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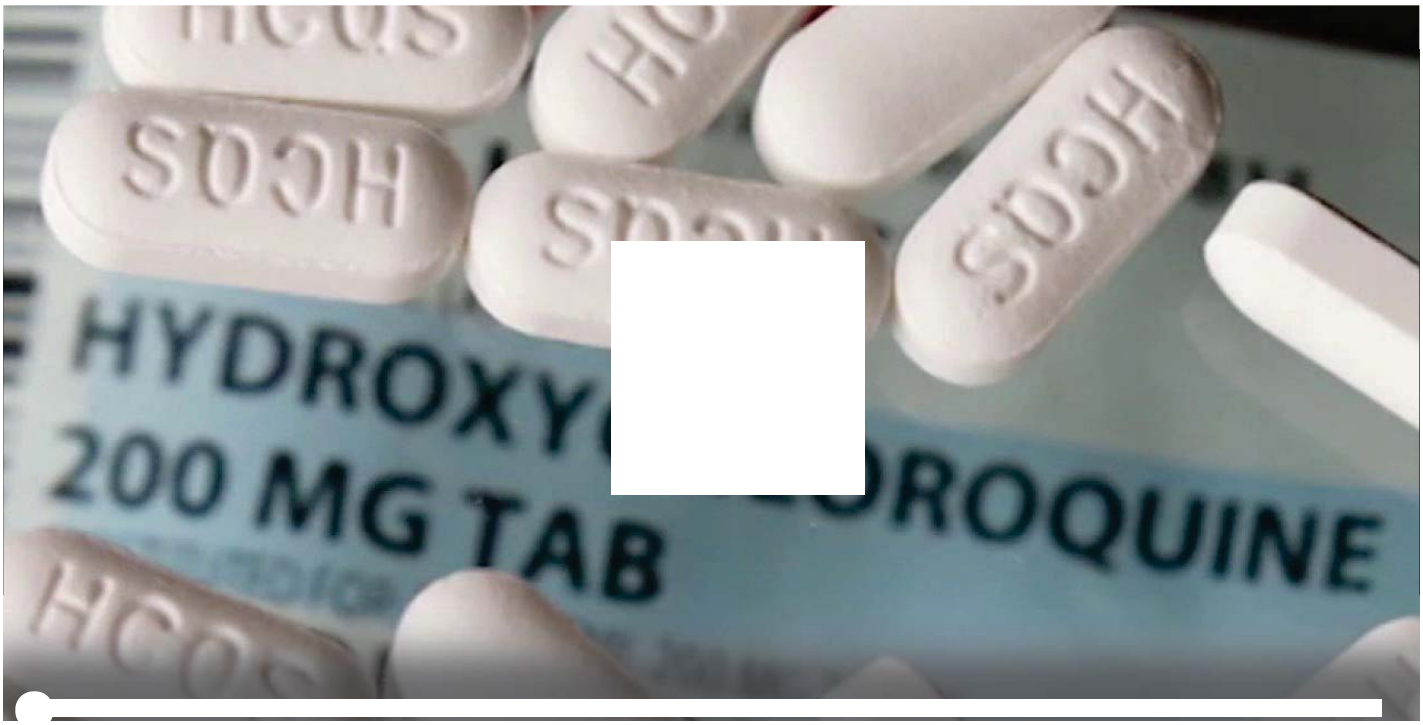
# Hydroxychloroquine helped save coronavirus patients, study shows; Trump campaign hails 'fantastic news'

Drug touted by Trump was mocked by media

By **Gregg Re | Fox News**




00:00 / 04:32

## Hydroxychloroquine lowers COVID-19 death rate, Henry Ford Health study finds

Researchers analyzed the health outcomes of 2,451 patents over a six month period; analysis from cardiologist Dr. Ramin Oskoui, CEO of Foxhall Cardiology.

Researchers at the Henry Ford Health System in Southeast Michigan have found that early administration of the drug hydroxychloroquine makes hospitalized patients substantially less likely

to die.

