing powerful incentives to prefer coexistence over unilateral dominance. The persistent use (and misuse) of Thucydides has led to problematic thinking about great-power competition with China. It is time to expand our thinking beyond Western perspectives by considering historical works on strategy and rivalry in addition to Thucydides.
- Fortunately, a viable candidate already exists within the Chinese canon, a work roughly contemporaneous with Thucydides. This text, known as the Zuo zhuan, is China’s oldest historical narrative and chronicles the decline of the Zhou dynasty from 722 to 468 BCE. Describing the machinations of various rulers, ministers, and military commanders over a span of 255 years, this complex masterpiece traces the difficult strategic choices faced by regional powers during this chaotic period as they struggled to adjust to an uncertain security structure. In particular, its description of the competition between the two greatest powers of its time, the states of Jin and Chu from roughly the mid-7th to mid-6th centuries, provides interesting parallels with the current state of Sino-U.S. relations. The Jin-Chu rivalry reflected the multi-faceted challenge of two competing powers navigating a multi-state system neither side sought to destroy or overthrow, but instead hoped to co-opt and lead on its own terms. Moreover, the length of the historical arc measured in centuries rather than decades better facilitates analysis of the long-term strategic impact of great-power competition.
- International relations scholars might find much food for thought through study of this classic text. As central authority retreated, the former Zhou system reflected many traits similar to anarchy, with dozens of regional states resorting to hegemony, balancing, or bandwagoning to mitigate threats to survival. Leaders on the central plains of ancient China, it turns out, practiced balance of power politics just as energetically as their European counterparts. Powerful countervailing incentives also existed within the system, particularly a desire to return to the rules and norms that moderated interstate behavior under the old Zhou governing rubric. These incentives tended to limit the scope and scale of warfare and opened up potential avenues for cooperation and coexistence. This combination of realpolitik coupled with a desire

for predictable norms in some ways mirrors the contemporary security environment. While we should continue to study Thucydides intensely, we would benefit by pairing his text with this near-contemporary classic from China.

- A (Chinese) Possession for All Time?
- The Zuo zhuan is technically a commentary to another work, The Spring and Autumn Annals. Believed by some to be written or edited by Confucius himself, the Annals were developed in the regional state of Lu as a record of significant political, military, diplomatic, and other events. While the entries in the Annals are laconic and sparse, the Zuo zhuan supplements them by providing extensive background through narrative and dialogue constructions. It provides the meat and connective sinews to the Annals' skeletal structure. For example, in 632 BCE the Annals simply record that the Prince of Jin and his allies "did battle with a Chu leader at Chengpu." It is only through the Zuo zhuan narrative that we recognize this as one of the most famous battles in Chinese history. As described in the text, Jin deceives the Chu army by tying wooden logs to the back of their chariots and stirring up dust to feign a retreat. When the Chu force falls for this ruse and rushes forward in pursuit, the Jin army decisively defeats them in what the text labels a "pincer attack" (夹攻) — a double envelopment successfully executed four centuries before Cannae.
- The Zuo zhuan remains an important cultural touchstone in China. The historical vignettes from the text are referenced extensively in the works of iconic Chinese philosophers from the Warring States period, such as Mencius, Mozi, Xunzi, Zhuangzi, and Han Feizi. Sima Qian, the famed scholar writing during the Han dynasty also relied heavily on the work to construct his own history of the period. Prominent stories from the text live on as colorful idioms (chengyu) in modern Chinese, and Xi Jinping references Zuo zhuan passages in his speeches. Discussing its strategic merit, Yao Nai, a scholar writing during the Qing dynasty, noted that the text "excels in discourses on the art of war and strategies."
- While certainly not unexamined in the West — there have been several excellent books discussing the Zuo zhuan's literary, historiographical, and philosophical value — it has rarely been embraced by those studying war, diplomacy, and strategy. One major reason has been its inaccessibility. The first full-length English translation, completed by James Legge in 1872, was marred by archaic Victorian phrasings, a confusing transliteration system, and lack of necessary context, leaving the text nearly impossible to follow. Recently, though, a team of renowned contemporary scholars of ancient China published a lucid and comprehensive English translation, with excellent commentaries and useful indexes. There is no longer any good excuse — besides its astronomical price — for Western political scientists and military strategists to avoid this complicated but highly rewarding classical text.
- Adjusting to Zhou Decline
- The Zuo zhuan opens in an era of momentous historical import. Confucius considered the opening decades of the longstanding Zhou dynasty (1045–256 BCE) to be the golden age of Chinese cultural development, but by the early 8th century, feckless Zhou rulers coupled with internal and external threats quickly led to disaster. In 771 BCE the Zhou capital was sacked by nomadic tribes and the Zhou ruling elite relocated their palaces eastward with the assistance of

