

# COVID-19 Events

Updated 4-30-20

Countries Affected

US States Affected

Signs of Virus

>5,000 Deaths\*

>1,000 Deaths\* #

Key Events

Good News!

Oklahoma Events

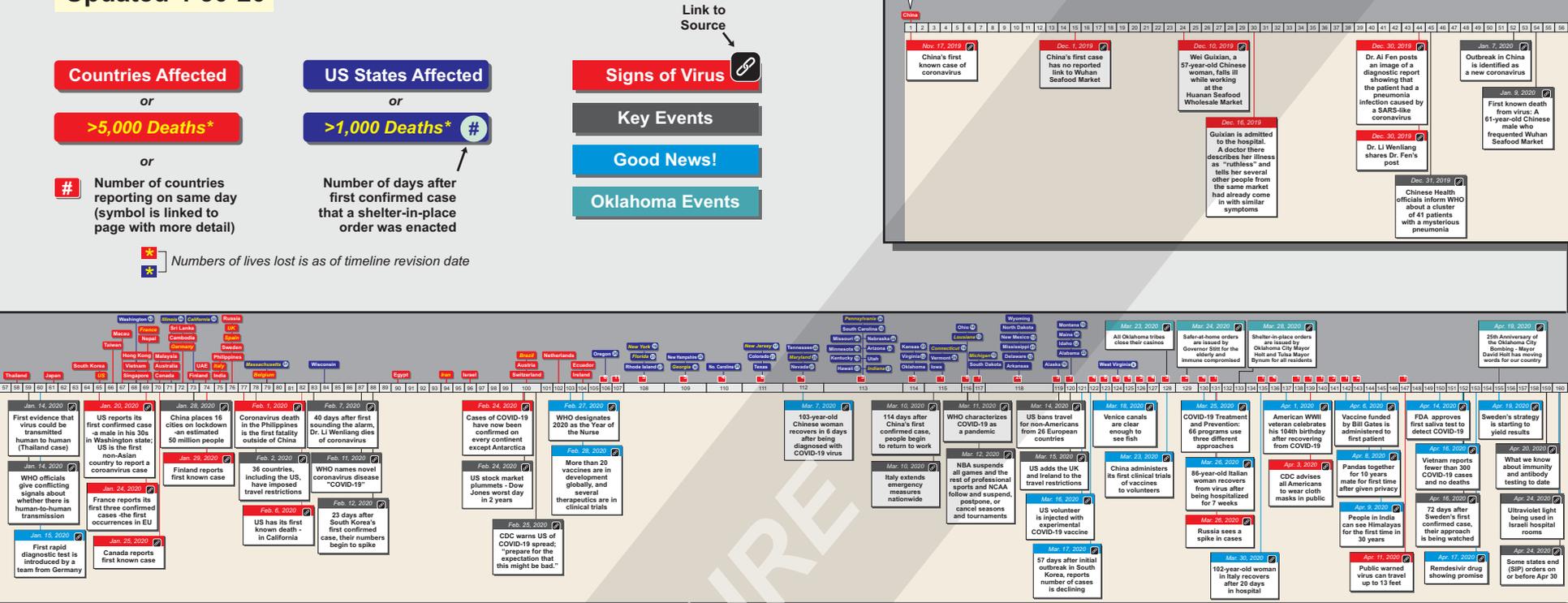
# Number of countries reporting on same day (symbol is linked to page with more detail)

Number of days after first confirmed case that a shelter-in-place order was enacted

\* Numbers of lives lost is as of timeline revision date

Link to Source

Number of days since first sign of virus



Apr. 30 Day 166



A full size timeline with links to the sources can be found on our website. We will be updating as we learn more.



www.legalgraphics.net

# COVID-19 Events

Number of days since first sign of virus

China

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
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**Nov. 17, 2019** 

**China's first known case of coronavirus**

**Dec. 1, 2019** 

**China's first case has no reported link to Wuhan Seafood Market**

Countries Affected

**Country Name**

or

**>5,000 Deaths\***

or

**#** Number of countries reporting on same day (symbol is linked to page with more detail)

US States Affected

**State Name**

or

**>1,000 Deaths\* #**

Number of days after first confirmed case that a shelter-in-place order was enacted

\*Number as of timeline revision date

- Link to Source 
- Signs of Virus**
- Key Events**
- Good News!**
- Oklahoma Events**



24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
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*Dec. 10, 2019*



**Wei Guixian, a 57-year-old Chinese woman, falls ill while working at the Huanan Seafood Wholesale Market**

*Dec. 16, 2019*

**Guixian is admitted to the hospital. A doctor there describes her illness as “ruthless” and tells her several other people from the same market had already come in with similar symptoms**

*Dec. 30, 2019*



**Dr. Ai Fen posts an image of a diagnostic report showing that the patient had a pneumonia infection caused by a SARS-like coronavirus**

*Dec. 30, 2019*



**Dr. Li Wenliang shares Dr. Fen’s post**

*Dec. 31, 2019*



**Chinese Health officials inform WHO about a cluster of 41 patients with a mysterious pneumonia**

*Jan. 5, 2020*



**5 days after being notified by Chinese officials, WHO issues a press release**

*Jan. 7, 2020*

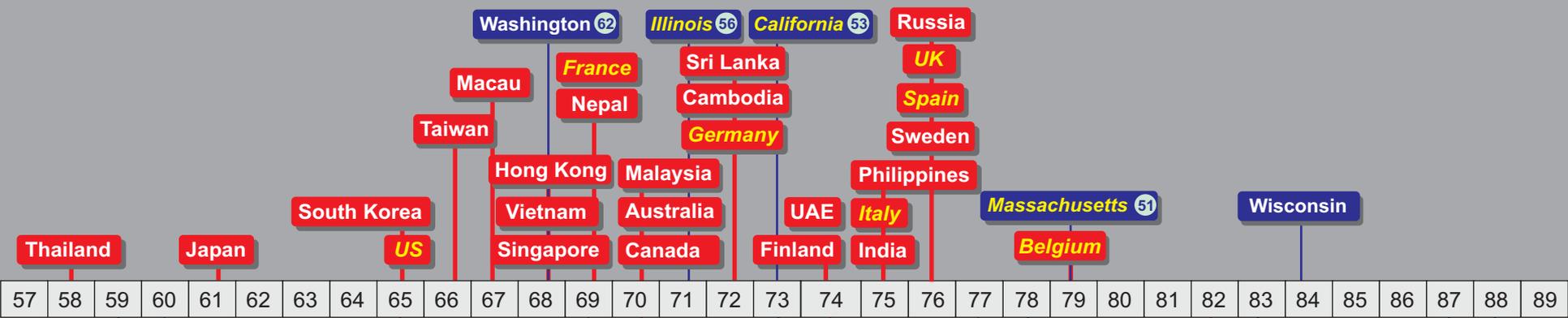


**Outbreak in China is identified as a new coronavirus**

*Jan. 9, 2020*



**First known death from virus: A 61-year-old Chinese male who frequented Wuhan Seafood Market**



*Jan. 14, 2020*

First evidence that virus could be transmitted human to human (Thailand case)

*Jan. 14, 2020*

WHO officials give conflicting signals about whether there is human-to-human transmission

*Jan. 15, 2020*

First rapid diagnostic test is introduced by a team from Germany

*Jan. 20, 2020*

US reports its first confirmed case -a male in his 30s in Washington state; US is the first non-Asian country to report a coronavirus case

*Jan. 24, 2020*

France reports its first three confirmed cases -the first occurrences in EU

*Jan. 25, 2020*

Canada reports first known case

*Jan. 28, 2020*

China places 16 cities on lockdown -an estimated 50 million people

*Jan. 29, 2020*

Finland reports first known case

*Feb. 1, 2020*

Coronavirus death in the Philippines is the first fatality outside of China

*Feb. 2, 2020*

36 countries, including the US, have imposed travel restrictions

*Feb. 6, 2020*

US has its first known death - in California

*Feb. 7, 2020*

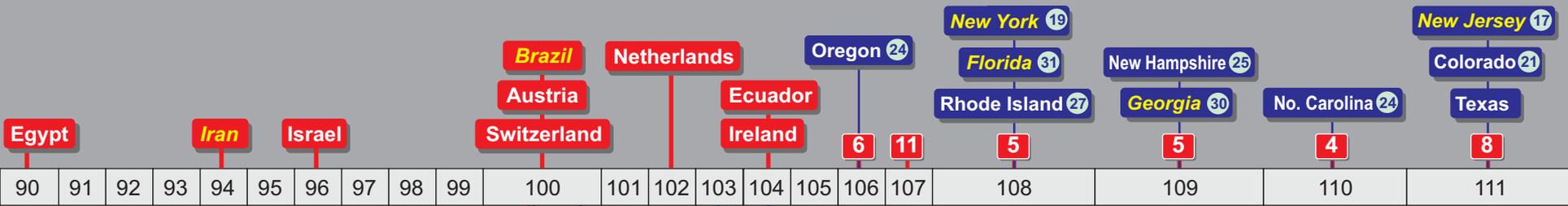
40 days after first sounding the alarm, Dr. Li Wenliang dies of coronavirus

*Feb. 11, 2020*

WHO names novel coronavirus disease "COVID-19"

*Feb. 12, 2020*

23 days after South Korea's first confirmed case, their numbers begin to spike



**Feb. 24, 2020**

**Cases of COVID-19 have now been confirmed on every continent except Antarctica**

**Feb. 24, 2020**

**US stock market plummets - Dow Jones worst day in 2 years**

**Feb. 25, 2020**

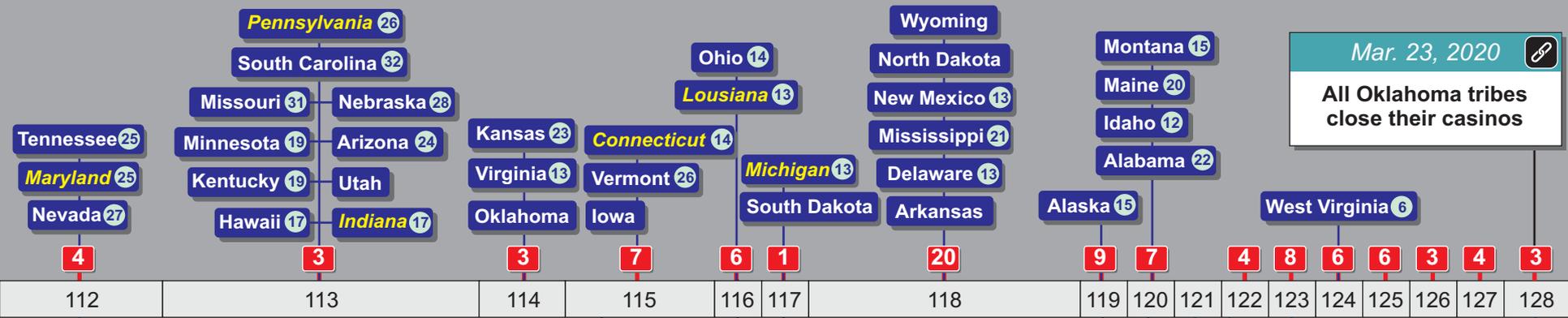
**CDC warns US of COVID-19 spread; "prepare for the expectation that this might be bad."**

**Feb. 27, 2020**

**WHO designates 2020 as the Year of the Nurse**

**Feb. 28, 2020**

**More than 20 vaccines are in development globally, and several therapeutics are in clinical trials**



*Mar. 23, 2020*

All Oklahoma tribes close their casinos

*Mar. 7, 2020*

103-year-old Chinese woman recovers in 6 days after being diagnosed with COVID-19 virus

*Mar. 10, 2020*

114 days after China's first confirmed case, people begin to return to work

*Mar. 10, 2020*

Italy extends emergency measures nationwide

*Mar. 11, 2020*

WHO characterizes COVID-19 as a pandemic

*Mar. 12, 2020*

NBA suspends all games and the rest of professional sports and NCAA follow and suspend, postpone, or cancel seasons and tournaments

*Mar. 14, 2020*

US bans travel for non-Americans from 26 European countries

*Mar. 15, 2020*

US adds the UK and Ireland to the travel restrictions

*Mar. 16, 2020*

US volunteer is injected with experimental COVID-19 vaccine

*Mar. 17, 2020*

57 days after initial outbreak in South Korea, reports number of cases is declining

*Mar. 18, 2020*

Venice canals are clear enough to see fish

*Mar. 23, 2020*

China administers its first clinical trials of vaccines to volunteers

Mar. 24, 2020



Safer-at-home orders are issued by Governor Stitt for the elderly and immune compromised

Mar. 28, 2020



Shelter-in-place orders are issued by Oklahoma City Mayor Holt and Tulsa Mayor Bynum for all residents

Apr. 19, 2020



25th Anniversary of the Oklahoma City Bombing - Mayor David Holt has moving words for our country

3

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129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160

Mar. 25, 2020



COVID-19 Treatment and Prevention: 66 programs use three different approaches

Apr. 1, 2020



American WWII veteran celebrates his 104th birthday after recovering from COVID-19

Apr. 6, 2020



Vaccine funded by Bill Gates is administered to first patient

Apr. 14, 2020



FDA approves first saliva test to detect COVID-19

Apr. 19, 2020



Sweden's strategy is starting to yield results

Mar. 26, 2020



86-year-old Italian woman recovers from virus after being hospitalized for 7 weeks

Apr. 3, 2020



CDC advises all Americans to wear cloth masks in public

Apr. 8, 2020



Pandas together for 10 years mate for first time after given privacy

Apr. 16, 2020



Vietnam reports fewer than 300 COVID-19 cases and no deaths

Apr. 20, 2020



What we know about immunity and antibody testing to date

Mar. 26, 2020



Russia sees a spike in cases

Apr. 9, 2020



People in India can see Himalayas for the first time in 30 years

Apr. 16, 2020



72 days after Sweden's first confirmed case, their approach is being watched

Apr. 24, 2020



Ultraviolet light being used in Israeli hospital rooms

Mar. 30, 2020



102-year-old woman in Italy recovers after 20 days in hospital

Apr. 11, 2020



Public warned virus can travel up to 13 feet

Apr. 17, 2020



Remdesivir drug showing promise

Apr. 24, 2020



Some states end (SIP) orders on or before Apr 30

Apr 28, 2020 

**Chickasaw Nation announces casinos and offices will remain closed through May 15**

Today

161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193
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Apr. 26, 2020 

**China says all coronavirus patients in Wuhan have now been discharged**

May 4, 2020 

**US Supreme Court arguments resume - and we will be able to listen in - live**

Apr. 28, 2020 

**Vaccine showing promise**

Apr. 29, 2020 

**The closing of meat processing plants is affecting the US food supply chain**

Apr. 30, 2020 

**Many states' shelter-in-place orders expire**

194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226
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Return to  
Timeline

<https://www.sciencemag.org/news/2020/01/wuhan-seafood-market-may-not-be-source-novel-virus-spreading-globally>

**To leave the source page  
and return to the timeline  
select the above symbol**

**Many of the following pages  
have a “live” link to the article  
we have referenced.**

**Select the link if you would  
prefer to read the article in  
its entirety.**

## Source Page Section

## Nov 17

### China's first confirmed case

The first case of someone in China suffering from Covid-19, the disease caused by the novel coronavirus, can be traced back to November 17, according to government data seen by the South China Morning Post.

Chinese authorities have so far identified at least 266 people who were infected last year, all of whom came under medical surveillance at some point.

Some of the cases were likely backdated after health authorities had tested specimens taken from suspected patients. Interviews with whistle-blowers from the medical community suggest Chinese doctors only realised they were dealing with a new disease in late December.

Scientists have been trying to map the pattern of the early transmission of Covid-19 since an epidemic was reported in the central China city of Wuhan in January, two months before the outbreak became a global health crisis.

Understanding how the disease spread and determining how undetected and undocumented cases contributed to its transmission will greatly improve their understanding of the size of that threat.

According to the government data seen by the Post, a 55 year-old from Hubei province could have been the first person to have contracted Covid-19 on November 17.

From that date onwards, one to five new cases were reported each day. By December 15, the total number of infections stood at 27 – the first double-digit daily rise was reported on December 17 – and by December 20, the total number of

confirmed cases had reached 60.

On December 27, Zhang Jixian, a doctor from Hubei Provincial Hospital of Integrated Chinese and Western Medicine, told China's health authorities that the disease was caused by a new coronavirus. By that date, more than 180 people had been infected, though doctors might not have been aware of all of them at the time.

By the final day of 2019, the number of confirmed cases had risen to 266, On the first day of 2020 it stood at 381.

While the government records have not been released to the public, they provide valuable clues about how the disease spread in its early days and the speed of its transmission, as well as how many confirmed cases Beijing has recorded.

Scientists are now keen to identify the so-called patient zero, which could help them to trace the source of the coronavirus, which is generally thought to have jumped to humans from a wild animal, possibly a bat.

Of the first nine cases to be reported in November – four men and five women – none has been confirmed as being “patient zero”. They were all aged between 39 and 79, but it is unknown how many were residents of Wuhan, the capital of Hubei and the epicentre of the outbreak.

It is possible that there were reported cases dating back even earlier than those seen by the Post.

According to the World Health Organisation's website, the first confirmed Covid-19 case in China was on December 8, but the global body does not track the disease itself but relies on nations to provide such information ...

## Dec 1

# China's first case had no reported link to Wuhan Seafood Market

As confirmed cases of a novel virus surge around the world with worrisome speed, all eyes have so far focused on a seafood market in Wuhan, China, as the origin of the outbreak. But a description of the first clinical cases published in *The Lancet* on Friday challenges that hypothesis.

The paper, written by a large group of Chinese researchers from several institutions, offers details about the first 41 hospitalized patients who had confirmed infections with what has been dubbed 2019 novel coronavirus (2019-nCoV). In the earliest case, the patient became ill on 1 December 2019 and had no reported link to the seafood market, the authors report. “No epidemiological link was found between the first patient and later cases,” they state. Their data also show that, in total, 13 of the 41 cases had no link to the marketplace. “That’s a big number, 13, with no link,” says Daniel Lucey, an infectious disease specialist at Georgetown University.

Earlier reports from Chinese health authorities and the World Health Organization had said the first patient had onset of symptoms on 8 December 2019—and those reports simply said “most” cases had links to the seafood market, which was closed on 1 January.

Lucey says if the new data are accurate, the first human infections must have occurred in November 2019—if not earlier—because there is an incubation time between infection and symptoms surfacing. If so, the virus possibly spread silently between people in Wuhan—and perhaps elsewhere—before the cluster of cases from the city’s now-infamous Huanan Seafood Wholesale Market was discovered in late December. “The virus came into that marketplace before it came out of that marketplace,” Lucey asserts.

The *Lancet* paper’s data also raise questions about the accuracy of the initial information China provided, Lucey says. At the beginning of the outbreak, the main official source of public information were notices from the Wuhan Municipal Health Commission. Its notices on 11 January started to refer to the 41 patients as the only confirmed cases and the count remained the same until 18 January. The notices did not state that the seafood market was the source, but they repeatedly noted that there was no evidence of human-to-human transmission and that most cases linked to the market. Because the Wuhan Municipal Health Commission noted that diagnostic tests had confirmed these 41 cases by 10 January and officials presumably knew the case histories of each patient, “China must have realized the epidemic did not originate in that Wuhan Huanan seafood market,” Lucey tells *ScienceInsider*. (Lucey also spoke about his concerns in an interview published online yesterday by *Science Speaks*, a project of the Infectious Disease Society of America.)

Kristian Andersen, an evolutionary biologist at the Scripps Research Institute who has analyzed sequences of 2019-nCoV to try to clarify its origin, says the 1 December timing of the first confirmed case was “an interesting tidbit” in *The Lancet* paper. “The scenario of somebody being infected outside the market and then later bringing it to the market is one of the three scenarios we have considered that is still consistent with the data,” he says. “It’s entirely plausible given our current data and knowledge.” The other two scenarios are that the origin was a group of infected animals or a single animal that came into that marketplace.