The study, published in the International Journal of Infectious Diseases, determined that hydroxychloroquine provided a "66% hazard ratio reduction," and hydroxychloroquine and azithromycin a 71 percent reduction, compared to neither treatment.

In-hospital mortality was 18.1 percent overall; 13.5 percent with just hydroxychloroquine, 22.4 percent with azithromycin alone, and 26.4 percent with neither drug. "Prospective trials are needed" for further review, the researchers note, even as they concluded: "In this multi-hospital assessment, when controlling for COVID-19 risk factors, treatment with hydroxychloroquine alone and in combination with azithromycin was associated with reduction in COVID-19 associated mortality."

"Our results do differ from some other studies," Dr. Marcus Zervos, who heads the hospital's infectious diseases unit, said at a news conference. "What we think was important in ours ... is that patients were treated early. For hydroxychloroquine to have a benefit, it needs to begin before the patients begin to suffer some of the severe immune reactions that patients can have with COVID."

A statement from the Trump campaign hailed the study as "fantastic news."

"Fortunately, the Trump Administration secured a massive supply of hydroxychloroquine for the national stockpile months ago," a statement read. "Yet this is the same drug that the media and the Biden campaign spent weeks trying to discredit and spread fear and doubt around because President Trump dared to mention it as a potential treatment for coronavirus."

It added: "The new study from the Henry Ford Health System should be a clear message to the media and the Democrats: stop the bizarre attempts to discredit hydroxychloroquine to satisfy your own anti-Trump agenda. It may be costing lives."

The findings, conservatives said, highlighted efforts by media partisans to undermine confidence in the drug simply to undercut the president.

"So fewer people died because they took the drug @realDonaldTrump suggested.... Thank you, POTUS for doing the right thing even in the face of a DC culture attacking you no matter what you do," wrote former Acting Director of National Intelligence Richard Grenell.

The Federalist's Sean Davis added: "Media and incompetent corrupt government officials lied to you about social distancing. They lied to you about hydroxychloroquine. They lied to you about risks to children and the general population. They lied not to help you, but to control you, and they're not going to stop."

At a March 19 White House briefing, Trump had remarked: "Now, a drug called chloroquine, and some people would add to it, hydroxychloroquine, so chloroquine or hydroxychloroquine ... [has] shown very encouraging, very, very encouraging early results." The president acknowledged that the

The media retreated somewhat from this narrative as more positive evidence emerged.

"Malaria Drug Helps Virus Patients Improve, in Small Study," The New York Times reported in April, adding: "A group of moderately ill people were given hydroxychloroquine, which appeared to ease their symptoms quickly, but more research is needed."

Michigan Gov. Gretchen Whitmer, a Democrat, went from threatening doctors who prescribed the drug with "administrative action" to requesting that the federal government ship her state some. Other state leaders have followed suit, including Nevada Gov. Steve Sisolak, also a Democrat.

And, an international poll of thousands of doctors rated hydroxychloroquine the “most effective therapy” for coronavirus.



The Food and Drug Administration halted the emergency use authorization for the drug earlier this month, saying preliminary data showed it wasn't effective. Research into its possible applications to treat coronavirus, however, has continued.

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Gregg Re is a lawyer and editor based in Los Angeles. Follow him on Twitter @gregg_re or email him at gregory.re@foxnews.com.

# Study finds hydroxychloroquine may have boosted survival, but other researchers have doubts

By Maggie Fox, Andrea Kane, and Elizabeth Cohen, CNN

Updated 1731 GMT (0131 HKT) July 3, 2020


**(CNN) —** A surprising new study found the controversial antimalarial drug hydroxychloroquine helped patients better survive in the hospital. But the findings, like the federal government's use of the drug itself, were disputed.

A team at Henry Ford Health System in southeast Michigan said Thursday their study of 2,541 hospitalized patients found that those given hydroxychloroquine were much less likely to die.