local Zhou regional leaders. Although safely ensconced in its new capital, the Zhou's reversal of fortune resulted in subordinate domains paying less deference to the weakened central court and focusing more on aggrandizing their own internal sources of power. Early in the Zuozhuan narrative the ruler of the central state of Zheng defeats the Zhou army in battle and wounds the king with an arrow. Zhou rule nominally continues throughout the period covered in the text, but the relationship between the center and periphery is irreparably altered, resulting in near-constant tension and strife.

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#### 71. Christmas is Canceled in the U.K., and it's China's Fault

Nigel Farage

Newsweek, December 22, 2020

<https://www.newsweek.com/christmas-canceled-uk-its-chinas-fault-opinion-1556718>

- Things could hardly be any worse. The British government has declared that a new "mutant" strain of coronavirus is spreading rapidly around the country and the world has reacted by making the U.K. a pariah state. Our citizens are banned from traveling almost anywhere and the French government has even closed the Channel Tunnel (though I suspect that is a negotiating tactic for the still unresolved Brexit talks). To top it all, Christmas has now been canceled.
- Yet as other parts of the world continue to be hammered by COVID chaos, I have been astonished at how little criticism of China there has been. After all, not only can we be pretty sure that this virus came from a laboratory in Wuhan; we can be certain that the Chinese authorities covered it up while their people continued to fly all over the world. As the saying goes, "China lied, people died." This week I discovered what is behind this eerie silence.
- As I watched our prime minister, Boris Johnson, address the nation on Saturday evening to let us know that family gatherings are banned on Christmas Day and that everybody should stay at home, I felt a mounting anger. As a result, I tweeted: "Christmas cancelled. Thank you, China." This was an expression of how I felt at the time and I soon discovered that I was far from alone. Social media commentary around this sentiment came thick and fast. More than 45,000 people retweeted my message in support and my digital team tells me it has been seen more than 20 million times on the platform to date.
- This helps to illustrate that there are huge numbers of people who are angry with China over the virus, who are appalled at China's brutal treatment of the Uyghur minority and who would like the West to be less dependent on this awful regime. So why do so few political leaders in the West voice any criticism?
- The morning after my tweet was sent, Chen Weihua, who is employed by the state-owned China Daily newspaper as its EU bureau chief, made his presence known to me by firing off a couple of tweets condemning me. His tone was aggressive and he even resorted to bad language. In authoritarian terms which no doubt pleased his paymasters, one tweet instructed: "Wear a mask and stop talking s\*\*t." When he responded again, it was to call me a "Trump-like racist." Had any British journalist employed by the state-owned BBC or, indeed, by any reputable

media company, done the same thing, they would have been disciplined and possibly fired for this sort of behavior. I'm sure the same would be true in America. Journalists are paid to report facts and generate analysis. They are not supposed to act like menaces, bullies or thugs on behalf of their government.

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#### 72. The West Should Not Abandon Hong Kong

Guy Sorman

City Journal, December 29, 2020

<https://www.city-journal.org/the-west-should-not-abandon-hong-kong>

- Hong Kong's freedoms are vanishing before our eyes. The West, not knowing how to respond to Beijing's de facto annexation of Hong Kong, wonders: isn't Hong Kong part of China, and isn't this domestic matter none of our business? This Western passivity is a grave mistake because Chinese aggression in Hong Kong reveals the Beijing regime's long-term strategy.
- The treaty signed between Great Britain and Beijing in 1984 provided for a "restitution" of Hong Kong and the contiguous New Territories, on condition that the former colony would retain its political and judicial independence as an electoral democracy and capitalist system until 2045. The British imagined that China would, by then, have surely left Communism behind. They were doubly wrong.
- The Beijing government has little respect for international treaties, which should be understood in the light of the quasi-colonization of China by European powers and Japan throughout the nineteenth century. Military incursions by Westerners were concluded by concessionary treaties with the emperor, who was forced to sign them. Since the fall of China's last imperial dynasty in 1911, the Chinese have considered these treaties "unequal"—including the 1842 treaty that ceded Hong Kong to Great Britain. All treaties between China and the West are tainted by this suspicion of inequality, including the treaty that restored Hong Kong to China, surely perceived by Beijing more as a matter of diplomatic and historical payback than as a juridical commitment.
- The recent arrest of democratically elected delegates to the Hong Kong parliament, Beijing's direct appointment of Hong Kong's chief executive, the imposition of de facto martial law, Beijing's control of the media, the incarceration of democratic student leaders, the arrest and kidnapping of Hong Kong intellectuals—all these actions are bringing Hong Kong under direct control of the regime. All represent violations of the 1984 treaty with Britain over the future status of the territory, but Beijing has not found it necessary to justify its cavalier attitude toward international law. Meantime, the United Nations, the British, the United States, and the European Union look away.