Andersen posted his analysis of 27 available genomes of 2019-nCoV on 25 January on a virology research website. ...

## Dec 10

### First case that was linked to Wuhan Market

The 57-year-old woman, identified by the Wall Street Journal as Wei Guixian, was the first person from the now-notorious Huanan market in Wuhan to test positive for the deadly bug.

She was at work Dec. 10 when she developed what she thought were cold symptoms, Chinese outlet The Paper reported. So she walked to a small local clinic for treatment and then went back to work — likely spreading the contagion.

“I felt a bit tired, but not as tired as previous years,” she told The Paper, according to a translation by news.com.au. “Every winter, I always suffer from the flu. So I thought it was the flu.”

She visited a local clinic on Dec. 11 and received an injection, but didn’t feel any better, so she went to the Eleventh Hospital in Wuhan.

“The doctor at the Eleventh Hospital could not figure out what was wrong with me and gave me pills,” Wei told the Chinese outlet — but those didn’t work either.

“By then I felt a lot worse and very uncomfortable,” Wei said. “I did not have the strength or energy.”

On Dec. 16, Wei went to Wuhan Union Hospital — one of the city’s biggest — to get checked out.

A doctor there described her illness as “ruthless” and told her several other people from the same market had already come in with similar symptoms.

Enlarge Image  
Medical staff treat a COVID-19 coronavirus patient at a hospital in Wuhan.

Medical staff treat a COVID-19 patient at a hospital in Wuhan.AFP via Getty Images

By the end of the month, she was quarantined when doctors finally established the link between the emerging bug and the seafood market, the Chinese outlet reported.

A Dec. 31 statement from the Wuhan Municipal Health Commission revealed that Wei was among the first 27 patients to test positive for COVID-19, and one of 24 cases with direct links to the seafood market.

Wei, who has since recovered and left the hospital in January, said she thinks she contracted the infection from a market toilet in the market she shared with meat sellers and others, according to the Journal.

The vendors who worked on either side of Wei, along with one of her daughters, a niece and the niece’s husband, also caught the deadly bug, the paper reported.

“A lot fewer people would have died” in the country if the government had acted sooner, Wei told the Journal in February.

Wei may have been “patient zero” at the market, but it’s still unclear if she was the first person to ever contract the novel coronavirus in the country.

**Dec 30**

## **A Wuhan doctor posts image of diagnostic report**

A Wuhan doctor who posted information about the new coronavirus on social media that was shared by the late whistle-blower Li Wenliang has broken her silence, saying she was muzzled by authorities for raising the alarm without their permission at the start of the outbreak.

Ai Fen, director of the emergency department at Wuhan Central Hospital, told Chinese magazine People that she posted an image of a diagnostic report on social network WeChat on December 30, showing that the patient had a pneumonia infection caused by a Sars-like coronavirus.

Ai's interview suggests local health authorities in Wuhan, the centre of the epidemic, missed an opportunity to issue a warning about an imminent outbreak before the virus spread and infected more than 117,000 people globally and caused over 4,200 deaths.

It was published on Tuesday but later deleted from the magazine's WeChat account, prompting angry internet users to repost the article on other platforms. The magazine is published by the state-run People's Publishing House.



It also coincided with President Xi Jinping's first visit to Wuhan since the crisis began, during which he praised residents for their hard work and sacrifices.

**Dec. 30**

## **Doctor shares image of diagnostic report**

On Dec 30, 2019, Li Wenliang sent a message to a group of fellow doctors warning them about a possible outbreak of an illness that resembled severe acute respiratory syndrome (SARS) in Wuhan, Hubei province, China, where he worked. Meant to be a private message, he encouraged them to protect themselves from infection. Days later, he was summoned to the Public Security Bureau in Wuhan and made to sign a statement in which he was accused of making false statements that disturbed the public order.

In fact, Li was one of the first people to recognise the outbreak of 2019 novel coronavirus disease (COVID-19) in Wuhan that has now spread to 25 countries, killing 1669 people and infecting more than 51 800 people as of Feb 16, 2020. Li returned to work after signing the statement and contracted severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), apparently from a patient. His death sparked outrage in China, where citizens took to message boards to voice their gratitude for Li's dedicated front-line service and to criticise the initial response of Wuhan's security and medical officials



to his warning. In the days before his death, Li said “If the officials had disclosed information about the epidemic earlier I think it would have been a lot better”, in an interview with The New York Times. “There should be more openness and transparency”, he said.



**Dec 31**

## **China notifies WHO they are seeing cases of pneumonia with unknown etiology**

On 31 December 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. As of 3 January 2020, a total of 44 patients with pneumonia of unknown etiology have been reported to WHO by the national authorities in China. Of the 44 cases reported, 11 are severely ill, while the remaining 33 patients are in stable condition. According to media reports, the concerned market in Wuhan was closed on 1 January 2020 for environmental sanitation and disinfection.

The causal agent has not yet been identified or confirmed. On 1 January 2020, WHO requested further information from national authorities to assess the risk.

National authorities report that all patients are isolated and receiving treatment in Wuhan medical institutions. The clinical signs and symptoms are mainly fever, with a few patients having difficulty in breathing, and chest radiographs showing invasive lesions of both lungs.

According to the authorities, some patients were operating dealers or vendors in the Huanan Seafood market. 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.

## Jan 5

### 5 days after being notified by China, WHO issues a press release



#### Pneumonia of unknown cause – China

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**Jan 7**

## **WHO identifies virus as 2019-nCoV**

On January 7, officials announced they had identified a new virus, according to the WHO. The novel virus was named 2019-nCoV and was identified as belonging to the coronavirus family, which includes SARS and the common cold.



**World Health  
Organization**

Jan 9

## China reports first death from new virus

HONG KONG — Chinese state media on Saturday reported the first known death from a new virus that has infected dozens of people in China and set off worries across Asia.

The Xinhua news agency cited the health commission in the central Chinese city of Wuhan, where the illness first appeared, in reporting the death. The health commission said the patient, a 61-year-old man, died on Thursday night.

Forty-one people have been found to have the new virus, a coronavirus, and seven patients are still in severe condition, the health commission said, according to the Xinhua report. Two patients have been discharged, it said.

There is no evidence that the virus can be spread between humans, according to the commission. The initial cases were linked to workers at a market that sold live fish, birds and other animals. More than 700 people who had close contact with patients, including 419 medical workers, have been put under observation, the commission said, adding that no additional cases have been found.

The man who died was a regular customer at the market in Wuhan and had previously been diagnosed with



abdominal tumors and chronic liver disease, said the city's health commission.

While no new cases have been detected since Jan. 3, questions remain. Experts have said the minimum incubation period for some viral infections is 15 days, suggesting that it may be another week before authorities can determine the full extent of the illness.

Reports of the man's death came just before the Spring Festival, China's biggest holiday, which begins Jan. 25, and a time when hundreds of millions people travel across the country. That mass migration raises the potential of spreading and worsening any outbreak. According to government estimates, Chinese passengers will take three billion trips in the next five weeks for family reunions and tourism.

Jan 13

## Thailand reports first known case



Health authorities on Monday identified a pneumonia case caused by a previously unknown virus in Thailand — the first known infection outside of China, where the virus is thought to have begun spreading last month.

The patient is a Chinese tourist from Wuhan, the city where the outbreak is occurring, health officials said. Thai authorities identified her as a 61-year-old woman who was recovering at a hospital in Nonthaburi province, the Bangkok Post reported

....

Coronaviruses originate in bats but can infect a number of animals, and from there jump to humans. The Wuhan outbreak has been linked to a large seafood market that also sells the meat of exotic animals. The market was closed Jan. 1.

Health authorities in Wuhan have said they have not identified any human transmission of the virus, meaning that each case would have come from the person being exposed to the virus from an animal. Outside experts have noted, however, that it can be very difficult to confirm person-to-person spread at this point in the outbreak.



## Jan 14

### Thailand's coronavirus patient didn't visit outbreak market

A Chinese woman whose novel coronavirus (nCoV-2019) infection was detected after she arrived in Thailand didn't visit the market at the center of Wuhan's pneumonia outbreak, but she frequently visited a different market, answering some questions—and raising new ones—about exposure to the virus.

In another development, a Wuhan health official said there may be a family cluster among the outbreak patients, pointing to the possibility of human-to-human spread.

**Patient frequented different Wuhan market**  
Yesterday's announcement from Thailand about the detection of the first nCoV-2019 case outside of China didn't have information about how she was exposed to the virus, a key question as health officials trace the animal source of the virus and assess the risk of human-to-human spread.

A new statement from the World Health Organization (WHO) today had several new details, including that the woman had not visited the Wuhan seafood market, which also sold live animals such as chickens, bats, and marmots, where most patients are thought to have been exposed. However, she reported regularly visiting a local fresh market before her symptoms began on Jan 5.

That illness onset is later than that of the others infected in the outbreak, which ranged from Dec 8 to Jan 2, according

to a Jan 12 update from the WHO. The incubation period for nCoV-2019 isn't known, and authorities closed the seafood market on Jan 1.

"As the traveler did not report having visited the market linked to most of the other cases, it is vital that investigations continue to identify the source of infection," the WHO said in its statement. It added that more investigation is also needed to gauge human-to-human transmission, the mode of transmission, common exposure sources, and whether there are undetected asymptomatic or mildly symptomatic cases.

The woman's initial symptoms were fever, chills, sore throat, and headache. On Jan 8, she took a direct flight from Wuhan to Thailand with 5 family members in a tour group consisting of 16 people. Upon their arrival, thermal surveillance at Suvarnabhumi Airport in Bangkok detected her fever and she was hospitalized the same day.

Her samples tested positive for coronaviruses based on reverse transcriptase polymerase chain reaction testing on Jan 12, and genetic sequencing confirmed that she was infected with nCoV-2019. The Emerging Infectious Diseases Health Science Center, the Thai Red Cross Society, and the Thai National Institute of Health conducted the testing.

Currently, the patient is hospitalized in stable condition.

Jan 14

## WHO 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



 **World Health Organization (WHO)** @WHO · Jan 14  
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 Thailand and 2 others

14.3K 20K 21.9K

**Jan 15**

## **First rapid diagnostic test introduced**

A team from the German Center for Infection Research and virologists at Charite Hospital in Berlin announced today that they have developed a new lab test to detect 2019-nCoV and that the assay protocol has now been published by the WHO.

The team was led by Christian Drosten, MD, who directs the Charite's virology institute and was involved in developing a test for Middle East respiratory coronavirus (MERS-CoV) and severe acute respiratory syndrome (SARS) and was involved in the discovery of SARS-CoV.

According to a statement from the groups, an international consortium is now evaluating the test. "Now that this diagnostic test is widely available, I expect that it won't be long before we are able to reliably diagnose suspected cases. This will also help scientists understand whether the virus is capable of spreading from human to human," Drosten said in the statement. "This is an important step in our fight against this new virus."



Virologist Christian Drosten

# Jan 16

## Japan confirms first case of infection from coronavirus

TOKYO - Japan confirmed its first case of infection from the mystery Wuhan pneumonia-like virus on Thursday (Jan 16), as Vietnam said it has isolated two visitors from the Chinese city as a preventive measure.

Japanese health authorities said a resident in his 30s of Kanagawa prefecture, south of Tokyo, had tested positive for the new virus strain. But officials took pains to stress that this was an isolated case, and that nobody else in Japan are suspected to have been infected.

“It has not been confirmed at this moment that sustained human-to-human infections can occur,” Japanese Chief Cabinet Secretary Yoshihide Suga said.

The man, a Chinese national, had been in close contact with a patient when he was in Wuhan, the Health Ministry said. It added that none of his family members who live with him in Japan, nor the doctors who treated him, have tested positive for the virus.

The Wuhan outbreak coincides with the annual flu season in Japan, and the ministry has reiterated its advisory for people to wash their hands, gargle, and wear masks to avoid falling sick.

Meanwhile, two Chinese tourists with fever symptoms from Wuhan were quarantined by Vietnam’s Ministry of Health and are now under observation after they landed at Danang International Airport on Tuesday (Jan 14). Hanoi dispatched a medical team to the coastal city and called an emergency meeting on Wednesday on prevention efforts.

Japan’s is the second confirmed Wuhan virus case to be reported outside China, after Thailand confirmed on Monday (Jan 13) that a 61-year-old Chinese woman had been hospitalised last week for high fever and breathing difficulties. She is now in a stable condition.

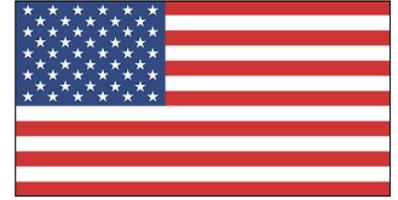
### Virus score

The world is on high alert over the spread of a Sars-like virus that was first detected in Wuhan, China, but is now showing up elsewhere.

- Confirmed cases
- Suspected cases
- Suspected cases given all-clear

NOTE: As of Jan 16, 2020





Jan 20

## First confirmed case in the United States

On January 19, 2020, a 35-year-old man presented to an urgent care clinic in Snohomish County, Washington, with a 4-day history of cough and subjective fever. On checking into the clinic, the patient put on a mask in the waiting room. After waiting approximately 20 minutes, he was taken into an examination room and underwent evaluation by a provider. He disclosed that he had returned to Washington State on January 15 after traveling to visit family in Wuhan, China. The patient stated that he had seen a health alert from the U.S. Centers for Disease Control and Prevention (CDC) about the novel coronavirus outbreak in China and, because of his symptoms and recent travel, decided to see a health care provider.

Apart from a history of hypertriglyceridemia, the patient was an otherwise healthy nonsmoker. The physical examination revealed a body temperature of 37.2°C, blood pressure of 134/87 mm Hg, pulse of 110 beats per minute, respiratory rate of 16 breaths per minute, and oxygen saturation of 96% while the patient was breathing ambient air. Lung auscultation revealed rhonchi, and chest radiography was performed, which was reported as showing no abnormalities

A rapid nucleic acid amplification test (NAAT) for influenza A and B was negative.

A nasopharyngeal swab specimen was obtained and sent for detection of viral respiratory pathogens by NAAT; this was reported back within 48 hours as negative for all pathogens tested, including influenza A and B, parainfluenza, respiratory syncytial virus, rhinovirus, adenovirus, and four common coronavirus strains known to cause illness in humans (HKU1, NL63, 229E, and OC43).

Jan 24

## First confirmed cases in Europe as France declares three infections

A 48-year-old man is being treated in a Bordeaux hospital in the southwest of the country after testing positive.

He had passed through the Chinese city of Wuhan - the epicentre of the outbreak - before arriving in France on Wednesday.

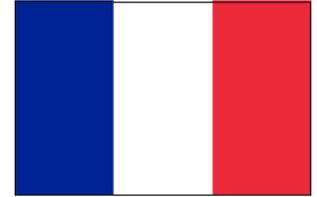
Two other people are in hospital in Paris. They also travelled to China and are believed to belong to the same family.

Health minister Agnes Buzyn said France has developed a test doctors can use to quickly diagnose patients and this was one reason why it was the first European nation to confirm cases.

Ms Buzyn predicted there would probably be more positive tests in her country.

It comes as the United States announced a second case after a woman was found to have contracted the strain.

She is in her 60s and is being treated in a Chicago hospital where she is reportedly doing well. She had travelled to Wuhan in December before flying home to Illinois.



China announced today it is building a new 1,000-bed hospital in just six days to treat victims of the virus.

Work has started on the structure in Wuhan in the style of a facility Beijing constructed during the SARS epidemic 17 years ago.

**Jan 25**

## **First confirmed case in Canada**

On January 25, the first identified presumptive case in Canada was a male in his 50s who travelled between Wuhan and Guangzhou before returning to Toronto on January 22



## Jan 28

### China puts 50 million people on lockdown

More than 100 people have died from a coronavirus outbreak that started in Wuhan, China, and more than 4,600 people have been infected across 17 countries.

The virus, which is marked by fevers and pneumonialike symptoms, likely originated in a wet market in Wuhan, an 11 million-person city in China's Hubei province.

On January 23, authorities put Wuhan under quarantine — halting all public transportation, including city buses, trains, and ferries. The order prevents any buses or trains from coming into or leaving the city and grounds all planes at the Wuhan airport. Wuhan authorities started to limit car travel the next day as well, The Guardian reported.

The city of Huanggang (which is home to around 7.5 million people) also went into lockdown last week, as authorities closed subway and train stations. By the following day, 10 additional cities — Chibi, Enshi, Ezhou, Huangshi, Suizhou, Qianjiang, Xianning, Xiantao, Yichang, and Zhijiang — had followed suit with their own travel restrictions. As of Monday, the cities of Xiangyang, Jingmen, Xiaogan, and Dangyang were also quarantined.

Tedros Adhanom Ghebreyesus, the director-general of the World Health Organization, said these efforts to quarantine cities will help Chinese authorities control the virus' spread and "minimize the chances of this outbreak spreading internationally."

Jan 29

## Finland's first coronavirus case confirmed in Lapland

A Chinese tourist who was admitted to hospital for tests after showing symptoms was confirmed to have the deadly new strain of coronavirus that has so far killed more than a hundred people in China.

Infectious diseases specialist Markku Broas from Lapland Central Hospital said that the tourist left the city of Wuhan five days before seeking treatment in Finland. Wuhan is the capital of Hubei province, which the epicentre of the current outbreak, and shut down soon afterwards by Chinese authorities trying to stop the spread of the disease.

The tourist is said to be a female aged 32 and in relatively good health. She sought medical attention in Ivalo when symptoms first appeared. Samples were taken after a transfer to Lapland Central Hospital in Rovaniemi. Tests conducted in Helsinki confirmed the infection.

"It was to be expected that cases brought by visitors could also come to light in Finland. However the risk of the disease spreading in Finland is still very small, so there is no need for concern," said THL director Mika Salminen.

So far officials estimate that about 15 people may have been exposed to infection. Health authorities will monitor persons exposed to the risk of infection for 14 days, in



accordance with World Health Organization recommendations.

Lapland hospital specialist Broas said that the majority of people under observation after possible exposure to the disease are foreign nationals. "Travel restrictions in China will reduce the risk of infection," he noted.

Health officials from the Lapland hospital district as well as local health officials will continue to manage the situation in collaboration with the THL.

"Finland is prepared for possible cases. The health care system and laboratories have operating systems in place. Hospitals are also prepared to investigate and care for coronavirus infections in isolation wards," Salminen added.

Meanwhile THL officials said in a press conference Wednesday evening that the possible window for infection from this patient was likely very narrow. They added that there are no locations at Helsinki-Vantaa Airport where people might have been exposed to infection.



**Feb 1**

## **Coronavirus death in Philippines is first fatality outside China**

A 44-year-old Chinese male from Wuhan died in the Philippines on Feb. 1 from the novel coronavirus, the first death recorded outside of China, the World Health Organization said on Sunday.

The man arrived in the Philippines on Jan. 21 accompanying the country's first confirmed case, a 38-year-old woman, after they had traveled from Wuhan via Hong Kong, Health Secretary Francisco Duque said at a televised briefing in Manila. He was hospitalized on Jan. 25 after experiencing a fever, cough and sore throat, which developed into severe pneumonia.

"This is the first reported death outside China, however we need take into mind it is not a locally acquired case," WHO's representative in the Philippines, Rabindra Abeyasinghe, said at the briefing. "This patient is from the epicenter of this outbreak in Wuhan, China, where they have a very large number of deaths." Earlier on Sunday, President Rodrigo Duterte widened his

travel ban previously imposed on visitors from Hubei province to all of China, including Hong Kong and Macau, and also prohibited Filipinos from traveling to those areas, according to his spokesman, Salvador Panelo. Citizens returning from China and its special administrative regions must go into quarantine for 14 days, Panelo said.