Dr. Marcus Zervos, division head of infectious disease for Henry Ford Health System, said 26% of those not given hydroxychloroquine died, compared to 13% of those who got the drug. The team looked back at everyone treated in the hospital system since the first patient in March.

"Overall crude mortality rates were 18.1% in the entire cohort, 13.5% in the hydroxychloroquine alone group, 20.1% among those receiving hydroxychloroquine plus azithromycin, 22.4% among the azithromycin alone group, and 26.4% for neither drug," the team wrote in a report published in the International Journal of Infectious Diseases.


It's a surprising finding because several other studies have found no benefit from hydroxychloroquine, a drug originally developed to treat and prevent malaria. President Donald Trump touted the drug heavily, but later studies found not only did patients not do better if they got the drug, they were more likely to suffer cardiac side effects.

The US Food and Drug Administration withdrew its emergency use authorization for the drug earlier this month and trials around the world, including trials sponsored by the

Researchers not involved in the Henry Ford study pointed out it wasn't of the same quality of the studies showing hydroxychloroquine did not help patients, and said other treatments, such as the use of the steroid dexamethasone, might have accounted for the better survival of some patients.

"Our results do differ from some other studies," Zervos told a news conference. "What we think was important in ours ... is that patients were treated early. For hydroxychloroquine to have a benefit, it needs to begin before the patients begin to suffer some of the severe immune reactions that patients can have with Covid," he added.

**Related Video:** Gupta says Trump should not be taking hydroxychloroquine 02:44


**Related Article:** US halts hydroxychloroquine clinical trial after finding no additional benefit for Covid-19 patients

The Henry Ford team also monitored patients carefully for heart problems, he said.

"The combination of hydroxychloroquine plus azithromycin was reserved for selected patients with severe COVID-19 and with minimal cardiac risk factors," the team wrote.

The Henry Ford team said they believe their findings show hydroxychloroquine could be potentially useful as a treatment for coronavirus.

"It's important to note that in the right settings, this potentially could be a lifesaver for patients," Dr. Steven Kalkanis, CEO of the Henry Ford Medical Group, said at the news conference.

Kalkanis said that their findings do not necessarily contradict those of earlier studies. "We also want to make the point that just because our results differ from some others that may have been published, it doesn't make those studies wrong or definitely a conflict. What it simply means is that by looking at the nuanced data of which patients actually benefited and when, we might be able to further unlock the code of how this disease works," he said.

"Much more work needs to be done to elucidate what the final treatment plan should be for Covid-19," Kalkanis added. "But we feel ... that these are critically important results to add to the mix of how we move forward if there's a second surge, and in relevant other parts of the world. Now we can help people combat this disease and to reduce the mortality rate."

Zervos said hydroxychloroquine can help interfere with the virus directly and also reduces inflammation.

Researchers not involved with the study were critical. They noted that the Henry Ford team did not randomly treat patients but selected them for various treatments based on certain criteria.

"As the Henry Ford Health System became more experienced in treating patients with COVID-19, survival may have improved, regardless of the use of specific therapies," Dr. Todd Lee of the Royal Victoria Hospital in Montreal, Canada, and colleagues wrote in a commentary in the same journal.

"Finally, concomitant steroid use in patients receiving hydroxychloroquine was more than double the non-treated


**Related Article:** US stockpile stuck with 63 million doses of hydroxychloroquine


**Related Article:** FDA revokes authorization of drug Trump touted


**Related Article:** UK Covid-19 trial ends hydroxychloroquine study because there's no evidence the drug benefits patients

steroid dexamethasone can reduce inflammation in seriously ill patients.

The Henry Ford team wrote that 82% of their patients received hydroxychloroquine within the first 24 hours of admission, and 91% within the first 48 hours of admission.

They wrote that in comparison, a study of patients at 25 New York hospitals started taking the drug "at any time during their hospitalization."