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#### 73. A Farewell to the Hong Kong I Loved

Matthew Brooker

Bloomberg, December 22, 2020

<https://www.bloomberg.com/graphics/2020-opinion-hong-kong-is-now-a-city-of-the-past/>

- It rained for much of April 1992 in Hong Kong. Outside the shabby guesthouses of Nathan Road, the neon-lit artery that bisects Kowloon, the muggy spring air hung in a permanent haze. The wooden scaffolding that cobwebbed the building facades dripped constantly, giving the nights a dystopian atmosphere.
- Like many people, I arrived somewhat by accident — a bored and restless 28-year-old British journalist who got halfway through a round-the-world trip before running out of money and heading to the nearest place that offered the chance of making a living.
- Since the 19th century, Hong Kong had been attracting buccaneers, wanderers, refugees, spies and ne'er-do-wells. Many stayed. "Hong Kong is full of people who came here for six months 25 years ago," one long-term resident told me shortly after my arrival. As of 2017, I could count myself among them. We all washed up on what Han Suyin called this "excrescence" off the coast of China, some in search of adventure and economic opportunity, some simply looking for shelter from instability and persecution, from across the border in mainland China, or further afield.
- A few weeks after landing, I was in a bar listening to a self-professed gun runner talk about flying plane-loads of money into Caribbean islands. With mocking derision, my interlocutor (his name forgotten, if I ever knew it) described the lax customs procedures for those who arrived there with bags of cash: "Where has the money come from? A bank. Where is it going to? A bank. And then they say, 'but we have forms!'" he shouted, waving his arms in the air. Was any of it true? I have no idea.
- It was that kind of place, though. Hong Kong "was founded on contraband and conquest," as the Australian journalist Richard Hughes observed in the 1960s, in his introduction to the "rambunctious, freebooting colony." Hughes himself was a reputed spy, a fixture at the Foreign Correspondents Club and the model for the character of Old Crow in The Honourable Schoolboy, John le Carre's 1977 spy novel set in the territory. In the dying days of empire, a whiff of that disreputable past still hung about the place.
- Hong Kong was far from perfect. The apartments were tiny. The weather was intolerable for a good part of the year. The noise was incessant, and the crowds were ever-present. The people were mostly indifferent to outsiders, and sometimes borderline hostile. To paraphrase Winston Churchill, it was the most imperfect place I had ever lived, except for all the others.
- It had energy, and spirit. The city brimmed with nervous tension. Five years before the U.K. handed the territory back to China, everyone seemed to be in a hurry — to make money, to gain a foreign passport, to move up or out. After recessionary Britain and the bland conformity of Australia (my last stop before Hong Kong), it was intoxicating. I felt instantly at home. The city's unsettled mood perhaps matched my own.

- Now it is 2020. In this year of so much death, so many grim landmarks, the curtain has fallen with startling rapidity. I mourn for the extinguishing of an exuberantly free society that, over three decades, taught me so much: about resilience, pragmatism, humor, adaptability and optimism.
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74. Is the CCP guilty of crimes against humanity?