## Feb 2

### 36 countries have imposed travel restrictions

Both President Donald Trump and leading Democratic presidential candidate Joe Biden are spinning the facts on the administration's coronavirus travel restrictions for those who had been in China.

Trump has repeatedly boasted, as he did on April 4, that “I stopped people from China very early — very, very early — from coming into our country.” On April 1, Trump said that “banning dangerous foreign travel that threatens the health of our people” was one of the actions his administration took that was “far earlier than anyone would have thought and way ahead of anybody else.”

On ABC's “This Week” on April 5, Biden said “45 nations had already moved” to restrict travel from China “before the president moved.” Said Biden, “We started off awfully slow.”

**The U.S. did not act “way ahead of anybody else” in imposing travel restrictions from China, as Trump alleges, nor was it late getting into the act compared with other countries around the world, as Biden says.**

ThinkGlobalHealth, a project of the Council on Foreign Relations, has been tracking the travel restrictions on

China due to COVID-19. Its country-by-country analysis of the date and type of travel restrictions shows that in the days after the World Health Organization on Jan. 30 declared the coronavirus outbreak a public health emergency of international concern, **36 countries imposed travel restrictions, including the U.S., by Feb. 2.**

“What this data shows is that the United States was neither behind nor ahead of the curve in terms of imposing travel restrictions against China,” a co-author of the tracker, Samantha Kiernan, a research associate on global health, economics, and development at the Council on Foreign Relations, told us via email.

A day after the WHO decision, Health and Human Services Secretary Alex Azar declared a public health emergency for the U.S. for the novel coronavirus and announced travel restrictions to and from China, effective Feb. 2. The policy prohibited non-U.S. citizens, other than the immediate family of U.S. citizens and permanent residents, who have traveled to China within the last two weeks from entering the U.S. ...



## Feb 6

# First U.S. coronavirus death

A mystery clouded the death of Patricia Dowd in early February.

The San Jose woman was a seemingly healthy 57-year-old who exercised routinely, watched her diet and took no medication. She had flu-like symptoms for a few days, then appeared to recover, a family member said. Then she was found dead Feb. 6, and the initial culprit appeared to be a heart attack.

This week, authorities confirmed to Dowd's family that she tested positive for the novel coronavirus, making her the first such documented fatality in the nation.

Health authorities in Santa Clara County did not identify Dowd by name, describing the decedent as a 57-year-old woman who died at home. The Times independently confirmed her death from family members.

Santa Clara County Health Officer Dr. Sara Cody said the deaths of three people in the county — one Feb. 6, another Feb. 17, and a third March 6 — were evidence that the novel coronavirus arrived in the Bay Area far earlier than expected and spread. Previously, the first documented fatality was outside Seattle on Feb. 29.

"None of these cases had a significant travel history," Cody said Wednesday of the three deaths. "We presume that each of them represent community transmission and that there was some significant level of virus circulating in our community in early February ... and who knows how much earlier."

Cody referred to the cases as "iceberg tips," an omen of a vast and unseen propagation. The person who died on Feb. 17 was a 69-year-old man. The March 6 victim was a 70-year-old man.

Cody said the robust influenza season this winter, coupled with limited testing and a nascent understanding of the coronavirus, led to this late detection.

"It would be difficult to pick out what was influenza and what was COVID-19," Cody said. She credited the county's medical examiner and health officials for taking the time to understand the virus and help detect these three deaths.

Family members said Dowd, who worked as manager for semiconductor company, became unusually sick in late January and was forced to cancel plans to go to a weekend funeral.

After a bout with flu-like symptoms, however, she had improved and was working from home, corresponding with a colleague at about 8 a.m. the day of her death.

About two hours later, her daughter found her dead. As family members learned more about the symptoms of the coronavirus, suspicions grew.

Dowd had a history of foreign travel, as did her co-workers at Lam Research in the Bay Area.

Her brother-in-law, Jeff Macias, said Dowd had planned to travel to China later this year and went abroad "multiple times a year to different global locations."

"Where did this come from if it wasn't her traveling?" Macias said. "Patricia may not be the first. It's just the earliest we have found so far."...

## Feb 7

### Dr. Li Wenliang dies from coronavirus

China says it has launched an investigation into "issues" related to the death on Friday of a doctor whose early efforts to alert his colleagues to the dangers of a new coronavirus were quashed by authorities.

Meanwhile, President Trump spoke with China's leader Xi Jinping to discuss the coronavirus epidemic, which has rapidly gone global since it began in China in December.

Dr. Li Wenliang, an ophthalmologist working in Wuhan, the Chinese city where the epidemic originated, died on Friday local time, weeks after he was hospitalized and treated for a coronavirus infection.

Li, 34, had first sought to warn his college classmates in the medical profession of the disease in late December. Using the popular Chinese social media platform WeChat, Li wrote that he had become aware of several cases similar to severe acute respiratory syndrome, or SARS, another coronavirus that killed nearly 800 people in a 2002-2003 outbreak that Beijing initially tried to cover up.

However, within days, local police paid him a visit and reprimanded him for the posts. He signed a statement on Jan. 3, a copy of which has circulated online in China, in which he acknowledges making "false statements."

"This is a type of illegal behavior!" the statement said.

Days later, Li was hospitalized with a coronavirus infection.

On Cruise Ship Quarantined In Japan, New Cases Could Reset The Isolation Clock

ASIA

On Cruise Ship Quarantined In Japan, Any New Cases Would Reset The Isolation Clock

After the announcement of his death Friday, China's National Supervisory Commission, the country's top anti-corruption body, said it would send a team to Wuhan to "thoroughly investigate issues related to Dr. Li Wenliang," according to the official Xinhua news agency.

The report did not specify what exactly would be investigated, but it comes within a broader context of growing criticism of Beijing for its handling of the crisis. China was initially praised for being quicker to seek international help than it did during the SARS outbreak; however, in recent days it has become more clear that in the initial phase of the epidemic, authorities may have been less than transparent.

Li is one of several whistleblowers in the medical profession who tried to sound the alarm but were apparently shut down by authorities in the crucial first weeks of the outbreak. News of his death on Weibo, China's equivalent of Twitter, sparked an outpouring of sympathy and rare expressions of anger at authorities, according to the South China Morning Post.



Feb 11

## Disease caused by the novel coronavirus officially has a name: COVID-19

Tedros Adhanom Ghebreyesus, the director-general of the World Health Organization, announced the name Tuesday, giving a specific identifier to a disease that has been confirmed in more than 42,000 people and caused more than 1,000 deaths in China. There have been fewer than 400 cases in 24 other countries, with one death.

In choosing the name, WHO advisers focused simply on the type of virus that causes the disease. Co and Vi come from coronavirus, Tedros explained, with D meaning disease and 19 standing for 2019, the year the first cases were seen.

The virus that causes the disease has been known provisionally as 2019-nCoV. Also on Tuesday, a coronavirus group from the International Committee on Taxonomy of Viruses, which is responsible for naming new viruses, proposed designating the novel coronavirus as SARS-CoV-2, according to a preprint of a paper posted online. (Preprints are versions of papers that have not yet been peer-reviewed or published in a scientific journal.) The name reflects the genetic similarities between the new coronavirus and the coronavirus that caused the SARS outbreak of 2002-2003.

In selecting Covid-19 as the name of the disease, the WHO name-givers steered clear of linking the outbreak to China or

the city of Wuhan, where the illness was first identified. Although origin sites have been used in the past to identify new viruses, such a namesake is now seen as denigrating. Some experts have come to regret naming the infection caused by a different coronavirus the Middle East respiratory syndrome.

“Having a name matters to prevent the use of other names that can be inaccurate or stigmatizing,” Tedros said. “It also gives us a standard format to use for any future coronavirus outbreaks.”

Viruses and the disease they cause do not have to have related names — think HIV and AIDS — but more recently those responsible for the formal naming process have kept them associated. For example, SARS, the disease, is caused by SARS-CoV, the virus.

The provisional name of the new virus stemmed from the year it was first seen (2019), the fact that it was new (n), and a member of the coronavirus family (CoV).

A clear name could also stop the ad hoc identifiers that have sprung up in the press and online, many of which, like the Wuhan virus or Wu Flu, linked the virus to the city.

Feb 12

## South Korea sees a spike in cases

South Korea reported 123 new coronavirus cases on Sunday, bringing its total to 556, and reported a fourth death. The news added to concerns that another Asian country was losing control of the disease and that the window to avert a pandemic was closing.

As of Saturday, the virus had spread to 28 countries. Some 1,500 cases had been confirmed outside China; multiple infections in the United States, Italy, Iran and the United Arab Emirates; and one in Egypt, the first to be confirmed on the African continent. The highest death toll outside of China is in Iran, with six as of Saturday.

Early Sunday, China, where the virus emerged, raised its numbers to 76,936 confirmed cases and 2,442 deaths.

Panic was spreading in Israel on the news that nine South Koreans who had spent a week visiting often-crowded religious sites as part of a Roman Catholic tour group had tested positive upon returning home.

Many African countries are bracing for the disease. The World Health Organization has identified 13 as priorities



because of their direct links to China or their high volume of travel to it.

With hundreds of infections having been confirmed in South Korea in just a few days, Prime Minister Chung Sye-kyun called the situation “grave.”

“We will deal sternly with any acts that interfere with the government’s quarantine efforts and add to anxiety among the people,” Mr. Chung said in a nationally televised statement on Saturday. He urged citizens not to hoard facial masks or other hygiene products.

**Feb 24**

## **Brazil has first confirmed case; the coronavirus has now hit every continent except Antarctica**



The coronavirus has now reached every continent except Antarctica after Brazil confirmed its first case.

On Tuesday, Brazil's Ministry of Health confirmed a man in São Paulo tested positive for COVID-19, according to Reuters.

The 61-year-old man returned to São Paulo from Lombardy, Italy, on February 21, the ministry said. He had flown to Italy for work on February 9.

This is the first confirmed case in South America, leaving Antarctica the only continent without a registered case.

## Feb 24

# US stock market plummets - Dow Jones has worst day in 2 years

WALL STREET- Stock markets were slammed on Monday with investors unnerved by rising coronavirus concerns.

The relentless spread and widening economic impact of the coronavirus now threatens havoc on a global scale.

The Dow Jones industrial average sank by more than 1,000 points or 3.5 percent, to close at 27,961.01 as Wall Street interpreted disease clusters in South Korea, Italy, and Iran as a sign that the respiratory illness has outraced confinement efforts in China. The technology-heavy Nasdaq index sank by more than 3.7 percent.

Factories around the world are grappling with parts shortages as their Chinese suppliers struggle to resume normal operations. The Federal Reserve and other central banks are facing calls for emergency help as global economic engines sputter.

Interest rates are already in negative territory in Europe and near historic lows in the United States, making it even more difficult for central bank chiefs to battle the economic consequences of the flu-like illness.

“There’s just growing angst in the investor community that

this thing is more serious than we realized,” said Chris Meekins, an analyst with Raymond James and former Trump administration preparedness official. “When you’re worried about catching a disease, you’re not going to go out to dinner; you’re not going to go to the movies or sporting events or concerts. The only question is how widespread this becomes.”

Investors on Monday rushed into traditional safe havens, sending the price of gold soaring as government bond yields, which move opposite prices, plumbed new depths. After weeks of playing down the likely impact outside China, oil also fell into bear market territory amid expectations of prolonged global weakness.

“It may not be an actual pandemic yet, but it’s an economic pandemic,” said Diane Swonk, chief economist for Grant Thornton. “It’s global in scope and disrupting activity around the world.”

Monday’s markets action showed the rapid evolution of the coronavirus from a limited threat to supply chains into an across-the-board tightening of financial conditions ...

## Feb 25

# CDC expects 'community spread' of coronavirus, as top official warns disruptions could be 'severe'

The Centers for Disease Control and Prevention on Tuesday warned that it expects the novel coronavirus that has sparked outbreaks around the world to begin spreading at a community level in the United States, as a top official said that disruptions to daily life could be "severe."

"As we've seen from recent countries with community spread, when it has hit those countries, it has moved quite rapidly. We want to make sure the American public is prepared," Nancy Messonnier, director of CDC's National Center for Immunization and Respiratory Diseases, told reporters.

"As more and more countries experience community spread, successful containment at our borders becomes harder and harder," she said.

There have been 14 cases of the virus diagnosed in the U.S., all in people who traveled recently to China or their close contacts. Another 39 U.S. residents have been infected in other parts of the world before being repatriated and quarantined. But CDC officials say the country could

soon see more cases as the virus starts to spread through communities in areas outside China, including Iran, South Korea, and Italy.

The CDC urged American businesses and families to start preparing for the possibility of a bigger outbreak. Messonnier said that parents should ask their children's schools about plans for closures. Businesses should consider whether they can offer telecommuting options to their employees, while hospitals might need to look into expanding telehealth services, she said.

"Disruption to everyday life might be severe," Messonnier said, adding that she talked to her children about the issue Tuesday morning. "While I didn't think they were at risk right now, we as a family ought to be preparing for significant disruption to our lives."

The CDC's messaging seemed to be at odds with the position of the World Health Organization, which reiterated Tuesday that countries could stop transmission chains if they acted swiftly and aggressively ...

**Feb 27**

## **WHO designates 2020 as the year of the nurse**



The World Health Organization (WHO) has designated 2020 as the “International Year of the Nurse and the Midwife,” in honor of the 200th anniversary of Florence Nightingale’s birth.

Nightingale was a visionary nurse and leader, and we are thrilled to honor her in 2020 with this initiative.

This may not seem significant to us in the United States, where nursing is ranked as the most trusted profession, according to Gallup’s polls, but in many countries, nurses and midwives are considered less important and treated with less respect.

WHO’s 2020 International Year of the Nurse and the Midwife celebration will hopefully elevate nursing throughout the world and lead individuals to recognize the many roles we nurses fill in global healthcare.

The Year of the Nurse designation by the WHO highlights the push to increase the global nursing workforce. Nurses and midwives make up more than half the healthcare workforce worldwide, and the WHO estimates that this year there will be a shortage of nearly 9 million nurses.

As the world faces growing healthcare shortages, there are ambitious efforts being made to reach a goal of universal health coverage around the world by 2030. Nurses need to be on the front line.



Portrait of Florence Nightingale

Feb 28

## More than 20 vaccines are in development globally



... Our epidemiologists have been monitoring these developments continuously and we have now increased our assessment of the risk of spread and the risk of impact of COVID-19 to very high at global level. What we see at the moment are linked epidemics of COVID-19 in several countries but most cases can still be traced to known contacts or clusters of cases.

We do not see evidence as yet that the virus is spreading freely in communities. As long as that's the case we still have a chance of containing this virus if robust action is taken to detect cases early, isolate and care for patients and trace contacts.

As I said yesterday, there are different scenarios in different countries and different scenarios within the same country. The key to containing this virus is to break the chain of transmission. Yesterday I spoke about the things countries must do to prepare for cases and prevent onward transmission. The WHO/China joint mission has now published its report, which is available in English on the WHO website and will also be posted in Chinese on the National Health Commission website.

The report includes a wealth of information and 22 recommendations for China, for affected and unaffected countries, for the international community and the general public. It calls for all countries to educate their populations, to expand surveillance, to find, isolate and care for every case, to trace every contact and to take an all-of-government and all-of-society approach. This is not a job for the health ministry alone.

At the same time, work is also progressing on vaccines and therapeutics. **More than 20 vaccines are in development globally and several therapeutics are in clinical trials. We expect the first results in a few weeks** but we don't need to wait for vaccines and the therapeutics.

There are things every individual can do to protect themselves and others today.

Your risk depends on where you live, your age and general health ...

## Mar 1

### 6 more countries confirm first known case of COVID-19

1. Armenia confirmed its first case, a 29-year-old man returning from Iran.
2. Czech Republic confirmed the first three cases in the country, individuals that have travelled from Northern Italy.
3. Dominican Republic confirmed its first case, a 62-year-old Italian tourist.
4. Saint Barthélemy confirmed its first case.
5. Saint Martin confirmed its first case.
6. Scotland confirmed its first case.

## Mar 2

### 11 more countries confirm first known case of COVID-19

1. Andorra confirmed its first case.
2. India reported its first cases since the initial outbreak. One case was detected in New Delhi, while the other was from Telangana. Another confirmed case was later detected in Jaipur, bringing the total number to 6.
3. Indonesian president Joko Widodo announced the first two confirmed cases in the country. The two people contracted the virus from a Japanese in Depok, who later tested positive in Malaysia. The mother and daughter are now hospitalized in North Jakarta.
4. Ireland Tourism authorities announce that one of the largest annual events, the 2020 Dublin St Patricks Day Parade, is cancelled.
5. Jordan confirmed its first case.
6. Latvia confirmed its first case, a woman who had flown from Milan to Riga through Munich
7. Morocco saw its first case confirmed.
8. Portugal confirmed its first two cases, one of whom had returned from Italy, the other from Spain.
9. Saudi Arabia confirmed their first case in a citizen who had travelled to Iran and returned to Saudi Arabia via Bahrain.
10. Senegal confirmed its first case, where the person had recently travelled from France.
11. Tunisia confirmed its first case.

## Mar 3

### 5 more countries confirm first known case of COVID-19

1. Argentina confirmed its first case, a person who had recently returned from Italy.
2. Chile confirmed its first case.
3. Gibraltar confirmed its first case, a person who had travelled back from Northern Italy via Malaga airport.
4. Liechtenstein confirmed its first case.
5. Ukraine confirmed its first case, a person having travelled from Italy via Romania.

## Mar 4

### 5 more countries confirm first known case of COVID-19

1. Faroe Islands confirmed its first case
2. Hong Kong confirmed a case of human-to-animal transmission involving a pet dog
3. Hungary confirmed its first cases, two Iranian students who are asymptomatic.
4. Poland confirmed its first case.
5. Slovenia confirmed its first case. A person traveled through Italy.

## Mar 5

### 4 more countries confirm first known case of COVID-19

1. Bosnia and Herzegovina confirmed the first two cases in the country.
2. Egypt confirmed the first case in an Egyptian national, who had recently travelled from Serbia via France.
3. Martinique confirmed its first two cases.
4. South Africa records its first case in the KwaZulu-Natal province.

## Mar 6

### 8 more countries confirm first known case of COVID-19

1. Bhutan announced its first case, an American tourist who had recently also travelled to India after leaving the United States on 18 February.
2. Cameroon confirmed its first case, a French citizen.
3. Colombia confirmed its first case, a woman who recently traveled from Italy.
4. Costa Rica has confirmed its first case involving an American from New York.
5. Peru confirmed its first case.
6. Serbia confirmed its first case.
7. Slovakia confirmed its first case.
8. Togo confirmed its first case.

*The cruise ship Grand Princess announced it had 21 people on board testing positive.*

*The Vatican City confirmed its first case.*

## Mar 7

### 4 more countries confirm first known case of COVID-19

1. Maldives confirmed its first cases, two overseas hotel employees.
2. Malta reported its first three cases, an Italian family who are residents in Malta. They had gone on holiday to northern Italy and had been in self-quarantine before being tested for the coronavirus. They are now in isolation at Mater Dei Hospital.
3. Moldova confirmed its first case, a person taken to hospital after arriving on a flight from Italy.
4. Palestine confirms 22 cases.

**Mar 7**

## **A 103-year-old woman becomes the oldest person to beat coronavirus and return home**

Zhang Guangfen recovered from the disease after receiving treatment for just six days at a hospital in Wuhan – the Chinese city at the centre of the outbreak.

The centenarian's quick recovery was down to her having no underlying health conditions apart from mild chronic bronchitis, her doctor Dr Zeng Yulan told reporters.

She was diagnosed at Liyuan Hospital, Tongji Medical College, in Wuhan on 1 March, Chutian Metropolis Daily reports.

The grandmother has become the oldest person to recover from the deadly disease so far – days after a 101-year-old man also beat the virus in Wuhan. A 100-year-old man with Alzheimer's disease, hypertension and heart failure also recovered from the virus in Wuhan this week after being treated by military doctors.