But patients in that New York study, published in May in the Journal of the American Medical Association, started taking hydroxychloroquine on average one day after being hospitalized.

"Maybe there's a little bit of a difference, but it's not like patients in New York were being started on day seven. That's not what happened," said Eli Rosenberg, lead author of the New York study and an associate professor of epidemiology at the University at Albany School of Public Health.

Rosenberg also pointed out that the Detroit paper excluded 267 patients -- nearly 10% of the study population -- who had not yet been discharged from the hospital.

He said this might have skewed the results to make hydroxychloroquine look better than it really was. Those patients might have still been in the hospital because they were very sick, and if they died, excluding them from the study made hydroxychloroquine look like more of a lifesaver than it really was.

"There's a little bit of loosey-goosiness here in all this," he told CNN.

Both the Detroit and New York studies were observational: they looked back at how patients did when doctors prescribed hydroxychloroquine.

While helpful, observational studies are not as valuable as controlled clinical trials. Considered the gold standard in medicine, patients in a clinical trial are randomly assigned to take either the drug or a placebo, which is a treatment that does nothing. Doctors then follow the patients to see how they fare.

Two clinical trials on hydroxychloroquine for Covid-19, one in the US and one in the UK, were stopped early because their data suggested hydroxychloroquine wasn't helpful.

The US trial, run by the National Institutes of Health, enrolled more than 470 patients.

The UK trial, run by the University of Oxford, enrolled more than 11,000 patients.

**Related Article:** Fauci: Science shows hydroxychloroquine is not effective as a coronavirus treatment

the Oxford doctors concluded.

But a White House official praised the Henry Ford team's study.

Peter Navarro, the White House trade adviser, said the study shows hydroxychloroquine works if given early enough.

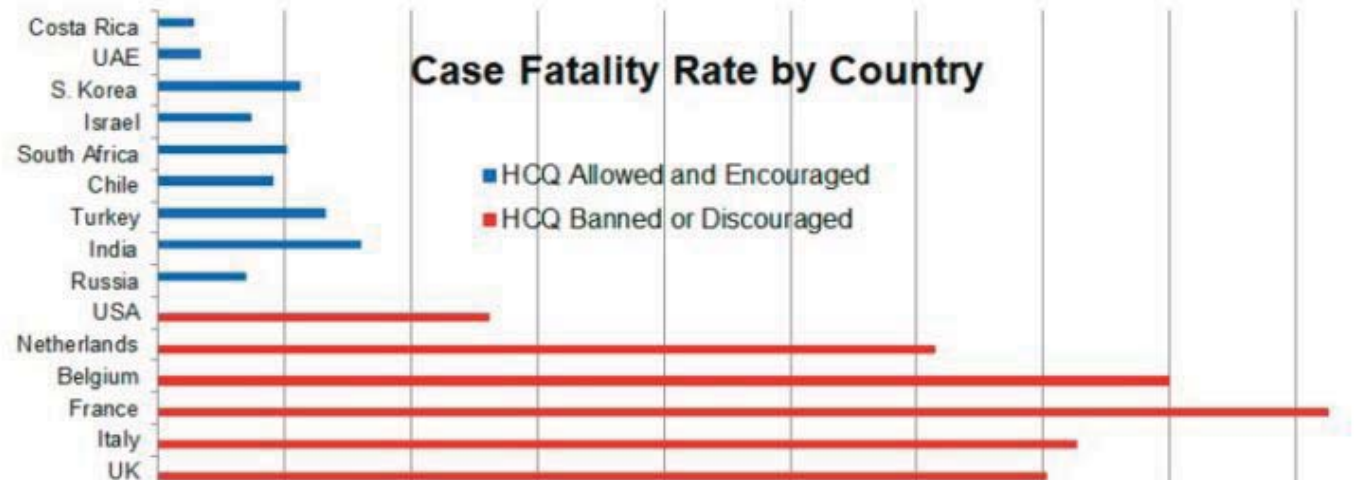
"This is a big deal," he told CNN. "This medicine can literally save tens of thousands, perhaps hundreds of thousands of American lives and maybe millions of people worldwide."