Charles Parton

The Standpoint, December 23, 2020

<https://standpointmag.co.uk/is-the-ccp-guilty-of-crimes-against-humanity/>

- The religion, education, culture and language of China's ethnic minorities are being forcibly constrained and changed.
- In the summer of 1985 I sat in Kashgar's Id Kah mosque, in China's Xinjiang region, and discussed with a Uyghur the clash of Saladin and Richard I, his culture and mine. Two years later, at Lhasa's Norbulingka Palace, a Tibetan explained to me the meanings of the intricate wall paintings. In neither place did locals fear to speak to a foreigner. In neither place was there much evidence of surveillance, control or racial tension. Indeed, the only jarring note came from my new friend at the Norbulingka Palace. We were speaking in Mandarin and a young Chinese, also interested in the significance of the representations, tried to ask a question. "Sorry," my friend said brusquely, "I don't speak Mandarin." And then he continued his explanation to me—in Mandarin.
- The past is indeed another country. Now, to meet or to speak to locals, to witness a Tibetan insult a Han Chinese . . . this is unimaginable for Xinjiang or Tibet. Tibet is closed to individual travellers and Xinjiang languishes in never-ending lockdown. They bear the brunt, but the chill extends to Inner Mongolia and to other minorities such as the Hui, a 10 million strong group of mildly Muslim persuasion present in many provinces.
- Religion, education, culture and language are being forcibly constrained and changed; a hi-tech surveillance panopticon, an inflated police presence and a refined system of street-level informing mean that ethnic minorities are effectively living in an open prison. For some, it is a closed prison. A government white paper and press conference revealed:
- From 2014 to 2019, Xinjiang provided training sessions to an average of 1.29 million urban and rural workers . . . Vocational education and training centres are tailored for people influenced by religious extremism and involved in minor violations of the law . . . Gaining a thorough understanding of the true nature and perils of terrorism and religious extremism, the trainees get rid of thought control imposed by terrorism and extremism and lead a normal life.
- Shorn of euphemism, nearly 1.3 million minority citizens, mostly Uyghurs, "lead a normal life" in concentration camps. Originally the Chinese Communist Party (CCP) denied the camps' existence, but it was forced to turn to the Orwellian language of "training centres" by foreign analysis of its own documents and satellite photographs. The absurdity of claiming that over 11

per cent of Uyghurs are religious extremists, terrorists or lawbreakers is reinforced by the notion of many well-educated intellectuals, professionals or civil servants "requiring" low-level training.

- Sadly, that is far from all. What is happening meets the criteria for crimes against humanity set out in Article 7 of the Rome Statute of the International Criminal Court and for genocide under Article 2 of the UN Genocide Convention.
- How did it come to this? Why the impatience with the old policy whereby economic development and slow intermingling would eventually and without force erode differences from the Han Chinese who make up over 90 per cent of China's population? Will a new policy, which prioritises "stability" and accelerated integration, work, and if so, what does that portend? Might it even encourage the "Three Evils" of terrorism, "splittism" (separatism) and extremism, which it is designed to combat?
- As ever, the roots of change predate Xi Jinping, but he has been an accelerator. Minorities have long been unhappy at Han migration and petty racism; at the meaninglessness of the title "Autonomous Region"; at the predations of mining and other companies displacing traditional herders; at the lack of employment opportunities. Ilham Tohti, a moderate Uyghur professor now serving a life sentence, pointed out that less than 15 per cent of Uyghur graduates found jobs, a consequence of discrimination resulting in public services staffed by Han, whose lack of the Uyghur language caused "tremendous inconvenience to Uyghur citizens in their daily lives".
- Despair spilled over into protest and violence. That did not start with the 2008 riots in Tibet and the 2009 violence in Urumqi, the regional capital. But their scale, and later killings by Uyghurs in Beijing, Kunming and Xinjiang itself, reinforced the Party's determination that minorities and Han would be made to "embrace each other like pomegranate seeds".
- Yet squeezing until the pips squeak has a broader rationale than containing what the CCP labels terrorism (in Tibet "terrorism" took the form of self-immolation), but which others see as acts of individual anger unconnected with outside Islamic movements. Other reasons for stability in short order are the rich mineral and other resources of Tibet and Xinjiang, while the land routes of Xi's Belt and Road Initiative (BRI) run through Xinjiang.
- Moreover Xi's vision of a new Zhonghua minzu (usually translated as "Chinese nation", but "Chinese race" is closer) is central to his "China Dream" and ideology—and ideology is central to his mission. At the 2014 Central Ethnic Work Conference and two months ago at the 7th Tibet Work Forum, Xi declared that "cultural identity is the foundation and long-term basis for strengthening the great unity of the Chinese nation". "Other" is anathema to Xi, who called for enhancing "the recognition of Chinese culture by the people of all ethnic groups, better inheriting Chinese cultural genes in the new era, nourishing Chinese cultural blood". And "culture" is a highly political term, closely linked to "Socialism with Chinese characteristics". "Culture" requires you to align with the Party. Its importance to Xi can be seen from his addition of "cultural confidence" to the "4 Confidences", a crucial part of the CCP canon. If all that seems abstruse in London or Liverpool, it isn't in Lanzhou or Lhasa.
- There are seven steps towards cultural genocide.