Wuhan's 11 million residents have been in lockdown since late January.

The disease has infected more than 80,700 people in China and killed more than 3,000.



## Mar 8

### 3 more countries confirm first known case of COVID-19

1. Albania confirmed the first two cases in the country.
2. Bangladesh confirmed its first three cases, two people who had come from Italy separately, and a contact of one of the cases.
3. Bulgaria confirmed its first four cases.

## Mar 9

### 3 more countries confirm first known case of COVID-19

1. Brunei's health ministry confirmed a first case of a local man who returned from Kuala Lumpur on 3 March. Symptoms began on 7 March and preliminary tests indicate the person is positive
2. Cyprus confirmed its first two cases.
3. Panama announced its first COVID-19 case, a 40 year old Panamanian woman from Spain.

Mar 10

## Is China Returning to Business as Usual?

Life in China appears to be beginning to return to normal after weeks of lockdown due to the coronavirus. Although the streets of major cities aren't anywhere near as crowded as before, people are coming out again and offices and factories are starting to spring back to life. The makeshift hospitals erected in Wuhan amid the outbreak have been closed, and the epidemic seems to have been broken there. On Tuesday, President Xi Jinping arrived in Wuhan for a carefully planned visit. There, local leaders have demanded that the people show their gratitude to the party, which received some pushback.

Don't confuse this with actual normality. Life in China is still happening under the shadow of the virus, with temperature checks, app monitoring, and other biosecurity measures. That includes a just-announced 14-day quarantine period for all international arrivals at Beijing's airports, which could extend across the country soon. (That make Beijing's insistence in February that other countries' travel restrictions were unnecessary look a little hypocritical.) Movement within the country is still restricted, including for migrant workers. But China is edging toward a consensus on what life will look like now.



A boy rides a scooter as he walks with his mother on March 10 in Beijing. KEVIN FRAYER/GETTY IMAGES

## Mar 10

### Italy extends emergency measures nationwide

Italy has extended its emergency coronavirus measures, which include travel restrictions and a ban on public gatherings, to the entire country.

On Monday, Prime Minister Giuseppe Conte ordered people to stay home and seek permission for essential travel.

He said the measures were designed to protect the most vulnerable. "There is no more time," he said in a TV address.

Italy's coronavirus death toll jumped from 366 to 463 on Monday. It is the worst-hit country after China.

The number of confirmed infection also increased by 24% from Sunday, official figures showed.

Cases of the virus have been confirmed in all 20 Italian regions.

What did Mr Conte say?

Mr Conte said the best thing was for people to stay at home. "We're having an important growth in infection... and of deaths," he said in an evening address.

"We all must give something up for the good of Italy. We have to do it now.

"This is why I decided to adopt even more strong and severe measures to contain the advance... and protect the health of all citizens."

In an earlier interview with La Repubblica newspaper, Mr Conte said of the outbreak: "I have been thinking about the old speeches of [Winston] Churchill - it is our darkest hour, but we will make it".



## Mar 10

### 7 more countries confirm first known case of COVID-19

1. Bolivia confirmed its first cases, two women who had been in Italy, arriving the country without showing any symptoms.
2. Burkina Faso confirmed its first cases with two infections, a couple who had returned from France in February.
3. Democratic Republic of Congo reported its first case, a foreigner who flew into Kinshasa from Belgium who tested positive on arrival and was isolated. It was later confirmed by the Ministry of Health that the information they had originally released was incorrect and that the first case was rather a Congolese citizen returning From France, who had contacted the Health Services two days after his arrival in Congo and had been quarantined in a local neighborhood.
4. Jamaica confirmed its first case, a Jamaican national who travelled to the country from the United Kingdom.
5. Jersey confirmed its first case, a person who returned from Italy.
6. Northern Cyprus reported its first case, a 65-year-old German woman who was visiting as a tourist.
7. Turkey confirmed its first case.

Mar 11

## WHO Director-General's opening remarks at the media briefing on COVID-19

WHO has been assessing this outbreak around the clock and we are deeply concerned both by the alarming levels of spread and severity, and by the alarming levels of inaction.

**We have therefore made the assessment that COVID-19 can be characterized as a pandemic.**

Pandemic is not a word to use lightly or carelessly. It is a word that, if misused, can cause unreasonable fear, or unjustified acceptance that the fight is over, leading to unnecessary suffering and death.

Describing the situation as a pandemic does not change WHO's assessment of the threat posed by this virus. It doesn't change what WHO is doing, and it doesn't change what countries should do.

We have never before seen a pandemic sparked by a coronavirus. This is the first pandemic caused by a coronavirus.

And we have never before seen a pandemic that can be controlled, at the same time.

WHO has been in full response mode since we were notified of the first cases.

And we have called every day for countries to take urgent and aggressive action.

We have rung the alarm bell loud and clear.



## Mar 11

### 6 more countries confirm first known case of COVID-19

1. Cuba confirmed its first three cases.
2. French Polynesia reported its first case. The person is Maina Sage, a member of the French National Assembly.
3. Guyana confirmed its first two case, from a 52-year-old woman suffering from underlying health conditions, including diabetes and hypertension.
4. Honduras confirmed its first two cases, one from Spain and one from Switzerland.
5. Ivory Coast declared its first case, a local citizen who had recently been in Italy.
6. Réunion confirmed its first case.

## Mar 12

# The NBA suspends all games starting Thursday after a player for the Utah Jazz tests positive for COVID-19

The league said play would be suspended until further notice.

The test result was reported shortly before tipoff of Wednesday night's game between the Utah Jazz and Oklahoma City Thunder in Oklahoma City, according to a statement from the NBA. The game was canceled immediately.

The affected player was not in the arena at the time of cancellation. The NBA also announced that it would use the hiatus to determine its next steps.

NBA suspends all games as coronavirus spreads A game between the Sacramento Kings and the New Orleans Pelicans in New Orleans was also suspended because one of the referees at the game had worked a Jazz game earlier in the week, according to NBC Sports.

Wednesday night's other games were allowed to go ahead.

The move by the NBA is the biggest in the U.S. to date in response to concerns about the spreading coronavirus.

Earlier Wednesday, the NCAA said it would restrict attendance at its coming Division I men's and women's basketball tournaments to staff and family.

Reporters at the Jazz-Thunder game tweeted that the entire arena was emptied and that both teams were still in their locker rooms while the Jazz bench area was cleaned.

**Mar 12**

**1 more country confirms first known case of COVID-19**

1. St. Vincent & the Grenadines confirmed its first case.

## Mar 13

### 20 more countries confirm first known case of COVID-19

1. Antigua and Barbuda confirmed its first case.
2. Aruba confirmed its first two cases, people who traveled in from New York.
3. The Cayman Islands confirmed its first case.
4. Curaçao reported its first case, a Dutch tourist.
5. Ethiopia confirmed its first case.
6. Gabon confirmed its first case.
7. Ghana confirmed its first two cases, a Norwegian Embassy official and a Turkish citizen.
8. Guadeloupe confirmed its first case, a citizen who recently returned from France.
9. Guatemala confirmed its first case, a traveler from Italy.
10. Guinea reported its first case, an employee of the EU delegation.
11. Kazakhstan confirmed its first two cases, which were also the first in Central Asia.
12. Kenya confirmed its first case, a Kenyan national who had returned from the United States via London.
13. Kosovo confirmed its first two cases.
14. Puerto Rico confirmed its first three cases, a 71-year-old man and an Italian couple, aged 68 and 70.
15. Saint Lucia confirmed its first case, a 63-year-old woman who had traveled to the UK.
16. Sudan confirmed its first case and first death, a man in his 50s who travelled to the United Arab Emirates.
17. Suriname confirmed its first case.
18. U.S. Virgin Islands confirmed the first case in the territory.
19. Uruguay confirmed its first four cases, all of them having travelled from Milan, Italy.
20. Venezuela confirmed its first two cases, one a traveler from the United States, and the second who had traveled from Spain.

## Mar 14

### US travel ban on 26 European countries comes into force

The U.S. is banning entry to those traveling from the 26 European countries that form the so-called Schengen Area, where there are no passport checks between internal borders. These nations are: Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden and Switzerland.

Most people who have been in these countries in the 14 days prior to their scheduled arrival in the United States will not be allowed in. This two-week limit means those affected can't get around the rules by changing flights in a non-European airport.

The ban does not apply to legal permanent residents of the U.S., according to the Department of Homeland Security, and in most cases, it does not apply to Countries in Europe not part of the Schengen area are excluded from the ban. These include the U.K., Ireland, Croatia, Cyprus, Bulgaria and Romania.

## Mar 14

### 9 more countries confirm first known case of COVID-19

1. Central African Republic confirmed its first case.
2. Congo Republic confirmed its first case, a person who had travelled from France.
3. Equatorial Guinea confirmed its first case, a 42-year-old woman who returned from Madrid.
4. Eswatini confirmed its first case, a 33-year-old woman, who traveled to the United States and then Lesotho before returning home to Eswatini.
5. Mauritania confirmed its first case.
6. Mayotte confirmed its first case.
7. Namibia confirmed its first cases, two tourists visiting the country.
8. Rwanda confirmed its first case.
9. Seychelles reported its first two cases.

## Mar 15

### US adds UK and Ireland to coronavirus travel restrictions

The U.S. will added the U.K. and Ireland to sweeping travel restrictions as the coronavirus spreads, President Donald Trump said Saturday, as he discouraged the American public from unnecessary travel.

Trump earlier this week announced that foreigners who have been in 26 European countries over the last two weeks won't be allowed in to the U.S. for 30 days. Vice President Mike Pence said the rules will take effect midnight Monday.

Airlines have scrambled to slash flights amid the pandemic and unprecedented travel restrictions to stop the spreading virus have crushed demand. Air cargo and ocean freight are exempt from the rules. The new ban to entry on foreigners who have been in the U.K. and Ireland takes effect at midnight Monday.

Speaking at a coronavirus briefing on Saturday, Trump said further travel restrictions, possibly within the United States, from places with high numbers of cases, is possible.

"If you don't have to travel, I wouldn't do it," Trump said, when asked whether people should travel domestically.

Trump said his administration is considering domestic travel restrictions "from certain areas," he said, without elaborating. "We're working with the states and considering other restrictions."

Airlines will likely run flights for several days to allow citizens to return home and then will begin cancellations, according to a person familiar with the matter.

## Mar 15

### 7 more countries confirm first known case of COVID-19

1. Bahamas confirmed their first case, a person with no recent travel history.
2. Uzbekistan confirmed its first case, a citizen who had returned from France.
3. Benin confirmed its first case, a 49-year-old man who had traveled to Belgium and Burkina Faso.
4. Greenland confirmed its first case.
5. Liberia confirmed its first case.
6. Somalia confirmed its first case.
7. Tanzania confirmed its first case.

Mar 16

## US volunteer gets first shot of experimental COVID-19 vaccine

U.S. researchers gave the first shot to the first person in a test of an experimental coronavirus vaccine Monday — leading off a worldwide hunt for protection even as the pandemic surges.

With a careful jab in a healthy volunteer's arm, scientists at the Kaiser Permanente Washington Research Institute in Seattle begin an anxiously awaited first-stage study of a potential COVID-19 vaccine developed in record time after the new virus exploded from China and fanned across the globe.

"We're team coronavirus now," Kaiser Permanente study leader Dr. Lisa Jackson said on the eve of the experiment. "Everyone wants to do what they can in this emergency."

The Associated Press observed as the study's first participant, an operations manager at a small tech company, received the injection inside an exam room. Three others were next in line for a test that will ultimately give 45 volunteers two doses, a month apart.



"We all feel so helpless. This is an amazing opportunity for me to do something," Jennifer Haller, 43, of Seattle, said as she awaited the shot.

She's the mother of two teenagers and "they think it's cool" that she's taking part in the study.

'I'm feeling great'

After the injection, she left the exam room with a big smile: "I'm feeling great."

## Mar 17

# Coronavirus cases have dropped sharply in South Korea. What's the secret to its success?

Europe is now the epicenter of the COVID-19 pandemic. Case counts and deaths are soaring in Italy, Spain, France, and Germany, and many countries have imposed lockdowns and closed borders. Meanwhile, the United States, hampered by a fiasco with delayed and faulty test kits, is just guessing at its COVID-19 burden, though experts believe it is on the same trajectory as countries in Europe.

Amid these dire trends, South Korea has emerged as a sign of hope and a model to emulate. The country of 50 million appears to have greatly slowed its epidemic; it reported only 74 new cases today, down from 909 at its peak on 29 February. And it has done so without locking down entire cities or taking some of the other authoritarian measures that helped China bring its epidemic under control. “South Korea is a democratic republic, we feel a lockdown is not a reasonable choice,” says Kim Woo-Joo, an infectious disease specialist at Korea University. South Korea’s success may hold lessons for other countries—and also a warning: Even after driving case numbers down, the country is braced for a resurgence.

Behind its success so far has been the most expansive and well-organized testing program in the world, combined with

extensive efforts to isolate infected people and trace and quarantine their contacts. South Korea has tested more than 270,000 people, which amounts to more than 5200 tests per million inhabitants—more than any other country except tiny Bahrain, according to the Worldometer website. The United States has so far carried out 74 tests per 1 million inhabitants, data from the U.S. Centers for Disease Control and Prevention show.

South Korea’s experience shows that “diagnostic capacity at scale is key to epidemic control,” says Raina MacIntyre, an emerging infectious disease scholar at the University of New South Wales, Sydney. “Contact tracing is also very influential in epidemic control, as is case isolation,” she says.

Yet whether the success will hold is unclear. New case numbers are declining largely because the herculean effort to investigate a massive cluster of more than 5000 cases—60% of the nation’s total—linked to the Shincheonji Church of Jesus, a secretive, messianic megachurch, is winding down. But because of that effort, “We have not looked hard in other parts of Korea,” says Oh Myoung-Don, an infectious disease specialist at Seoul National University.

## Mar 17

### 4 more countries confirm first known case of COVID-19

1. Barbados reported its first two cases, people who recently returned from the US.
2. Gambia reported its first case.
3. Montenegro reported its first two cases. One infected was from Podgorica, and the other from Ulcinj. (Montenegro was the last country in Europe without any confirmed cases.)
4. Saint Maarten confirmed its first case, a 26-year-old local resident who traveled to UK and Miami.

**Mar 18**

## **Venice canals are clear enough to see fish as coronavirus halts tourism in the city**



Swans were seen in the water, while dolphins have been spotted swimming in the port.

However, the transparent water isn't so much a sign of better water quality as it is the result of the lack of boat traffic, which typically kicks sediment to the surface, Pierpaolo Campostrini, the managing director for the Consortium for Managing Scientific Research on Venice Lagoon System, told ABC News via email.

The cold temperature of the water also plays a part, Campostrini said. At about 57 degrees Fahrenheit, there is little synthesis of organic compounds from carbon dioxide, which doesn't begin until about 62 degrees Fahrenheit.

It's likely that the air quality has improved since "every kind of pollutants decreased a lot," but a chemical analysis would need to be performed to say so for sure, Campostrini added.

## Mar 18

### 8 more countries confirm first known case of COVID-19

1. Bermuda confirmed its first two cases.
2. Djibouti confirmed its first case.
3. El Salvador confirmed its first case.
4. Kyrgyzstan reported its first cases, three people who had recently returned from a pilgrimage to Saudi Arabia.
5. Mauritius announced its first three cases.
6. Montserrat confirmed its first case, a person who visited the United Kingdom.
7. New Caledonia confirmed its first two cases.
8. Nicaragua confirmed its first case, imported from Panama.

## Mar 19

### 6 more countries confirm first known case of COVID-19

1. Angola confirmed its first case, a Chinese businessman.
2. Chad confirmed its first case, a Moroccan national who had traveled to the country from Cameroon.
3. Fiji confirmed its first case.
4. Haiti reported its first two cases.
5. Isle of Man confirmed its first case, a person who recently returned from Spain.
6. Niger confirmed its first case, a local 36-year-old man who traveled a lot to Togo, Ghana, Ivory Coast and Burkina Faso due to work.

## Mar 20

### 6 more countries confirm first known case of COVID-19

1. Cape Verde confirmed its first case, a 62-year-old English tourist
2. East Timor confirmed its first case
3. Madagascar reported its first three cases
4. Papua New Guinea confirmed its first case
5. Uganda confirmed its first case.
6. Zimbabwe confirmed its first case.

## Mar 21

### **3 more countries confirm first known case of COVID-19**

1. Åland Islands confirmed their first two cases.
2. Eritrea confirmed its first case, a 39-year-old Eritrean national with permanent residence in Norway.
3. Transnistria confirmed its first two cases.

## Mar 22

### 4 more countries confirm first known case of COVID-19

1. Dominica confirmed its first case, a 54-year-old man who recently arrived from the United Kingdom.
2. Grenada confirmed its first case, a woman who recently traveled to the UK.
3. Mozambique confirmed its first case.
4. Syria recorded its first case.

**Mar 23**

## **China begins Phase I trial of Covid-19 vaccine**



China has commenced a Phase I clinical trial of a vaccine against Covid-19, the infection caused by the novel coronavirus that is so far responsible for 341,700 infections and 14,750 deaths globally.

According to Chinese media, a staff member associated with the government-funded project said that participants in the trial are already being vaccinated.

The trial is designed to enrol 108 volunteers aged 18-60 years who are residents of Wuhan, the city where the virus originated. Participants will be divided into three groups and administered with different dosages.

The experimental candidate is a recombination vaccine developed by biotechnology company CanSino Biologics in alliance with a research team from the PLA Academy of Military Medical Sciences.

## Mar 23

### 3 more countries confirm first known case of COVID-19

1. Belize confirmed its first case, a local resident who recently returned from Los Angeles.
2. Myanmar confirmed its first two cases.
3. Turks and Caicos Islands confirm their first case.

**Mar 23**

## All tribes close their casinos

OKLAHOMA CITY (KFOR) – Officials with the Oklahoma Indian Gaming Association confirmed on Monday that all of its tribal members have closed their casinos temporarily.

Although they are independent sovereign nations, each tribe is united under the common purpose of preserving the public health.

“Nothing is of greater importance to the Tribes than the health and well-being of the citizens of their Nations and the citizens of Oklahoma. We always want to be good neighbors, and to lead by positive example. In making the decision to temporarily suspend our gaming operations, we are hopeful that we will have a positive impact on the health of Oklahomans,” said OIGA Chairman Matthew L. Morgan.

Each tribal nation has drafted its own COVID-19 response plans and protocols.



[https://www.500nations.com/Oklahoma\\_Casinos.asp](https://www.500nations.com/Oklahoma_Casinos.asp)

Oklahoma has 33 tribes operating 143 Indian casinos and gaming centers located across 50 Oklahoma counties.

These 143 gambling locations include Class III casinos with vegas-style gambling, Class II casinos with no-banker electronic gaming, travel plazas with slot machines, and smoke shops with Indian gaming.

Oklahoma Indian gaming is the state's second largest industry. It is also the largest Indian gaming revenue in the country after California. Revenues from Indian gaming and casino construction in 2017 was \$7.2 billion.

## Mar 24

### **3 more countries confirm first known case of COVID-19**

1. Easter Island reports its first case.
2. Laos reported its first two cases.
3. Libya confirmed its first case.

## Mar 24

# Governor Kevin Stitt Issues 'Safer-At-Home' Order

Governor Kevin Stitt issued a “safer-at-home” order and more restrictions on businesses in order to further try to stop the spread of the virus.

State and local leaders said the goal of these new restrictions is to keep too many people from getting sick at once so healthcare facilities and equipment will not be pushed past their capacity.

Stitt's “safer-at-home” means all elderly and people with compromised immune systems in Oklahoma need to stay home.

“Until April 30, our most vulnerable population is safer at home unless it's the grocery store or pharmacy,” Stitt said.