Legal Matters , What's New June 22, 2020

# Preliminary Injunction Sought to Release Hydroxychloroquine to the Public







Today the Association of American Physicians & Surgeons filed its motion for a preliminary injunction to compel release to the public of hydroxychloroquine by the Food & Drug Administration (FDA) and the Department of Health & Human Services (HHS), in *AAPS v. HHS*, No. 1:20-cv-00493-RJJ-SJB (W.D. Mich.). Nearly 100 million doses of hydroxychloroquine (HCQ) were donated to these agencies, and yet they have not released virtually any of it to the public.

Millions of Americans fear attending political gatherings, religious services, and even large family get-togethers without the availability of early treatment if they were to contract COVID-19. Why should Americans have to wait until they or a loved one is on a ventilator before they gain access to medication to overcome this virus?

“Why does the government continue to withhold more than 60 million doses of HCQ from the public?” asks Jane Orient, M.D., the Executive Director of AAPS. “This potentially life-saving medication is wasting away in government warehouses while Americans are dying from COVID-19.”

Today AAPS files its motion for a preliminary injunction to compel the government to release HCQ from its stockpile to the public, which could then immediately benefit from it. Reports of an uptick in COVID-19 in Arizona and elsewhere could then be handled without irrational, unjustified limitations on this medication imposed by the FDA.

AAPS agrees with President Trump’s adviser Peter Navarro, Ph.D., who decries the obstruction by officials within the FDA to making this medication available to the public. President Trump himself has successfully taken this medication as a preventative measure, so why can’t ordinary Americans?

“A perfect storm of politics in this presidential election year, along with conflicts of interest at the Defendant federal agencies, has resulted in unjustified obstacles to access to HCQ, an inexpensive medication having a track record of more than 75 years of safety,” AAPS writes in its brief being filed today in federal court.

AAPS files with the court a chart showing how countries that encourage HCQ use, such as South Korea, India, Turkey, Russia, and Israel, have been far more successful in combatting COVID-19 than countries that have banned or discouraged early HCQ use, as the FDA has. Last week the FDA even misled the public by falsely stating that HCQ should not be used to treat COVID-19, when multiple studies show its benefits, and thousands of patients have been successfully treated worldwide.

“The interference with public access to hydroxychloroquine is disrupting our political processes,” notes AAPS General Counsel Andrew Schlafly. “Perhaps that is what some want, in order to deter Americans from attending political conventions and even voting, but it is unconstitutional for the FDA to infringe on these constitutional rights by blocking access to this safe medication.”

The Association of American Physicians and Surgeons (AAPS) has represented physicians of all specialties in all

Exhibit 1: Declaration of Jane M. Orient, M.D.: https://drive.google.com/file/d/1cxEESr-y0ckqRn81uV1zuF_r0A_faltq/view?usp=sharing

Exhibit 2: Declaration of Jeremy Snavely: https://drive.google.com/file/d/1ziyzFbeEPLv8_HnJxDeMkqb21s8j4MTx/view?usp=sharing

Original complaint filed June 2: http://aapsonline.org/judicial/aaps-v-fda-hcq-6-2-2020.pdf

For PDFs of all Motions, Exhibits, and Supporting Documents see: https://drive.google.com/drive/folders/1oUeDIaqxodyaY68ABFoBv1n0xZBF-nLT?usp=sharing



## Action Center:

# WHO to resume hydroxychloroquine trial after earlier halt over safety concerns

**Questions raised over study claiming drug linked to higher rate of mortality and heart problems in Covid-19 patients**



**Melissa Davey**

Thu 4 Jun 2020 03.35 EDT

The World Health Organization will resume clinical trials of an anti-malaria drug researchers hope may treat Covid-19, after a study of the drug published in May by a major medical journal prompted them to halt trials due to safety concerns.