- First: “To destroy a people, you must first destroy their history”—a quotation, from a 19th-century Chinese thinker, used by Xi in his first address to the new Politburo in 2013. He was talking about attacks on China by foreign forces, but it is a lesson he is applying himself within China, both to how minorities are allowed to think about their past and to how they physically see the past, as mosques, monuments, cemeteries, and traditional housing are torn down.
- Second, the French novelist Alphonse Daudet wrote that, “When a people are enslaved, as long as they hold fast to their language it is as if they had the key to their prison.” That key is increasingly being lost both in everyday and official life. This autumn there have been protests in Inner Mongolia, which has followed Tibet and Xinjiang in having “bilingual” education reduced to a rump.
- Third, education is crucial. As Xi said at the recent Tibet Work Forum: “We must attach importance to strengthening ideological and political education in schools, put the spirit of patriotism throughout the entire process of school education at all levels and types, and bury the seeds of loving China in the depths of the hearts of every teenager.” This is not just a matter of ordaining the curriculum. In Xinjiang, with many parents in the camps or forced labour, hundreds of thousands of children are now put in state-run boarding schools and orphanages, where their language and cultural ties can be attenuated and broken.
- Fourth, strangle indigenous culture by imprisoning intellectuals, historians, professors, poets, singers, artists and religious leaders. In addition to the extrajudicial camp system, in 2017 Xinjiang provided 21 per cent of China’s criminal arrests, despite having only 1.5 per cent of its population. Few, if any, of those incarcerated, often for long periods, have advocated anything remotely approaching the “Three Evils”. But they have advocated the maintenance of Uyghur culture, and that has become a political offence. (In Tibet, self-censorship and intimidation seem to make imprisonment less necessary.)
- Fifth, prevent breeding. If that sounds brutal, it is. Forced sterilisation and compulsory abortions are common and documented, while the most effective form of contraception is to lock up in concentration camps those most likely to have children. According to official figures, in Uyghur-dominated Kashgar and Hotan, birth rates between 2015 and 2018 fell by over 60 per cent.
- Sixth, devise and implement systems of social control. The camps and the threat of internment are the most prominent element, born out of the Party’s experience gained from the old system of “re-education through labour”, a form of extrajudicial detention in theory abolished in 2013. Urbanisation has made the “grid system” and “double-link system”, under which areas are divided into small parcels of families, effective means of informing, monitoring and clamping down. Twenty thousand party volunteers were sent into the villages of Tibet to assess and then intimidate. That number is dwarfed by the 200,000 in Xinjiang, part of a system of “family friends”, staying with Uyghurs, befriending, educating and above all monitoring them. Signs of religious or cultural devotion detected (for example, by asking children about their parents) lead to the camps. “Convenience” police stations, first introduced in Tibet, now stand every few hundred yards throughout Xinjiang towns.

- Seventh, enlist technology. The Integrated Joint Operations Platform is a tool fed by all forms of surveillance, from CCTV to DNA and health records, from compulsory apps on phones which inform on sites visited to records of mosque attendance. This is the CCP's new panopticon and Xinjiang is the laboratory.
- The result is a massive intrusion into the lives of all minorities. For many it recalls the destructiveness of the Cultural Revolution, which of course is exactly what it is: a new, technological Cultural Revolution. It breeds resentment. But as the Party points out with alacrity, there have been no violent incidents in the last three years. While most Han outside Xinjiang and Tibet appear to approve of the clampdown, persuaded by propaganda of the dangers of terrorism, some Han who live in Xinjiang are leaving, because of the tension and increased costs of security.
- Some argue that the human rights abuses will inevitably lead to terrorism and revolt, as ethnic minorities, facing the loss of their culture and way of life, become desperate. In particular an atheist CCP is unable to appreciate the depth of religious feeling, whose roots no amount of material prosperity or threat of harsh treatment can dig out. Yet these are uncharted waters in terms of technological surveillance, control and anticipation. Not only would it be difficult for extremists to enter Xinjiang or Tibet undetected, but the simple business of living would bring them to notice before they might perpetrate a terrorist act.
- That at least is the CCP's intention. It depends on a continued capacity to underwrite the extraordinary costs of the repression and a willingness to ride out the potential costs imposed by the reaction of the outside world. So far Muslim countries have been silent, while the democracies are only beginning to stir. But the BRI may falter and the lure of a 1.4 billion people China market may be eclipsed by recognition that the CCP is guilty of crimes against humanity and genocide. Will foreigners then be keen to deal with companies such as Hikvision or Huawei which are building the systems of repression? Will governments besides America sanction the responsible officials? And will they sanction the supreme leader who is ultimately responsible for ethnic policy and approval of the methods for implementing it?