Governor Stitt also mandated all non-essential businesses, like bars and salons shut down Wednesday night by midnight, in the 19 Oklahoma counties with a positive COVID-19 case.

His office has provided a list of what the federal government said is essential and non-essential.

He said he's also imposing a ban on groups of more than 10 people in our state effective tonight at midnight

He's not allowing any elective surgeries, minor procedures, or non-emergency dental procedures for the next 14 days. Dr. Kayse Shrum with the OSU Center for Health Sciences said this plan is designed to stop the spread of COVID-19.

“We believe this approach will keep us from having a steep curve from what our health care infrastructure can handle here in Oklahoma,” Shrum said.

Although the positive number of COVID-19 cases in Oklahoma is just above 100, Stitt said the real number is likely much higher. He said 10,000 tests will be in Oklahoma by the end of the week.

“I know we're closer to 500 and getting into the thousands, we're not standing by idle, we're working around the clock,” Stitt said.

Tulsa Mayor G.T. Bynum also said today that he was issuing his own executive order banning groups of 10 or more and that Tulsa Police will be enforcing the orders as they have already with bars, dine-in restaurants, and more.

The governor also said the plan is to designate two hospitals in the state to treat COVID-19 patients, so experts and equipment can be funneled to those two locations.

## Mar 25

### 4 more countries confirm first known case of COVID-19

1. British Virgin Islands reported their first two cases.
2. Guinea-Bissau reported its first two cases.
3. Mali reported its first two cases.
4. Saint Kitts and Nevis reported its first two cases.

Mar 25



**John Cumbers** Senior Contributor   
Manufacturing  
*Synthetic biology & space settlement connector, founder and investor.*

In uncertain times, we are witnessing one of the greatest moments in the history of science.

## COVID-19: PROJECTED TIMELINE FOR TREATMENT AND PREVENTION

There are **66 programs** working on **3 different approaches**:



A projected timeline for treatment and prevention of the novel coronavirus. Although we are living ... [+] SYNBIOBETA

**Mar 26**

## **86-year-old Italian woman beats coronavirus after 7 weeks in hospital**



CASALPUSTERLENGO, Italy -- An 86-year-old woman broke down tears as she left a hospital in northern Italy after a weeks-long battle with COVID-19.

The woman, identified only as Gianna, was shown being wheeled out of the hospital in a video posted to Facebook by Elia Delmiglio, the mayor of Casalpuusterlengo. Delmiglio shared Gianna's story with the blessing of her family.

Delmiglio said Gianna contracted COVID-19, the disease caused by the novel coronavirus, during a hospital stay. Over the course of seven weeks, she spent time in two different hospitals.

"She fought hard with all her strength in these weeks and, thanks to incredible work by doctors and nurses, managed to recover from COVID-19," Delmiglio wrote on Facebook. "Among the many stories of pain and suffering, Gianna's recovery gives us a great deal of hope."

**Mar 26**

**1 more country confirms first known case of COVID-19**

1. Anguilla reported its first two cases.

## Mar 26

# The new coronavirus is finally slamming Russia. Is the country ready?

For weeks, Russia seemed to have dodged a bullet. As coronavirus disease 2019 (COVID-19) raged just across the border in China, Russia was virtually untouched, reporting just seven confirmed infections as recently as 10 March. Since then, the number has risen fast: Russia has now reported 840 infections, about two-thirds of them in the Moscow region.

Some health care providers have questioned whether Russia truly kept the novel coronavirus at bay. Anastasia Vasilyeva, head of Russia's Alliance of Doctors trade union, has pointed out that pneumonia cases in Moscow spiked in January—they were 37% higher than in January 2019, according to Rosstat, Russia's statistics agency. She asserts that COVID-19 must have accounted for at least part of the increase. Others attribute the increase to a greater number of pneumonia patients, anxious about the new coronavirus, seeking treatment.

With COVID-19 cases now indisputably on the rise in Russia, authorities are moving fast to ramp up detection and hospital bed capacity. Russia's federal coronavirus coordination council says 193,000 tests based on the polymerase chain reaction (PCR) have been done to date. Swabs initially had to be shipped to Siberia for analysis at the State Research Center of Virology and Biotechnology VECTOR. Russia's Federal Service for the Oversight of Consumer Protection and Welfare (Rospotrebnadzor)—the

country's analog of the U.S. Centers for Disease Control and Prevention—has just expanded testing to its regional laboratories and the Anti-Plague Research Institute.

The agency says it has created a reserve of 700,000 test kits that it will regularly replenish. And the coronavirus council announced yesterday it is allotting 1.4 billion rubles (\$17.7 million) to VECTOR, the antiplague facility, and several Rospotrebnadzor labs to spur vaccine and drug development.

To cope with a rising tide of patients, Russia's federal government is building a new hospital on Moscow's outskirts. Authorities have called on Moscow residents over age 65 to self-isolate at home—an admonishment that Russian President Vladimir Putin, 67, exempted himself from. But Putin on 24 March donned protective gear while visiting a hospital treating COVID-19 patients, and yesterday he ordered all nonessential workplaces to close from 28 March to 5 April, declaring that “the safest thing is to be at home now.” Today, the government suspended international travel into and out of Russia—starting tomorrow—except for charter flights for bringing expatriates home.

## Mar 28

# Oklahoma City and Tulsa mayors order residents to shelter in place

OKLAHOMA CITY (AP) — The mayors of Tulsa and Oklahoma City on Saturday issued shelter-in-place orders for residents amid the coronavirus outbreak.

“We want to leave no doubt with our residents that the safest course of action during this public health crisis is to stay home, unless you are engaged in an essential job, essential errand, or outdoor physical activity,” Oklahoma City Mayor David Holt said in a press release.

The Oklahoma Department of Health said Saturday that 15 people with coronavirus had died, an increase from eight the day earlier. Officials said that of the newly reported deaths, there were two in Cleveland County, two in Tulsa County and one each in Oklahoma, Sequoyah and Wagoner counties. The woman who died in Sequoyah County was between the ages of 50 to 64, while the others were over 65.

There are at least 377 cases of people with COVID-19 in Oklahoma.

Earlier in the week, Gov. Kevin Stitt issued an order that required the elderly and other at-risk groups to stay home except for essential errands.

The shelter-in-place orders for the cities are effective at the end of the day Saturday through April 16. People can leave their homes for reasons including getting groceries, takeout

from restaurants and taking walks.

U.S. Rep. Tom Cole said Saturday that the doctor-recommended self-quarantine he entered after being around a fellow congressman who tested positive for COVID-19 had ended. Cole said he never had any coronavirus symptoms.

Cole, a Republican from Moore, said March 19 that he would self-quarantine after being around Florida Rep. Mario Diaz-Balart the week earlier.

For most people, the new coronavirus causes mild or moderate symptoms, such as fever and cough that clear up in two to three weeks. For some, especially older adults and people with existing health problems, it can cause more severe illness, including pneumonia and death.

## Mar 30

### 1 more country confirms first known case of COVID-19

1. Botswana recorded its first three cases.

## Mar 30

### **A 102-year-old woman in Italy recovered from COVID-19 after spending 20 days in the hospital**

GENOA, Italy -- A 102-year-old woman in Italy recovered from COVID-19 after spending 20 days in the hospital.

Italica Grondona's doctors said they nicknamed her "Highlander - the Immortal." They said she represents a hope for "all the elderly facing this pandemic."

Grondona was hospitalized at the beginning of March with heart failure related to COVID-19. She left the hospital on March 26 and will spend time in a care facility to fully recover.

According to the World Health Organization, the COVID-19 death rate is currently between 4-5 percent with the highest rate of fatalities coming from older patients.

The doctors said Grondona is the only person they know of who might have gone through the Spanish flu pandemic of 1918/1919 and the COVID-19 pandemic.

The Spanish flu pandemic killed at least 50 million people worldwide, according to the Centers for Disease Control and Prevention.



Italica Grondona

## Mar 31

### 4 more countries confirm first known case of COVID-19

1. Burundi confirmed its first two cases.
2. Sierra Leone confirmed its first case.
3. Saint Eustatius confirms its first two cases.
4. Somaliland confirms its first two cases.

The captain of a U.S. Navy aircraft carrier USS Theodore Roosevelt that has more than 100 cases of coronavirus wrote a stunning plea for help to senior military officials.

Apr 1

## COVID-19 survivor celebrates his 104th birthday

An Oregon World War II veteran who just turned 104 could be one of the oldest people on the planet to survive COVID-19, his family said this week.

William “Bill” Lapschies — whose birthday was on Wednesday — was one of the first two residents to test positive for the illness at the Edward C. Allworth Veterans’ Home in the city of Lebanon, local station KOIN reported.

To date, 15 residents have tested positive and two have died, according to the report.

Lapschies — who has two grandchildren, six great-grandchildren and five great-great-grandchildren — has been isolated in his room since he first showed symptoms March 5, according to the report.

He was diagnosed with the bug on March 10, The Oregonian reported.

A few days later, a doctor from the nursing home called Lapschies’ daughter Carolee Brown to say he wasn’t doing well — his temperature had spiked and his breathing was labored, according to the report.

Brown spoke with the doctor about end-of-life decisions.

But as of this week, Lapschies “has met the guidelines by the CDC and Oregon Health Authority to be considered recovered



from COVID-19,” a VA spokesperson told KOIN.

His recovery came just in time for his 104th birthday celebration. A caregiver brought him outside in a wheelchair, wearing a mask and a World War II veteran hat. His family gathered to meet him — but didn’t get too close, following social distancing guidelines.

Lapschies told the station it feels “pretty good” to be 104.

“I made it,” he said, before pausing and adding, “Good for a few more.”

Lapschies lived through the Spanish Flu, the Great Depression, and a couple recessions, Carolee’s husband, Jim Brown, told the station. He was stationed in the Aleutian Islands during WWII.

“Bill’s pretty resilient,” he said.

“It seemed like he just made this wonderful recovery,” Carolee added. “We were like shocked that he was kind of sitting in his wheelchair waving at us through the window and we were like, ‘He’s gonna make it!’”

“His smile, I wish you could have seen it,” granddaughter Jamie Yutzie said. “That mask covers it but his smile is absolutely contagious.”

## Apr 2

### **1 more country confirms first known case of COVID-19**

1. Malawi confirmed its three first cases.

There are now over 1,000,000 confirmed cases and 50,000 confirmed deaths in the world

## Apr 3

### 1 more country confirms first known case of COVID-19

1. The Falkland Islands reports its first case.

## Apr 3

# CDC recommends the use of cloth face coverings

CDC continues to study the spread and effects of the novel coronavirus across the United States. We now know from recent studies that a significant portion of individuals with coronavirus lack symptoms (“asymptomatic”) and that even those who eventually develop symptoms (“pre-symptomatic”) can transmit the virus to others before showing symptoms. This means that the virus can spread between people interacting in close proximity—for example, speaking, coughing, or sneezing—even if those people are not exhibiting symptoms. In light of this new evidence, CDC recommends wearing cloth face coverings in public settings where other social distancing measures are difficult to maintain (e.g., grocery stores and pharmacies) especially in areas of significant community-based transmission.

It is critical to emphasize that maintaining 6-foot social distancing remains important to slowing the spread of the virus. CDC is additionally advising the use of simple cloth face coverings to slow the spread of the virus and help people who may have the virus and do not know it from transmitting it to others. Cloth face coverings fashioned from household items or made at home from common materials at low cost can be used as an additional, voluntary public health measure.

The cloth face coverings recommended are not surgical masks or N-95 respirators. Those are critical supplies that

must continue to be reserved for healthcare workers and other medical first responders, as recommended by current CDC guidance.

This recommendation complements and does not replace the President’s Coronavirus Guidelines for America, 30 Days to Slow the Spread<sup>external icon</sup>, which remains the cornerstone of our national effort to slow the spread of the coronavirus. CDC will make additional recommendations as the evidence regarding appropriate public health measures continues to develop.

**Apr 4**

## **1 more country confirms first known case of COVID-19**

1. The first four cases are confirmed in the disputed territory of Western Sahara.

## Apr 5

### **3 more countries confirm first known case of COVID-19**

1. Saint Pierre confirms its first case.
2. Miquelon confirms its first case.
3. South Sudan confirms its first case.

## Apr 6

### 1 more country confirms first known case of COVID-19

1. São Tomé and Príncipe reports its first 4 cases.

**Apr 6**

## **A potential coronavirus vaccine funded by Bill Gates is set to begin testing in people, with the first patient expected to get it today**

Healthy volunteers in Philadelphia and Kansas City, Missouri, will begin to test an experimental coronavirus vaccine starting this week.

The small Pennsylvania-based biotech Inovio Pharmaceuticals received regulatory clearance to begin testing. The Bill and Melinda Gates Foundation, along with other nonprofits, have poured funding into Inovio's vaccine project.

The biotech expects to have early safety data by late summer and is aiming to produce 1 million doses by the end of 2020.

Researchers plan to dose the first person Monday. The experimental vaccine was developed by Inovio Pharmaceuticals, with the effort receiving funding from the Bill and Melinda Gates Foundation and the Coalition for Epidemic Preparedness Innovations.



**Apr 7**

**2 more countries confirm first known case of COVID-19**

1. Abkhazia confirms its first case.
2. Artsakh confirms its first case.

**Apr 8**

## **Pandas kept together for 10 Years have finally mated during the lockdown**

If the world wants more pandas to 'get it on', perhaps all we humans need to do is get out the way.

Far from the prying eyes of the public, two captive giant pandas in a closed Hong Kong zoo are making up for lost time with a whole lotta boning. Well, not a whole lot. Just once, but for this particular couple that's something to celebrate.

In the 10 years Ying Ying and Le Le have known each other, they've never once gotten down and dirty. And yet, this breeding season, amid a global pandemic, something between them seemed to change.

In late March, after a month or so of unusual privacy, Ying Ying began spending more time in the water. Meanwhile, Le Le began leaving a trail of scents around his habitat, actively searching for his companion's smell all the while. On Monday the two were seen cuddling. Love was clearly in the air.

At 9am, the deed was done and dusted, according to zoo officials.



**Apr 9**

## **People in India say they're seeing the Himalayas for first time in decades amid drop in air pollution**

People in Punjab, India, say they're seeing parts of the Himalayas clearly for the first time in decades as the country's government has linked its coronavirus lockdown to a recent improvement in air quality.

A report released by the country's Central Pollution Control Board late last month said the nationwide curfew implemented on March 22 and the subsequent lockdown ordered by Prime Minister Narendra Modi two days later "resulted in significant improvement in air quality in the country, as revealed by data analysis and comparison of data for time before enforcement of restrictions." As a result, according to CNN, some parts of the Himalayas can currently be seen from over 100 miles away.

One person in Punjab shared photos showing peaks of the mountain they said were captured from their rooftop, saying: "For the first time in almost 30 years could clearly see the Himalayas due to India's lockdown clearing air pollution."



## Apr 11

# Coronavirus can travel up to 13 feet

Further studies of air samples in hospital wards treating COVID-19 patients uncovered that the virus could travel up to 13 feet, more than twice the distance current social distancing guidelines mandate.

The investigation was conducted by Chinese researchers led by a team at the Academy of Military Medical Sciences in Beijing, who published their findings in *Emerging Infectious Diseases*, a journal of the U.S. Centers for Disease Control and Prevention, according to Yahoo.

The researchers who discovered traces of the disease at 13 feet of distance specified that the particles found were not inevitably infectious.

Samples were gathered from a COVID-19 ward at Huoshenshan Hospital in Wuhan, which housed a total of 24 patients between Feb. 19 and March 2.

They found that the virus was most heavily concentrated on the floors of the wards and said a potential cause could be due to gravity bringing the virus droplets to the ground.

"Half of the samples from the soles of the ICU medical staff shoes tested positive," the team wrote. "Therefore, the soles of medical staff shoes might function as carriers."

The research group also studied aerosol transmissions, or virus droplets that become suspended in the air for several hours.

They found that aerosols containing particles of the virus were primarily concentrated closer to the downstream from patients at up to 13 feet while some smaller quantities were found upstream, up to eight feet.

The study of coronavirus particles remaining in aerosols is controversial; a previous study from Massachusetts Institute of Technology (MIT) claiming the virus could travel anywhere from 23 to 27 feet was rebuked by Anthony Fauci, the nation's leading infectious disease expert.

He called the MIT research "misleading," noting that it would take a "very, very robust, vigorous, achoo sneeze" for droplets to travel that far, adding that the research was "not practical."

The World Health Organization has also noted the risk for aerosolized transmission is not an outstanding threat for most people, according to the report.

U.S. health officials have told people to wear masks or cover their faces when out in public to minimize the chances of transmitting the virus through talking or breathing close to other individuals.

**Apr 11**

**1 more country confirms its first known case of COVID-19**

1. Saba confirms its first case.

## Apr 12 - Easter Sunday

# A number of churches across America defy federal guidelines and hold in-person services

A number of churches across America are holding in-person services to celebrate Easter Sunday, despite federal guidelines calling for people to avoid public gatherings.

The issue of whether to hold in-person Easter services has revealed a split among top conservatives, with President Donald Trump encouraging Christians to worship from home while observing social distancing protocols, and members of the House Freedom Caucus arguing that restrictions on church services are an affront to First Amendment rights of freedom of religion and assembly.

While many churches are remaining closed as part of a nationwide effort to slow the spread of the coronavirus, there are numerous reports of churches and even megachurches deciding to hold services.

In at least eight states, religious organizations have been deemed essential services, allowing them to be exempt from stay-at-home orders. While the majority of churches around the country have experimented with alternatives to conventional services — things like livestreamed prayers and drive-in services in parking lots — there have been clashes over restrictions on Easter Sunday, which would in normal circumstances lead to a huge boom in church attendance.

State and local officials have begun taking action to limit attendance at religious services, with mixed results. For example, the mayor of Louisville, Kentucky, issued an order

prohibiting drive-in church services for Easter weekend, but a church sued the mayor and the city — and won a temporary restraining order from a federal judge who deemed the policy unconstitutional. US District Judge Justin Walker wrote in his order: “On Holy Thursday, an American mayor criminalized the communal celebration of Easter.”

In Kansas, state lawmakers overturned the governor’s executive order restricting religious gatherings to 10 people ahead of Easter, calling the order “a blatant violation of our fundamental rights.”

And other religious leaders have held services in violation of state orders.

The Life Tabernacle Church near Baton Rouge, Louisiana, expected a crowd of more than 2,000 on Easter Sunday despite a ban on gatherings of over 50 people in the state.

The church’s pastor, Rev. Tony Spell, said his faith would protect him and his attendees from falling ill. “God will shield us from all harm and sickness,” Spell told Reuters. “We are not afraid. We are called by God to stand against the Antichrist creeping into America’s borders.”

Spell made this proclamation despite having faced legal consequences for defying state restrictions in the past: He has already been charged with six misdemeanors for holding services...

**Apr 14**

## **Saliva test developed to diagnose COVID-19**

Researchers at Rutgers University have been given the go-ahead by the Food and Drug Administration for the first saliva test that can help diagnose COVID-19, a new approach that could expand testing options for Americans and reduce the risk of infection for healthcare workers.

The test, which will initially be available at hospitals and clinics associated with the school, was authorized by the FDA under emergency powers granted to the agency amid the coronavirus pandemic.

Instead of needing to take a nasal swab of a patient's nose or throat, the patient is given a small plastic tube, which they spit into several times. The patients hand the plastic tube sample back to the healthcare worker for processing.

“The impact of this approval is significant,” said Andrew Brooks, chief operating officer and director of technology development at RUCDR, who also is a professor in the School of Arts and Sciences Department of Genetics at Rutgers University–New Brunswick. “It means we no longer have to put health care professionals at risk for infection by performing nasopharyngeal or oropharyngeal collections. We can preserve precious personal protective equipment for use in patient care instead of testing. We can significantly increase the number of people tested

each and every day as self-collection of saliva is more quick and scalable than swab collections. All of this combined will have a tremendous impact on testing in New Jersey and across the United States.”

The test's accuracy was measured by taking both saliva and swab samples from 60 patients. The samples from the nasal swab and saliva sample matched 100%, which paved the way for the test's approval.

The FDA says the saliva test should only be used “in a health care setting under the supervision of a trained healthcare provider.”

## Apr 16

# In Vietnam, there have been fewer than 300 COVID-19 cases and no deaths

People wearing face masks wait for free food being given away at a Happy Mart store in Hanoi on Thursday. Nhac Nguyen/AFP via Getty Images

Vietnam shares a border with China, yet it has reported no deaths from COVID-19 and just 268 confirmed cases, when other Southeast Asian nations are reporting thousands.

Experts say experience dealing with prior pandemics, early implementation of aggressive social distancing policies, strong action from political leaders and the muscle of a one-party authoritarian state have helped Vietnam.

"They had political commitment early on at the highest level," says John MacArthur, the U.S. Centers for Disease Control and Prevention's country representative in neighboring Thailand. "And that political commitment went from central level all the way down to the hamlet level."

With experience gained from dealing with the 2003 SARS and 2009 H1N1 bird flu pandemics, Vietnam's government started organizing its response in January — as soon as reports began trickling in from Wuhan, China, where the virus is believed to have originated. The country quickly came up with a variety of tactics, including widespread quarantining and aggressive contact tracing. It has also won praise from the World

Health Organization and the CDC for its transparency in dealing with the crisis.

Tens of thousands have been put in quarantine camps. By the end of March, Vietnam had banned all international and domestic flights. The government locked down the country on April 1. State-run media say the current social distancing and stay-at-home orders are to be extended for at least another week.

Those who break the rules in this one-party communist state are treated harshly. One man was jailed on a nine-month sentence for failing to wear a mask.

Streets normally buzzing with motorcycles and cars are almost empty in most large cities. As the economic toll of the lockdown becomes apparent, some entrepreneurs are stepping up to help. One has provided "rice ATMs" to dispense free rice to those who are out of work.

Some may still be skeptical of Vietnam's relatively low COVID-19 case numbers. The CDC's MacArthur is not.

"Our team up in Hanoi is working very, very closely with their Ministry of Health counterparts," he says. "The communications I've had with my Vietnam team is that at this point in time, [they] don't have any indication that those numbers are false."

## Apr 16

# Oklahoma's Elderly And Vulnerable Populations Ordered To Stay Home Through May 6

Oklahoma's stay at home order has been extended through May 6, but only for the state's more vulnerable population. Gov. Kevin Stitt said Wednesday that the state's COVID-19 curve is flattening, but not enough to warrant lifting that order.

"What we do over the next two weeks will significantly impact what we can do after April 30, and we need to continue to practice physical distancing, washing our hands frequently and limiting trips to the grocery store and pharmacy," Stitt said, during a news conference broadcast on his Facebook page Wednesday.

As of Thursday, 2,357 COVID-19 cases have been reported in Oklahoma, with 131 deaths.

The Oklahoma panhandle is currently reporting 10 total cases – one in Beaver County and nine in Texas County, with one death.

Stitt said the Safer at Home order has been extended through May 6 for those aged 65 and over and for those with underlying medical conditions, but said all elective surgeries will resume starting April 24.

"We suspended elective surgeries to protect hospital beds in case of a surge and protect PPE for our health care workers who are working hard to treat COVID patients," continued Gov. Stitt. "Our hospitals have been great partners with us,

but many of them are struggling because our numbers are so low. Because we feel good about our hospital numbers and our PPE, I am announcing today that elective surgeries can resume in nine days on April 24."

In backing that move, Stitt referred to the Institute for Health Metrics and Evaluation (IHME model), which projects that Oklahoma's peak hospital demand will occur on April 30, at which point the state will need 882 hospital beds, 218 ICU beds and 192 ventilators -- Oklahoma has 5,887 total beds, 991 ICU beds and 1,111 ventilators available.

Additionally, the governor discussed the State's intention to work with the Department of Health in order to develop a plan to safely and responsibly allow businesses across the state to re-open while also continuing to prioritize the health and safety of Oklahomans.

"There is light at the end of the tunnel, and we will get through this together. For just a little while longer – stay home, stay safe and stay strong," concluded Gov. Stitt.

## Apr 16

# Vanity Fair article explaining the approach being taken by Sweden

Sweden has a way of triggering people. It represents everything we're supposed to do or everything we're not supposed to do. It is the welfare state at its best or multiculturalism at its worst. True to form, or contrary to form, Sweden is now setting off everyone in its handling of the coronavirus. Unlike most of the developed world, including neighboring Norway or Denmark, Sweden has kept its elementary schools running and allowed most its businesses, including restaurants and bars, to remain open. Travel in and out of the country remains possible for E.U. nationals. And social distancing remains, for the most part, voluntary, provided the group in question has fewer than 50 people. In short, Sweden has refused to join the rest of us in a lockdown.

This has caused a lot of traditional Sweden lovers and Sweden bashers to trade places. Much of the MSNBC left, which normally loves Sweden, now shakes its head. Much of the Fox News right, which often scorns Sweden, is now a fan. Populists on both sides are critical, with the populist left interpreting Sweden's response as an outgrowth of a cold-blooded neoliberalism (market efficiencies over humanity) and the populist right seeing it as an outgrowth of a fanatical globalism (loose borders over health). To be sure, these are broad stereotypes with huge exceptions (some populists love what Sweden is doing and some Fox News types hate it), but they're useful as a big picture.

In the prestige press, which among these factions is closest in sympathies to the MSNBC left, we see lots of articles hinting at impending disaster. "Sweden's Relaxed Approach to the Coronavirus Could Already Be Backfiring," warns a Time headline. "Sweden Girds for Thousands of Deaths Amid Laxer Virus Policy," reports Bloomberg. "Swedish PM warned over 'Russian roulette-style' COVID-19 strategy," offers the Guardian. As for the populist right, Trump has mollified it with some gentle slams of Sweden's approach, claiming that "Sweden is suffering greatly."

Meanwhile, many of those on the establishment right are now looking to Sweden as a role model of keeping the show going and letting commerce proceed. "Sweden has courageously decided not to endorse a harsh quarantine, and consequently it hasn't forced its residents into lockdown," wrote John Fund and Joel Hay in National Review. "Sweden is developing herd immunity by refusing to panic."

It's understandable that people have strong reactions to Sweden's experiment. After all, every fight we have over how some other country has been handling this crisis is a fight we're having with ourselves about how to handle it. Have we gone too far or not far enough? Should we try to push cases to zero or just flatten the curve? What happens if we loosen up sooner rather than later? How many deaths is a growing economy worth? But all of the baggage we bring to our conceptions of Sweden—if we happen to have conceptions of

Sweden—gets in the way of giving its policies a fair appraisal. Whatever comes of Sweden’s approach, it’ll have something to teach us about the spread of this disease. So let’s try to understand what’s behind it and what we’re seeing.

To start with, it’s a myth that Sweden is doing nothing about the virus. Most Swedes have changed their habits a lot. Schools for older kids are closed, as are universities. People are working from home, when they can, and the elderly are being urged to keep to themselves. Gatherings of over 50 people are prohibited, and ski resorts are closed. Restaurants and bars are allowing table service only, and grocery stores are installing glass dividers between customers and cashiers. People who go to Stockholm may be stunned to see bars and cafés with customers, but they’re seeing only the Swedes who choose to run higher risks. They’re not seeing all the Swedes who are staying home.

Second, contrary to the claims of John Fund and Joel Hay and many others, Sweden isn’t trying to develop “herd immunity,” meaning a state of affairs in which so many people get the virus that the virus runs out of kindling. (At least, Swedish officials claim they aren’t doing this, and they would have a lot to lose by lying about it.) Instead, Sweden intends to take as loose an approach as possible that still keeps case growth down to nonexponential numbers. “We are not in the containment phase,” said Sweden’s chief state epidemiologist, Anders Tegnell, last month. “We are in the mitigation phase.”

What Tegnell means is that the coronavirus is all over the world now, and, without a vaccine or a massive outbreak that brings about herd immunity, you won’t get rid of it. Even if you do what China did and lock down so hard that you eradicate the virus within your borders, it will return as soon as you allow any travel in and out of your country to resume. So Sweden has based its policies on two premises: (1) The coronavirus can only be managed, not suppressed. Short of going full Wuhan on the entire planet, we’ll have to live with it. (2) People won’t tolerate severe lockdown for more than a month or two, since

boredom, isolation, and economic desperation will get overwhelming.

With these premises in mind, Sweden has pumped the brakes instead of slamming on them. You close school for older kids, but you keep grade school going, because evidence so far suggests that younger children are not a major cause of transmission for the novel coronavirus. (The opposite is true of influenza: Kids are the big spreaders.) You prohibit standing room and shoulder-to-shoulder seating in popular bars and restaurants, but you allow them to keep operating with greater space between tables and customers. You encourage people to keep a physical distance among one another, but you don’t command it.

The question, then, isn’t whether Sweden is going to see more deaths from the coronavirus in the short term than it would with a total lockdown. It obviously will. The question is whether it’s going to see exponentially more cases. So far, that hasn’t happened. With unchecked spreading of the virus, a country could expect to see a mortality rate that was 10 or 100 or 1,000 times higher than that of a country with strict controls in place. But Sweden has a mortality rate that’s only about twice as high as that of Denmark, which has a strict lockdown (0.01% of the population dead versus about 0.005% of the population dead), and only half that of France. Its hospitals are challenged but not overwhelmed. Between the unhappy poles of shutting down society entirely or eliminating COVID-19 deaths entirely, it may have found a balance it can live with.

An imperfect but useful analogy is to the highway speed limit. Set it to 10 miles per hour, and you might save a lot of lives, but at a huge cost to efficiency and sanity. Set it to something a bit higher, like 40 miles per hour, and you could still save three quarters of those lives but still allow a semblance of normal transit to continue. In this analogy, most of the world has lowered the speed limit to 10 miles per hour. It saves lives, but people won’t tolerate it for long. Sweden has lowered its limit to 40 miles per hour. That saves fewer lives, but people can live with it for a long time. It prevents carnage on one side and

madness on the other. And you might save more lives overall. This doesn't guarantee that Sweden's policy will prove to be optimal. Already, the country has seen a spate of nursing home deaths, because isolating the old from the young is, as Megan McArdle recently pointed out in the Washington Post, much easier on paper than in real life. Also, delayed reaction is a confounding factor. One of the trickiest challenges of policymaking in this pandemic is that any movement of the numbers happens only weeks after a decision is made. Shut down a city at the start of the month, and it won't change the death count in the middle of the month. Resume ordinary life at the end of May, and the death rate will fall in June. In theory, Sweden today could be brewing up a tsunami of cases that we won't see for weeks, after it's too late. But, so far, the pace of divergence from the other Scandinavian countries is surprisingly modest.

Walking this line takes some sangfroid. Neighboring Norway and Denmark, countries that, for all their criticisms of Sweden, share deep bonds and core values with it, have been flabbergasted by Stockholm's policies. But, says Stockholm University political scientist Drude Dahlerup, a Dane who has worked in Sweden for a couple of decades now, the explanation for Sweden's uniqueness may have less to do with culture and more to do with constitutional arrangements. For centuries, Sweden's political structure has granted a level of power and independence to its public agencies that isn't the case in other countries. Denmark's politicians, like those in most countries, have more power to make immediate changes and also feel more pressure to act. You can see that even in the public face of authorities managing the effort. "In Denmark, it's the young prime minister who's running the press conferences," says Dahlerup. "In Sweden the press conferences are run by the public health authority, the Folkhälsomyndigheten."

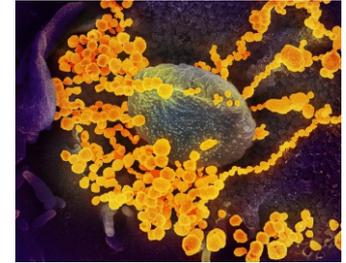
Still, even if apolitical authorities are running the show in Sweden, one might ask—or I might ask—why not start strong and then loosen up—with, say, a two-week lockdown and then

a relaxation, just in case of an unseen wave? I posed this question to infectious disease specialist Johan Giesecke, who has held the post that Anders Tegnell holds today and has been among those advising the government. "I'm not sure it would change very much," Giesecke told me. "You still have the same exponential curve when you stop the lockdown. You shift the curve two weeks to the left, but you still get the curve." Also, Giesecke noted, even two weeks of lockdown would cause a lot of disruption to social and economic life. "I have a son who is a physician in one of the big hospitals in Stockholm," Giesecke said. "The nurse who is head of the E.R. there prays every morning that the government does not close the schools, because then she loses half her staff."

So Sweden is staying the course. If you wanted to frame things in a zero-sum manner, you could say that either Sweden makes a fool of itself, or it makes a fool of everyone else. But zero-sum thinking isn't appropriate in this case, because everyone is hoping for the same results in the end. If Sweden can make its looser approach work, avoiding mass death while allowing people to live their lives, then the rest of us can make it work too, and we'll be happier for it. Will it work? History is rife with cases of calamity brought about by expertise in violation of common sense. If that's what happens in Sweden, we'll be grateful for the warning. But experts at their best point the way to common sense, even when no one else can see it. If that's what happens in Sweden, we'll be grateful for the example.

Apr 17

## Antiviral remdesivir prevents disease progression in monkeys with COVID-19



Early treatment with the experimental antiviral drug remdesivir significantly reduced clinical disease and damage to the lungs of rhesus macaques infected with SARS-CoV-2, the coronavirus that causes COVID-19, according to National Institutes of Health scientists.

The study was designed to follow dosing and treatment procedures used for hospitalized COVID-19 patients being administered remdesivir in a large, multi-center, clinical trial led by NIH's National Institute of Allergy and Infectious Diseases (NIAID). The scientists posted the work(link is external) on the preprint server bioRxiv. The findings are not yet peer-reviewed and should not be considered clinical advice, but are being shared to assist the public health response to COVID-19. A study detailing the development of the rhesus macaque model of mild- to-moderate human disease, conducted by the same team of NIAID scientists, was posted to bioRxiv(link is external) on March 21.

The current study of remdesivir, a drug developed by Gilead Sciences Inc. and NIAID-supported investigators, involved two groups of six rhesus macaques. One group of monkeys received remdesivir and the other animals served as an untreated comparison group. Scientists infected both groups with SARS-CoV-2. Twelve hours later the treatment group received a dose of remdesivir

intravenously, and then received a daily intravenous booster dose thereafter for the next six days. The scientists timed the initial treatment to occur shortly before the virus reached its highest level in the animals' lungs.

Twelve hours after the initial treatment, the scientists examined all animals and found the six treated animals in significantly better health than the untreated group, a trend that continued during the seven-day study. They report that one of the six treated animals showed mild breathing difficulty, whereas all six of the untreated animals showed rapid and difficult breathing. The amount of virus found in the lungs was significantly lower in the treatment group compared to the untreated group, and SARS-CoV-2 caused less damage to the lungs in treated animals than in untreated animals.

The investigators note that the data supports initiating remdesivir treatment in COVID-19 patients as early as possible to achieve maximum treatment effect. The authors, from NIAID's Rocky Mountain Laboratories in Hamilton, Montana, also note that while remdesivir helped prevent pneumonia, it did not reduce virus shedding by the animals. "This finding is of great significance for patient management, where a clinical improvement should not be interpreted as a lack of

## Apr 19

# Sweden says controversial virus strategy proving effective

Sweden's unusual approach to fighting the coronavirus pandemic is starting to yield results, according to the country's top epidemiologist.

Anders Tegnell, the architect behind Sweden's relatively relaxed response to Covid-19, told local media the latest figures on infection rates and fatalities indicate the situation is starting to stabilize.

"We're on a sort of plateau," Tegnell told Swedish news agency TT.

Sweden has left its schools, gyms, cafes, bars and restaurants open throughout the spread of the pandemic. Instead, the government has urged citizens to act responsibly and follow social distancing guidelines.

The spread of Covid-19 across the globe is triggering different responses across national and even state borders, as authorities struggle to contain an outbreak about which much remains unknown.

It's unclear which strategy will ultimately prove most effective, and even experts in Sweden warn it's too early to draw conclusions. But given the huge economic damage caused by strict lockdowns, the Swedish approach has drawn considerable interest around the world.

Part of that approach relies on having access to one of the world's best-functioning health-care systems. At no stage did Sweden see a real shortage of medical equipment or hospital

capacity, and tents set up as emergency care facilities around the country have mostly remained empty.

As of Sunday, Sweden had reported 1,540 deaths tied to Covid-19, an increase of 29 from Saturday. That's considerably more than in the rest of Scandinavia, but much less than in Italy, Spain and the U.K., both in absolute and relative terms.

Tegnell isn't the only high-level official in Sweden to claim the country may be over the worst.

"The trend we have seen in recent days, with a more flat curve - where we have many new cases, but not a daily increase -- is stabilizing," Karin Tegmark Wisell, head of the microbiology department at Sweden's Public Health Authority, said on Friday. "We are seeing the same pattern for patients in intensive care."

Just two weeks ago, the picture was considerably bleaker, and Prime Minister Stefan Lofven suggested the government may need to review its approach amid the prospect of thousands of Swedish deaths. In particular, the failure to protect people in nursing homes has stood out as a clear weakness, which has contributed to higher death rates than in neighboring countries.

"The protection for people in elderly care should have been better," Lofven said last week. "We need to look closer at what has gone wrong."

Yet overall, Lofven's strategy has won the approval of Swedes, and his personal popularity has soared ...

## Apr 19

# 25th Anniversary Of Oklahoma City Bombing. Officials find lessons for today

Before 9/11, there was Oklahoma City.

On April 19, 1995, the United States experienced what was — to that point — the most deadly act of terror ever perpetrated on American soil, when a right-wing extremist detonated a truck bomb next to the Alfred P. Murrah Federal Building in Oklahoma City.

It's been 25 years since 168 people — including 19 children — lost their lives when thousands of pounds of fertilizer, fuel and other chemicals exploded and ripped a gaping hole in the building's facade.

On Sunday, the city's mayor, David Holt, marked the anniversary by saying the way Oklahoma City responded to that tragedy can inform how the nation responds to the coronavirus pandemic.

"COVID-19, 9/11, the bombing, these are all similarly shared experiences along this journey we call life," Holt said in a commemorative video that aired on local stations. "In the wake of such events, what matters is that we take lessons from them and emerge wiser and more prepared to face similar challenges ahead."

The bombing, carried out by Timothy McVeigh, began with dehumanization, Holt said.

"The journey to such an act begins with thoughts. Those thoughts become words, and like a virus, those words are heard by others," he continued. "Soon, one carrier becomes many, and an ecosystem is created where ideas once considered absurd are treated with credibility."

Holt said he sees similarities in the current political climate.

"If you are not hearing those echoes again in our current political discourse, I ask you to listen harder," Holt said. "We all have an obligation to speak up and to reject words of dehumanization, words that divide us, words that cast others as our enemy. Right now, I hear such words coming out of the mouths of some of the most prominent people in our country."

"Let this place be a reminder," Holt said. "We must have better conversations. We must reject dehumanization. We must love one another."

In most years, the Oklahoma City community gathers together where the Murrah building once stood, observing moments of silence just after 9 a.m., when the truck bomb was detonated. This year, the Oklahoma City National Memorial & Museum was off limits to mourners, as the video remembrance took the place of an in-person ceremony.

But the names of the lost were still read, and 168 seconds of

silence were observed, as the tribute video lingered on images of the memorial and its 168 empty bronze chairs.

"After 25 years, this lesson from Oklahoma City is as important as ever, as America is facing another unprecedented challenge," wrote former President Bill Clinton in an op-ed published Sunday in *The Oklahoman*. Clinton was president when the city was attacked.