#### 75. Europe has handed China a strategic victory

Gideon Rachman

Financial Times, January 4, 2021

<https://www.ft.com/content/2d759671-0b1d-4587-ba63-7480990f0438>

- Ursula von der Leyen, the president of the European Commission, says she wants to lead a "geopolitical commission". But Ms Von der Leyen concluded 2020 by sending a truly awful geopolitical message — as her commission signed off on an investment treaty between the EU and China.
- Over the past year, China has crushed the freedom of Hong Kong, intensified oppression in Xinjiang, killed Indian troops, threatened Taiwan and sanctioned Australia. By signing a deal with China nonetheless, the EU has signalled that it doesn't care about all that. As Janka Oertel, director of the Asia programme at the European Council on Foreign Relations think-tank, puts it: "This is a massive diplomatic win for China."

- It is also a considerable kick in the teeth for Joe Biden. The US president-elect has stressed that, after Donald Trump, he wants to make a fresh start with Europe. In particular, the Biden administration wants to work on China issues together with fellow democracies. Jake Sullivan, Mr Biden's national security adviser, issued a last-minute plea for the Europeans to hold off on signing the deal — at least until they had a chance to discuss it with the new administration. He was ignored.
- EU officials offer several justifications for their decision. They say that many of the concessions the EU has got from China have already been granted to the US, as part of America's own "phase-one" trade deal. (These include sectoral openings in several industries, as well as changes to joint-venture requirements.) Brussels officials point out that the US did not ask for European permission before concluding its own deal with China. They justify the EU's decision as a demonstration of "strategic autonomy".
- These EU arguments sound tough-minded. But, in fact, they are naive. It is naive to believe that China will respect the agreement it has signed. It is naive to ignore the geopolitical implications of doing a deal with China right now. And it is naive to think that the darkening political climate in Beijing will never affect life in Brussels or Berlin.
- The EU says that this deal will "discipline the behaviour" of China's state-owned enterprises, which will now be required "to act in accordance with commercial considerations". But China made very similar commitments when it joined the World Trade Organization in 2001. Pledges to rein in state subsidies made 20 years ago are now being offered up again as fresh concessions. Beijing's promise to "work towards" enforcing international conventions on labour standards are also laughably weak. As Shi Yinhong, a prominent Chinese academic, pointed out: "On labour, it's impossible for China to agree. Can you imagine China with free trade unions?"
- Over the past year, China has repeatedly demonstrated its willingness to ignore treaty commitments. Its new national security law violates an agreement with Britain that guaranteed the autonomy of Hong Kong. China has also imposed tariffs on Australian goods in violation of the China-Australia free trade agreement.
- The timing of this deal is exquisite for Beijing, since it presents the Biden team with a fait accompli. Reinhard Bütikofer, chairman of the European parliament's delegation on China, says: "We've allowed China to drive a huge wedge between the US and Europe."
- The EU-China deal was pushed hard by Angela Merkel, the German chancellor, and concluded right at the end of her country's presidency of the EU. Ms Merkel is seen as a champion of liberal values. But her approach to China is largely driven by commerce. She knows that the German car industry has had a rough few years, and China is its largest market.
- Ms Merkel's determination to press ahead may also reflect her own scepticism about the future of the US. In a speech in 2017, she said that Europe could no longer rely on America. The election of Mr Biden has probably not changed that view. Many Europeans also believe that the US is on the brink of a new cold war with China — and want little part of that.

- Some of these arguments are reasonable enough. It is hard to look at current events in Washington and feel totally confident about the stability of the US or the Atlantic alliance. A European desire to avoid military confrontation in the Pacific is also rational.
- But relying on an American security guarantee in Europe, while undermining American security policy in the Pacific, does not look like a wise or sustainable policy over the long run.
- The Europeans are also kidding themselves if they think they can be blind to the increasingly authoritarian and aggressive nature of Xi Jinping's China. For the past 70 years, Europeans have benefited from the fact that the world's most powerful nation is a liberal democracy. If an authoritarian nation, such as China, displaces America as the dominant global power, then democracies all over the world will feel the consequences.
- Even in the current geopolitical order, China has repeatedly demonstrated its willingness to use its economic power as a strategic weapon. By deepening their economic reliance on China — without co-ordinating their policy with fellow democracies — European nations are increasing their vulnerability to pressure from Beijing. That is a remarkably shortsighted decision to make, for a "geopolitical commission".

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