"COVID-19 has claimed the lives of people we know and love, upended millions of livelihoods, and forced all of us to change the ways we interact with one another — including, for the first time, preventing the Oklahoma City community from coming together in person on the anniversary of the bombing.

"There are difficult and uncertain days ahead," Clinton continued. "In many ways, this is the perfect time to remember Oklahoma City, and to repeat the promise we made to them in 1995 to all Americans today: we have not lost each other, we have not lost America, and we will stand together for as many tomorrows as it takes." Before 9/11, there was Oklahoma City.

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"After 25 years, this lesson from Oklahoma City is as important as ever, as America is facing another unprecedented challenge," wrote former President Bill Clinton in an op-ed published Sunday in *The Oklahoman*. Clinton was president when the city was attacked.

"COVID-19 has claimed the lives of people we know and love, upended millions of livelihoods, and forced all of us to change the ways we interact with one another — including, for the first time, preventing the Oklahoma City community from coming together in person on the anniversary of the bombing.

"There are difficult and uncertain days ahead," Clinton continued. "In many ways, this is the perfect time to remember Oklahoma City, and to repeat the promise we made to them in 1995 to all Americans today: we have not lost each other, we have not lost America, and we will stand together for as many tomorrows as it takes." silence were observed, as the tribute video lingered on images of the memorial and its 168 empty bronze chairs.

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On April 19, 1995, the United States experienced what was — to that point — the most deadly act of terror ever perpetrated on American soil, when a right-wing extremist detonated a truck bomb next to the Alfred P. Murrah Federal Building in Oklahoma City.

It's been 25 years since 168 people — including 19 children — lost their lives when thousands of pounds of fertilizer, fuel and other chemicals exploded and ripped a gaping hole in the building's facade.

On Sunday, the city's mayor, David Holt, marked the anniversary by saying the way Oklahoma City responded to that tragedy can inform how the nation responds to the coronavirus pandemic.

"COVID-19, 9/11, the bombing, these are all similarly shared experiences along this journey we call life," Holt said in a commemorative video that aired on local stations. "In the wake of such events, what matters is that we take lessons from them and emerge wiser and more prepared to face similar challenges ahead."

The bombing, carried out by Timothy McVeigh, began with

dehumanization, Holt said.

"The journey to such an act begins with thoughts. Those thoughts become words, and like a virus, those words are heard by others," he continued. "Soon, one carrier becomes many, and an ecosystem is created where ideas once considered absurd are treated with credibility."

Holt said he sees similarities in the current political climate.

"If you are not hearing those echoes again in our current political discourse, I ask you to listen harder," Holt said. "We all have an obligation to speak up and to reject words of dehumanization, words that divide us, words that cast others as our enemy. Right now, I hear such words coming out of the mouths of some of the most prominent people in our country."

"Let this place be a reminder," Holt said. "We must have better conversations. We must reject dehumanization. We must love one another."

In most years, the Oklahoma City community gathers together where the Murrah building once stood, observing moments of silence just after 9 a.m., when the truck bomb was detonated. This year, the Oklahoma City National Memorial & Museum was off limits to mourners, as the video remembrance took the place of an in-person ceremony.

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Apr 19

## COVID-19 Pandemic is hurting illegal drug trade

Coronavirus is dealing a gut punch to the illegal drug trade, paralyzing economies, closing borders and severing supply chains in China that traffickers rely on for the chemicals to make such profitable drugs as methamphetamine and fentanyl.

One of the main suppliers that shut down is in Wuhan, the epicenter of the global outbreak.

Associated Press interviews with nearly two dozen law enforcement officials and trafficking experts found Mexican and Colombian cartels are still plying their trade as evidenced by recent drug seizures but the lockdowns that have turned cities into ghost towns are disrupting everything from production to transport to sales.

Along the 2,000-mile U.S.-Mexico border through which the vast majority of illegal drugs cross, the normally bustling vehicle traffic that smugglers use for cover has slowed to a trickle. Bars, nightclubs and motels across the country that are ordinarily fertile marketplaces for drug dealers have shuttered. And prices for drugs in short supply have soared to gouging levels.

“They are facing a supply problem and a demand problem,” said Alejandro Hope, a security analyst and former official with CISEN, the Mexican intelligence agency. “Once you get them to the market, who are you going to sell to?” Virtually every illicit drug has been impacted, with supply chain disruptions at both the wholesale and retail level. Traffickers are stockpiling narcotics and cash along the border, and the U.S. Drug Enforcement Administration even reports a decrease in

money laundering and online drug sales on the so-called dark web.

“The godfathers of the cartels are scrambling,” said Phil Jordan, a former director of the DEA’s El Paso Intelligence Center.

Cocaine prices are up 20 percent or more in some cities. Heroin has become harder to find in Denver and Chicago, while supplies of fentanyl are falling in Houston and Philadelphia. In Los Angeles, the price of methamphetamine has more than doubled in recent weeks to \$1,800 per pound.

“You have shortages but also some greedy bastards who see an opportunity to make more money,” said Jack Riley, the former deputy administrator of the DEA. “The bad guys frequently use situations that affect the national conscience to raise prices.”

Synthetic drugs such as methamphetamine and fentanyl have been among the most affected, in large part because they rely on precursor chemicals that Mexican cartels import from China, cook into drugs on an industrial scale and then ship to the U.S.

“This is something we would use as a lesson learned for us,” the head of the DEA, Uttam Dhillon, told AP. “If the disruption is that significant, we need to continue to work with our global partners to ensure that, once we come out of the pandemic, those precursor chemicals are not available to these drug-trafficking organizations.”

**Apr 20**

## **WHO head warns worst of virus is still ahead**



IGENEVA (AP) — The head of the World Health Organization has warned that “the worst is yet ahead of us” in the coronavirus outbreak, raising new alarm bells about the pandemic just as many countries are beginning to ease restrictive measures.

WHO Director-General Tedros Adhanom Ghebreyesus didn’t specify exactly why he believes that the outbreak that has infected nearly 2.5 million people and killed over 166,000, according to figures compiled by Johns Hopkins University, could get worse. Some people, though, have pointed to the likely future spread of the illness through Africa, where health systems are far less developed.

Tedros alluded to the so-called Spanish flu in 1918 as a reference for the coronavirus outbreak.

“It has a very dangerous combination and this is happening ... like the 1918 flu that killed up to 100 million people,” he told reporters in Geneva.

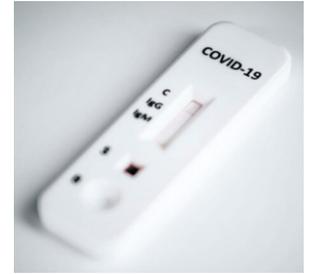
“But now we have technology, we can prevent that disaster, we can prevent that kind of crisis.”

“Trust us. The worst is yet ahead of us,” he said. “Let’s prevent this tragedy. It’s a virus that many people still don’t understand.”

The “stay at home” order went into effect on March 24 and was set to last until April 7. That order was extended to April 20, and on Friday, Holcomb said he would be extending the order to May 1.

Apr 20

## Everything we know about coronavirus immunity and antibodies — and plenty we still don't



People who think they've been exposed to the novel coronavirus are clamoring for antibody tests — blood screens that can detect who has previously been infected and, the hope is, signal who is protected from another case of Covid-19.

But as the tests roll out, some experts are trying to inject a bit of restraint into the excitement that the results of these tests could, for example, clear people to get back to work. Some antibody tests have not been validated, they warn. Even those that have been can still provide false results. And an accurate positive test may be hard to interpret: the virus is so new that researchers cannot say for sure what sort of results will signal immunity or how long that armor will last.

They caution that policymakers may be making sweeping economic and social decisions — plans to reopen businesses or schools, for example — based on limited data, assumptions, and what's known about other viruses. President Trump last week unveiled a three-phased approach to reopen the country; he said some states that have seen declining case counts could start easing social distancing requirements immediately. And some authorities have raised the idea of granting “immunity passports” to people who recover from the virus to allow them to return to daily life without restrictions.

“Before we embark on huge policy decisions, like issuing

immunity certificates to get people back to work, I think it's good that people are saying, ‘Hold up, we don't know that much about immunity to this virus,’” said Angela Rasmussen, a Columbia University virologist.

To be clear, most experts do think an initial infection from the coronavirus, called SARS-CoV-2, will grant people immunity to the virus for some amount of time. That is generally the case with acute infections from other viruses, including other coronaviruses.

With data limited, “sometimes you have to act on a historical basis,” Anthony Fauci, the head of the National Institute of Allergy and Infectious Diseases, said in a webcast with JAMA this month. “It's a reasonable assumption that this virus is not changing very much. If we get infected now and it comes back next February or March we think this person is going to be protected.”

Still, the World Health Organization has stressed that the presumed immunity can only be proven as scientists study those who have recovered for longer periods. The agency is working on guidance for interpreting the results of antibody tests, also called serologic tests.

“Right now, we have no evidence that the use of a serologic test can show that an individual is immune or is protected from reinfection,” the WHO's Maria Van Kerkhove said ...

**Apr 20**

## **U.S. crude oil futures for May are lowest price in history**

U.S. crude oil prices dropped by almost 300 percent to turn negative for the first time as plunging demand pushed storage facilities to their limits.

May delivery for the U.S. benchmark crude, West Texas Intermediate, sank to a new low of minus \$37.63 a barrel by the close of the oil market Monday, a staggering level that essentially means producers would be paying buyers to take oil off their hands.

Oil set to be delivered in May was hit hardest, because that futures contract expires Tuesday. The June contract also fell, although by a far smaller amount, 18 percent.

Social distancing lockdowns across the world have slashed demand to almost zero as much of the world's industry and travel have ground to a halt. Even a historic production cut agreement between OPEC and its allies did not provide the momentum to stanch the surplus, as producing countries continue to pump oil ahead of the May 1 implementation.

In addition, tanks, ships and pipelines are almost full, complicating the calculus for many U.S. producers who want to hold on to their oil until the outbreak subsides and there is greater demand.

The oil market is the latest sector of the economy to sustain serious — although temporary — damage from the

coronavirus pandemic. Ahead of the OPEC deal, prices had plunged to 1991 levels and were struggling to recover amid a paralysis of the global economy.

The energy economy is forcing U.S. companies to make tough decisions. They are struggling to stay afloat as falling prices make them less competitive, and they are laying off workers.

“Even if we get the COVID-19 shelter-in-place protocols lifted by April 30 and we start to see some pop in demand, you are going to have so much oil sitting in tanks that, regardless of production cuts, you are still looking at a massive glut of oil going into the third quarter,”



Apr 21

## Harold Hamm calls for investigation

Harold Hamm is requesting an investigation of crude oil futures for possible market manipulation, failed systems or computer programming failures and oil futures contracts.

In a letter signed Tuesday, Hamm, the founder and executive chairman of Continental Resources Inc., asked the Commodity Futures Trading Commission to examine the oil futures traded on the Chicago Mercantile Exchange.

The letter claims “the unprecedented, historical event of WTI (West Texas Intermediate) crude oil trading at negative prices for the first time in history and the circumstances surrounding the trading shows the system failed, negatively impacting a significant part of the American economy.”

WTI contract prices closed last week at \$18.27. Prices dropped \$55.90 per barrel and closed at -\$37.63 on Monday, a 306% decrease.

Hamm points out the Chicago Mercantile Exchange announced April 8 that if WTI oil futures settled at a price between \$8 and \$11 a barrel that the exchange could switch to a different model that would allow for negative pricing.

He quotes the exchange’s announcement in his letter, which said in part, “CME Clearing will send out an advisory notice with one day notice before any implementation occurs with all appropriate details.”

On Monday morning the exchange reiterated WTI futures can trade negative, which sent the May contract plummeting to about \$4 a barrel. Trading volume became more active after the announcement, Hamm said.

Prior to the announcement regarding negative settlements, the contract was trading positive, Hamm said. The WTI futures price for the May contract remained positive until the afternoon.



# Apr 22

## Oil prices jump and stocks rise

Stocks on Wall Street and in major European markets rallied on Wednesday, and oil prices reversed some of the tremendous losses that had unnerved investors for several days.

The S&P 500 rose more than 1 percent in early trading, after a nearly 5 percent drop on Monday and Tuesday.

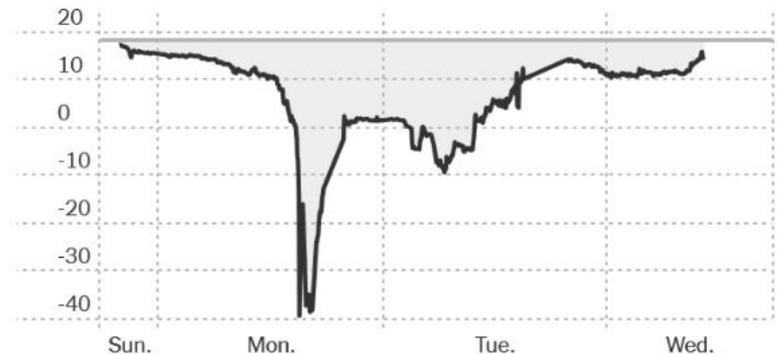
The selling earlier in the week had been triggered by a collapse in oil prices, as the price of one oil benchmark dipped below zero for the first time, meaning some holders were ready to pay people to take a barrel off their hands. The inversion in oil prices reflected disappearing demand for petroleum, and the fact that there are few places left to store all the crude still being pumped.

But on Wednesday, some stability returned to the energy market, with the price of both West Texas Intermediate crude, the American benchmark, and Brent crude, the international benchmark, sharply higher. Shares of companies in the energy industry, like Halliburton and Marathon Oil, were among the best performing stocks in the S&P 500.

Bond trading also signaled some returning optimism. U.S. Treasury bond prices fell, a signal that investors were turning back to riskier investments.

Those investors had other news to consider. The United States Senate on Tuesday passed a bipartisan \$484 billion coronavirus relief package that would replenish a depleted loan program for distressed small businesses and provide funds for hospitals, states and coronavirus testing.

Oil (W.T.I.) \$14.63



Source: Refinitiv

The New York Times

Apr 23

## COVID-19 can be more than just a respiratory disease

We have underestimated and misunderstood COVID-19 since it first appeared.

And as we learn more, it's clear that COVID-19 can be more than just a respiratory disease. It's joined the ranks of other "great imitators" — diseases that can look like almost any condition.

It can be a gastrointestinal disease causing only diarrhea and abdominal pain. It can cause symptoms that may be confused with a cold or the flu. It can cause pinkeye, a runny nose, loss of taste and smell, muscle aches, fatigue, diarrhea, loss of appetite, nausea and vomiting, whole-body rashes, and areas of swelling and redness in just a few spots.

In a more severe disease, doctors have also reported people having heart rhythm problems, heart failure, kidney damage, confusion, headaches, seizures, Guillain-Barre syndrome, and fainting spells, along with new sugar control problems.

It's not just a fever and coughing, leading to shortness of breath, like everyone thought at first.

This makes it incredibly difficult to diagnose and even harder to treat.

"This is a disease progression we have never seen for any infection that I can think of, and I've been doing this for a couple of decades," says Joseph Vinetz, MD, an infectious disease specialist at Yale School of Medicine.

### How It Invades

When viral particles land in our eyes, nose, or mouth, "spike proteins" on the virus connect with a specific receptor, known as ACE2, on the surface of our cells, allowing entry. ACE2 receptors make a great target because they are found in organs throughout our bodies. Once the virus enters, it turns the cell into a factory, making millions and millions of copies of itself — which can then be breathed or coughed out to infect others.

In order to evade early detection, the coronavirus uses multiple tools to prevent the infected cells from calling out for help. The virus snips off distress signal proteins that cells make when they are under attack. It also destroys antiviral commands inside the infected cell. This gives the virus much more time to make copies of itself and infect surrounding areas before it is identified as an invader. This is part of the reason why the virus spreads before immune responses, like fever, begin.

### Direct Attack

Many with mild or no symptoms are able to fend off the virus before it gets worse. These people may have symptoms only in the upper airway, at the site where they were first infected. But when someone's body can't destroy the virus at its entry point, viral particles march deeper into the body. The virus seems to take a few paths from there, either setting up camp in the lungs, fighting its way into the digestive tract, or doing some combination of both ...

Apr 23

## Antibody survey shows wide exposure to virus in NY

NEW YORK (AP) — More evidence is emerging that far more New Yorkers have had the coronavirus than the number confirmed by lab tests, officials said Thursday.

A state survey of about 3,000 people found that nearly 14% had antibodies, suggesting they had been exposed to the virus, Gov. Andrew Cuomo said at his daily news briefing.

In New York City, the epicenter of the pandemic in the U.S., 21% of the people tested had antibodies.

Cuomo cautioned that the data was preliminary. The sample of people tested was small. Participants were hastily recruited at shopping centers and grocery stores, which meant they were healthy enough to be out in public.

But the governor said knowing how many people have antibodies, and who might possibly be immune to the virus, could potentially help set policy on when to reopen parts of the state.

Those investors had other news to consider. The United States Senate on Tuesday passed a bipartisan \$484 billion coronavirus relief package that would replenish a depleted loan program for distressed small businesses and provide funds for hospitals, states and coronavirus testing.

“We’ll have a larger and larger sample. But I want to see snapshots of what is happening with that rate. Is it going up,

A medical worker walks past people lined up at Gotham Health East New York, a COVID-19 testing center Thursday, April 23, 2020, in the Brooklyn borough of New York. (AP Photo/Frank Franklin II)



is it flat, is it down? And it can really give us data to make decisions,” Cuomo said.

Earlier Thursday, New York City’s health commissioner said many as 1 million people in New York City may have been exposed to the coronavirus.

The New York study is the latest in a small wave of early attempts to try to better determine how widespread infections have been in certain geographic areas. A study in Santa Clara County, California, put the figure at somewhere around 3% to 4%. Another California study, in Los Angeles County, came up with roughly the same percentage.

Experts have described them as first attempts that offer flawed and very limited snapshots of what’s seen in certain places.

“I think we are beginning to get interesting little rays of light” into how widespread infections have been, but larger and more rigorous studies will be needed to get a better picture, said Stephen Morse, a Columbia University expert on the spread of diseases.

At least 263,000 people in New York state, including about 142,000 people in New York City, have tested positive for the coronavirus, but city Health Commissioner Dr. Oxiris Barbot called those numbers “the tip of the iceberg.”...

Apr 24

## UK launches human trial of COVID-19 Vaccine



Oxford University is launching a human trial of a potential coronavirus vaccine, with the daunting aim of making a successful jab available to the public later this year.

Of the more than 100 research projects around the world to find a vaccine - described by the United Nations as the only route back to "normality" - seven are currently in clinical trials, according to the London School of Hygiene and Tropical Medicine.

Such trials are already underway in China and the United States and are due to begin at the end of this month in Germany, where the federal vaccine authority gave the green light on Wednesday.

The British government strongly supports Oxford University's work, and the first human trials were to start on Thursday, Health Minister Matt Hancock said.

He hailed the "promising development", pointing out that it would normally take "years" to reach such a stage of vaccine development.

In its first phase, half of 1,112 volunteers will receive the potential vaccine against COVID-19, the other half a control vaccine to test its safety and efficacy.

....  
[the] team hopes for an 80 percent success rate, and plans to produce one million doses by September, with the aim of making it widely available by the autumn if successful.

But the teams carrying out this research say on their website that

this timetable is "highly ambitious" and could change.

The government's chief medical officer Chris Whitty acknowledged on Wednesday that the likelihood of getting a vaccine within the year was "incredibly small".

"If people are hoping it's suddenly going to move from where we are in lockdown to where suddenly into everything is gone, that is a wholly unrealistic expectation," he warned.

Financial gambleThe strategy of not waiting for each step to be completed before launching production is a financial "gamble", according to Nicola Stonehouse, professor of molecular virology at the University of Leeds.

But the current crisis makes it a necessary gamble, she told AFP.

The Oxford vaccine is based on a chimpanzee adenovirus, which is modified to produce proteins in human cells that are also produced by COVID-19.

It is hoped the vaccine will teach the body's immune system to then recognise the protein and help stop the coronavirus from entering human cells.

The adenovirus vaccine is known to develop a strong immune response with a single dose and is not a replicating virus, so cannot cause infection, making it safer for children, the elderly and patients with underlying diseases such as diabetes...

**Apr 24**

## **System using ultraviolet being used in Israeli hospital rooms**

Mayanei Hayeshua Medical Center installed a new system to destroy the COVID-19 virus in hospital wards where patients infected with the virus are treated. This includes the intensive care unit and the hospital's outpatient unit. The system is built on ultraviolet light which gives off a specific wavelength that has been found to be deadly to the coronavirus, not cancerous and safe for use in close proximity to patients, including those suffering from pulmonary problems.

This system is the result of research and development carried out by Israeli businessman Eldad Peri together with a medical team headed by Dr. Boris Orkin. A team of physicists also assisted and in writing the algorithm which scientifically matches the system to the space intended for purification by calculating the wavelength and output needed in order to purify the area in a safe and comprehensive manner.

According to the inventors, the system destroys the coronavirus in a room in up to half an hour and without causing harm to any of the patients "UV lights have been used for years to purify and disinfect operating rooms in Israel and around the world, however in 2009 the American Health Authorities issued a warning that some of the lights which were being used created ozone molecules



Eldad Peri (Photo credit: Courtesy)

that could be extremely dangerous, especially for pulmonary patients," Orkin said. "Because of this, they were not used in the fight against the coronavirus, for fear of harming the patient."

Orkin said that the group's research found that "there are ultraviolet lights, with a specific wavelength that do not create ozone, but are efficient in purifying buildings and rooms and therefore are extremely suitable in treating the virus. Furthermore, these same specific lights do not create harmful radiation for the skin and eyes. Using the physical algorithm, it is possible to install the light system and products with the wavelength and different outputs to conform to any size room or building. This type of system can destroy the Corona virus in a time frame of up to 30 minutes without harming any individuals".

## Apr 24

### 6 States ending Shelter-In-Place (SIP) orders on or before Apr 30

#### Georgia

Georgia is the earliest state to reopen businesses. Gov. Brian Kemp announced businesses can reopen with minimum basic operations this Friday, April 24. These businesses include: gyms, bowling alleys, body art studios, hair salons, nail care, estheticians, and training schools.

#### Alabama

Alabama's stay-at-home order is also set to expire on April 30. Gov. Kay Ivey said she plans to follow Alabama's state task force recommendations. The first businesses to open on May 1 will be small retailers, restaurants, and other businesses who operate with protective measures in place.

#### Florida

Gov. Ron DeSantis of Florida is reopening the state under the same guidelines as Alabama. However, on April 17, DeSantis opened the state's beaches. Floridians are allowed to enjoy their beaches so long as they abide by the state's social distancing guidelines.

#### Tennessee

In Tennessee, Gov. Bill Lee said his stay-at-home order will not be extended past April 30, and that some businesses around the state will begin reopening next week, although he has not specified which type of businesses are in the clear yet.

#### Texas

On April 17, Texas Gov. Greg Abbott announced state parks would reopen for day-use only on Monday, April 20. Stores that offer "retail to-go" can reopen as early as April 24. Abbott also announced the Strike Force to Open Texas, a team of nationally recognized medical experts and private and public leaders who will provide guidance to the governor on how to safely reopen Texas.

#### South Carolina

South Carolina's shelter-in-place order is set to expire April 27. Gov. Henry McMaster restored access to public beaches and some retailers, but cautioned people to follow all recommendations from public experts.

<https://www.cbsnews.com/news/stay-at-home-orders-states/>

### 7 states that never issued an SIP:

Arkansas

Iowa

Nebraska

North Dakota

South Dakota

Utah

Wyoming

## Apr 25

### **CDC adds six more symptoms for coronavirus**

The Centers for Disease Control and Prevention (CDC) added six new symptoms for the coronavirus to its website as officials grapple with gauging the illness's scope.

The new symptoms for the disease are chills, repeated shaking with chills, muscle pain, headache, sore throat, and new loss of taste or smell, the CDC said. The list already included fever, cough and shortness of breath as symptoms of the coronavirus, which has infected more than 905,000 people in the U.S. and killed nearly 52,000.

The CDC said that anyone who has trouble breathing, persistent pain or pressure in their chest, new confusion or inability to arouse, or bluish lips or face should seek immediate medical attention.

Other symptoms of the highly infectious virus include diarrhea, skin rash, runny nose, red eyes and fatigue. However, people are known to contract the virus and remain asymptomatic.

**Apr 26**

## **China says all coronavirus patients in Wuhan have now been discharged**

SHANGHAI (Reuters) - The Chinese city of Wuhan, where the global coronavirus pandemic began, now has no remaining cases in its hospitals, a health official told reporters on Sunday..

The novel coronavirus is believed to have originated in a wet market in Wuhan and first emerged in December before spreading quickly worldwide. Some 2.83 million people have been reported to be infected globally and 197,872 have died, according to a Reuters tally.

“The latest news is that by April 26, the number of new coronavirus patients in Wuhan was at zero, thanks to the joint efforts of Wuhan and medical staff from around the country,” National Health Commission spokesman Mi Feng said at a briefing...

The whole of China reported fewer than 12 new coronavirus cases on Saturday. Social distancing restrictions are still in place, but are being gradually reduced, with almost 50,000 high school students returning to class in Beijing today.

Since the outbreak began, China has reported more than 83,000 cases and more than 4,600 deaths, according to the latest figures from Johns Hopkins University



Construction workers on the site of the Wuhan Greenland Center on 24 April 2020.  
STR/AFP via Getty Images

**Apr 27**

## **US may seek damages from China over virus**

WASHINGTON: US President Donald Trump suggested on Monday that he may seek damages from China over the coronavirus outbreak which began in the Chinese city of Wuhan and spread around the world.

"We are not happy with that whole situation because we believe it could have been stopped at the source.

"It could have been stopped quickly and it wouldn't have spread all over the world," he said.

"There are a lot of ways you can hold them accountable," Trump said. "We're doing some very serious investigations as you probably know."

Trump was asked about a recent German newspaper editorial which called on China to pay Germany \$165 billion in reparations because of economic damage done by the virus.

Asked if the US would consider doing the same, the US president said "we can do something much easier than that."

"Germany is looking at things, we are looking at things," he said. "We are talking about a lot more money than Germany's talking about."

"We haven't determined the final amount yet," Trump said. "It's very substantial.

"This is worldwide damage," he said. "This is damage to the US, but this is damage to the world."

There have been more than 55,000 coronavirus-related deaths in the United States and the pandemic has shut down huge swathes of the economy, leaving tens of millions unemployed.

## Apr 27

# Bankers Rebuke S.B.A. as Loan System Crashes in Flood of Applications

The government started taking applications Monday for a further \$310 billion in emergency funds, and quickly ran into technical problems.

Minutes after a \$310 billion aid program for small companies opened for business on Monday, the online portal for submitting applications crashed. And it kept crashing all day, much to the frustration of bankers around the country who were trying — and failing — to apply on behalf of desperate clients.

Some bankers were so irritated that they vented on social media at the Small Business Administration, which is running the program. Rob Nichols, the chief executive of the American Bankers Association, wrote on Twitter that the trade group's members were "deeply frustrated" at their inability to access the system. Until the problems were fixed, he said, "#AmericasBanks will not be able to help more struggling small businesses."

Pent-up demand for the funds has been intense, after the program's initial \$342 billion funding ran out in under two weeks, stranding hundreds of thousands of applicants whose loans did not get processed. Last week, Congress approved the additional \$310 billion for small businesses hit by the coronavirus pandemic. Bankers were expecting the money to once again run out quickly, and so on Monday at 10:30 a.m., when round two opened, they were ready to go.

But for the second time in a month, the relief effort, called the

Paycheck Protection Program, turned into chaos, sowing confusion among lenders and borrowers. A centerpiece of the government's \$2 trillion economic stimulus package, the program offers small companies — typically those with up to 500 workers — forgivable loans of up to \$10 million. The S.B.A. is backing the loans, but customers must apply through financial institutions.

When the aid program first went live on April 3, the Treasury Department's goal was to quickly steer money to the neediest businesses — hair salons, coffee shops, dry cleaners and others. But many large banks needed more time to set up their systems and held off for days on taking applications, leading to an outcry from borrowers who could not afford to keep waiting. Many were also furious that hundreds of publicly traded companies, as well as wealthy clients of some big banks, got access to those funds.

...

Jill Castilla, the chief executive of Citizens Bank of Edmond, a small community lender in Oklahoma, had 200 applications ready to submit on Monday. After six hours of trying, she was able to get only three processed.

"We serve truly tiny businesses, and many of them are in desperate circumstances," Ms. Castilla said. "We know that each hour that goes by means there's more money used up that won't be available to be allocated for loans in our community." ...

**April 28**

## **Chickasaw Nation casinos, offices to remain closed through May 15, officials say**

Chickasaw Nation Governor Bill Anoatubby on Tuesday announced that Chickasaw Nation businesses, historic sites and offices already closed to help mitigate the spread of the COVID-19 coronavirus will remain closed through May 15.

Chickasaw Travel Stop locations will remain open as a public service, officials said.

Businesses that will remain closed include Newcastle Casino, Riverwind Casino, WinStar World Casino and more.

Governor Anoatubby released the following statement: "Health professionals advise that recent measures enacted to help mitigate the spread of the virus are beginning to work because of widespread participation. From health care workers and others working on the front lines of this pandemic to those who are staying home, we must all work together to continue this progress.

"Health professionals also advise to take a cautious approach toward reopening in order to preserve recent gains and prevent a resurgence in new cases.

"Therefore, our leadership team continues to monitor the data on an ongoing basis as we work to develop a comprehensive plan for a phased reopening of our operations while being mindful of protecting public health."



**Select hyperlink below for complete list of closings:**

<https://chickasaw.net/our-nation/community/COVID-19/Cancellations-and-Closings/Closings.aspx>

## April 28

### Experimental vaccine raising hopes

Six monkeys given a vaccine developed by the University of Oxford are said to be coronavirus-free 28 days after sustained exposure to the virus.

The result is a promising early sign for the vaccine, which is also undergoing human trials. A working human version, however, remains months away even in the best-case scenario.

The monkey experiment was carried out in late March by government scientists at the Rocky Mountain Laboratory in Hamilton, Montana, The New York Times reported Monday.

Six rhesus macaques received a vaccine produced by the Jenner Institute and the Oxford Vaccine Group. They were then exposed to heavy levels of the coronavirus that were known to have previously sickened other monkeys. These monkeys suffered no ill effects, however, and remained healthy at least 28 days later, The Times said.

"The rhesus macaque is pretty much the closest thing we have to humans," Vincent Munster, the head of the Virus Ecology Unit at the laboratory, told The Times.

The Jenner Institute, working as part of the Oxford Vaccine Group, is leading the global race for a coronavirus vaccine. The UK government has pledged £20 million, or \$25 million, to the trial.

The vaccine given to the rhesus macaques is called hAdOx1 nCoV-19. Human trials began Thursday and are expected to be finished in September. The process of developing a vaccine is long, and even having a usable product by September would be unusually fast.



A rhesus macaque monkey in Hong Kong on April 30, 2011  
Ed Jones/AFP via Getty Images

April 29

## New York's Northwell Health Testing Potential Heartburn Treatment for COVID-19

Reuters) - When Dr. Kevin Tracey of Northwell Health's Feinstein Institutes for Medical Research got a call from a colleague who had been in Wuhan, China, seeing patients with COVID-19, the disease caused by the novel coronavirus, in January, his curiosity was piqued.

Tracey said Dr. Michael Callahan, an infectious disease doctor at Massachusetts General Hospital told him Chinese physicians had observed patients with COVID seeming to have "better outcomes if they took famotidine as part of the normal treatment of their gastroesophageal reflux, or heartburn."

The heartburn drug famotidine, found in Pepcid AC, seemed an unlikely remedy to help in the fight against COVID-19, but now Tracey is leading a clinical trial that administers the medication intravenously to patients who have the virus.

Researchers at Alchem Laboratories screened famotidine and found the drug could possibly block the enzyme, or protease, that the virus needs to replicate, Tracey said.

Tracey is proceeding with caution but has enrolled 200 patients in the trial, which should have at least a cohort of 300 before researchers begin to study the data.

"The whole responsibility one has to accept in doing this kind of research, asking these kinds of questions, is first, do no harm. And second, use a clinical trial strategy and design



that provides valuable data, not anecdotes, not stories," he said.

Doctors in China found by looking at more than 6,000 patient records, that patients on famotidine died at a rate of about 14%, versus the 27% who died who weren't on the heartburn medication, but Tracey stressed that "the data from China was retrospective, it was historic, looking at records and patient interviews. The only way to know if famotidine would be effective would be to give it to patients in a blinded randomized clinical trial, which is what we're doing now at Northwell in New York."

He said there was precedent and hope for using a common drug to fight disease.

"If you think of HIV, there is no HIV vaccine, but HIV can be quite effectively treated using drugs that target the HIV protease," Tracey said. "And so, if one wishes to hope and we all hope for the best, we can hope that a widely used, relatively safe drug, by accident, is a protease inhibitor for this virus. And then that could be very important. That could change the course of the disease."

Tracey said his team will know the outcome of the study in "weeks to months."

## April 29

# The closing of meat processing plants is affecting the US food supply chain

... Shutdowns and slowdowns at numerous plants have put kinks in the nation's complex food supply chain that will affect everyday consumers and inflict billions of dollars' worth of damages on industries vital to Oklahoma and the rest of the country.

...It might be fair to compare meat processing plants to dams. The arrival of a sirloin steak at a restaurant or of a pound of ground beef at a supermarket depends on a continuous, smooth flow of work at meat processing plants.

COVID-19 has interrupted the flow, causing delays in the slaughtering and rendering of hundreds of thousands of animals at dozens of plants across the country. According to the United Food and Commercial Workers union, an estimated 5,000 employees have been infected and at least 17 have died from the coronavirus. Plants have responded with deep cleanings, by outfitting workers with personal protective equipment and by spacing them farther apart. Recognizing that meat production facilities do, in fact, amount to critical infrastructure, President Donald Trump signed an executive order on Tuesday invoking the Defense Production Act to keep them open.

... by early April the pandemic had already cost the country \$13.6 billion. Losses in Oklahoma were estimated at about \$600 million. The ag-economist said worker illness has been the major disrupter at plants, but kinks also have resulted from the shift in demand for products away from restaurants and more toward retail sales. Panic buying by consumers

also has affected the availability of meat in grocery stores.

"It's certainly a mix (of factors leading to reduced availability and price fluctuations)," Peel said. "I'd say lack of product from a supply standpoint is the biggest. We just physically aren't producing as much of the products. We're seeing backlogs of cattle that can't be processed and we're adding to that total every day."

... Processing disruptions also are affecting the pork and poultry industries. Facilities across the country normally process about half a million hogs daily, with maximum capacity of about 2.7 million per week. Last week, Lindsey said shutdowns or slowdowns at seven plants reduced production to about 1.99 million animals, leaving about 500,000 "with no place to go."

Poultry producers affected by the pandemic have faced the same tough circumstances. John Tyson, chairman of Tyson Foods, said in a statement this week that processing plant shutdowns and slowdowns have resulted in forced "depopulating" at some poultry production facilities.

"Farmers across the nation simply will not have anywhere to sell their livestock to be processed, when they could have fed the nation," Tyson said in the statement. "Millions of animals – chickens, pigs and cattle – will be depopulated because of the closure of our processing facilities. The food supply chain is breaking."

## SIP expirations dates by state

Alabama: <b>April 30</b>	Indiana: <b>May 1</b>	Nevada: <b>April 30</b>	South Dakota: NONE
Alaska: <b>April 21</b>	Iowa: NONE	New Hampshire: <b>May 4</b>	Tennessee: <b>April 30</b>
Arizona: <b>April 30</b>	Kansas: <b>May 3</b>	New Jersey: No specific end date	Texas: <b>April 30</b>
Arkansas: NONE	Kentucky: “Healthy at Home” indefinitely	New Mexico: <b>April 30</b>	Utah: NONE
California: No set end date	Louisiana: <b>April 30</b>	New York: <b>May 15</b>	Vermont: “Stay Home, Stay Safe” order <b>May 15</b>
Colorado: <b>April 26</b>	Maine: “Stay Healthy at Home” <b>April 30</b>	North Carolina: <b>April 29</b>	Virginia: <b>June 10</b>
Connecticut: <b>May 20</b>	Maryland: until further notice	North Dakota: NONE	Washington: <b>May 4</b> but could be extended - coordinating with Oregon and California
Delaware: <b>May 15</b> or until the “public health threat is eliminated.”	Massachusetts: <b>May 4</b>	Ohio: <b>May 1</b>	West Virginia: Until further notice
District of Columbia: <b>May 15</b>	Michigan: <b>April 30</b>	Oklahoma: “Safer at Home” <b>May 6</b> for people over the age of 65 and other vulnerable residents	Wisconsin: “Safer at Home” order <b>April 24</b>
Florida: <b>April 30</b> . Gov. Ron DeSantis is considering re-opening schools in the state.	Minnesota: <b>May 4</b>	Oregon: Indefinitely - also coordinated with California and Washington	Wyoming: NONE
Georgia: <b>April 24</b>	Mississippi: <b>April 27</b>	Pennsylvania: <b>April 30</b>	
Hawaii : <b>April 30</b>	Missouri: “Stay Home Missouri” <b>April 24</b>	Rhode Island: <b>May 8</b>	
Idaho: <b>April 30</b>	Montana: <b>April 24</b>	South Carolina: <b>April 27</b>	
Illinois: <b>April 30</b>	Nebraska: NONE		

## May 4

# US Supreme Court will resume - and we will be able to listen in live

On Monday, Washington lawyer Lisa S. Blatt will pull out her favorite suit, put on her lucky, understated jewelry and stride to the lectern to address the justices of the United States Supreme Court.

“I’m going to replicate the process as much as possible,” said Blatt, although the only people who will see her Monday are a son who’s in charge of the dog, a daughter who will intercept anyone who approaches the house, a colleague at the table and Blatt’s husband, David, acting as timekeeper.

It is unclear exactly where the nine justices will be — other than, apart — as they begin two weeks of oral arguments unlike any in the court’s 230-year history.

The coronavirus pandemic has forced changes at the Supreme Court that decades of nagging from the legal academy and threats from congressional critics failed to achieve.

Not only will the arguments be conducted by telephone — a Zoom meeting might be a bridge too far for the videophobic justices — the world for the first time will be able to listen in live, as the cases are argued.

...  
The justices are making adjustments for the arguments, including asking questions one-by-one by seniority rather than the usual free-for all, and the lawyers are as well.

...

Blatt will be arguing her 40th Supreme Court case, more than any other woman, and was selected by the court for the first argument in its experiment. “What could I say?” she recalled. “Of course. Happy to. Honored to.’ ”

...  
“An ‘argument’ is just that: it involves combative communication and intense verbal jousting,” she wrote in a recent law review article. “You either win or lose. Or, as I like to frame every case I argue, someone is going to die, and I don’t want it to be me.”

...  
Blatt’s adversary in the upcoming case, Justice Department lawyer Erica L. Ross, declined an interview request, as is customary for government lawyers.

Their trademark argument might not set ratings records for C-Span, which plans to broadcast the court’s proceedings. But on May 12, the court is scheduled to take up President Trump’s efforts to shield his financial records from congressional committees and a New York prosecutor.

While many lawyers see an argument at the Supreme Court as a career pinnacle, its impact on the outcome of the case is not particularly prized, at least by the justices.

They have said in the past that arguments are important, but probably change the outcome in only a handful of cases each term. Justice Stephen G. Breyer, for instance, has said he has opposed televising the arguments ...