The paper, published in the Lancet, said hydroxychloroquine was associated with higher mortality rates and higher rates of heart problems in Covid-19 patients in hospitals around the world. The finding prompted the World Health Organization's director general, Tedros Adhanom Ghebreyesus, to announce the hydroxychloroquine arm of its Solidarity global clinical trial would pause while the study and other findings were reviewed.

But serious questions about the study were raised by scientists around the world and by the Guardian, with data discrepancies highlighted and questions raised about how the study collected data from 96,000 patients across hundreds of hospitals. Major hospitals denied being connected with the database , which is managed by a company called Surgisphere. The chief executive of the company, Dr Sapan Desai, is also co-author of the Lancet paper.

On Wednesday the Lancet published an expression of concern about the paper, and and said the co-authors of the study who were not from Surgisphere had commissioned an independent audit into the provenance and veracity of the data. A Lancet spokeswoman said: "All research articles published in the Lancet journals undergo independent, external peer review, including statistical review."

A Guardian investigation published on Thursday revealed serious flaws in the database and raised questions about claims made by Desai about how it works. On Twitter the editor of the Lancet, Richard Horton, described it as "an important investigation". On Friday, Adhanom Ghebreyesus said the World Health Organization had reviewed the Lancet study and other findings about hydroxychloroquine and had determined it was safe for its trials to continue.

"The executive group received this recommendation and endorsed the continuation of all arms of Solidarity trial including hydroxychloroquine," he said. The World Health

Organization emphasised there is still no evidence hydroxychloroquine, or any drug, is effective in treating or preventing Covid-19. Infectious diseases experts have repeatedly emphasised the need for strong studies before treatment decisions are made.

Hydroxychloroquine trials around the world were halted due to the Lancet paper, including the Australasian Covid-19 trial (Ascot) trial. On Thursday the Ascot principal investigator, associate professor Steven Tong, said the governance committees for the trial recommended that it now continue.

“The trial steering committee for Ascot strongly supports the ongoing need for data from randomised clinical trials in order to clarify the efficacy and safety of hydroxychloroquine in patients hospitalised with Covid-19,” he said.

“Randomised controlled trials are considered the ‘gold standard’ when it comes to testing treatments in humans as they remove any bias, therefore providing the robust evidence that’s required to make safe and informed decisions about the ongoing use of a treatment.”



THE CORNER

SCIENCE & TECH

# About That Scary Hydroxychloroquine Study

By DAVID HARSANYI | June 3, 2020 4:14 PM

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A pharmacy worker shows pills of hydroxychloroquine used to treat the coronavirus at the CHR Centre Hospitalier Regional de la Citadelle Hospital in Liege, Belgium, April 22, 2020. (Yves Herman/Reuters)

Remember that scary hydroxychloroquine study in *The Lancet* and *New England Journal of Medicine* that everyone in the media was writing about a few weeks ago? It turns out that the underlying data were likely fake:

> A Guardian investigation can reveal the US-based company Surgisphere, whose handful of employees appear to include a science fiction writer and an adult-content model, has provided data for multiple studies on Covid-19 co-authored by its chief executive, but has so far failed to adequately explain its data or methodology.

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A peer-reviewed *Lancet* study claimed that Surgisphere culled data from nearly 15,000 COVID-19 patients from 1,200 hospitals around the world. There is no evidence that it collected any data from anyone.

Partisans been rooting against hydroxychloroquine for months now. There's really no other way to describe the manic reaction to a drug that has been widely, though anecdotally, said to have therapeutic value against the coronavirus. Politicians have blocked attempts to study the drug. The number of shoddy pieces of journalism surrounding hydroxychloroquine is just remarkable. Apparently, it is also dangerous.

A couple of weeks ago, Joe Biden compared taking hydroxychloroquine to drinking bleach, even though millions of Americans use the drug every day to survive. At the time, I linked to an NPR interview in which doctors at Columbia University and other research institutions complained that they couldn't find people to conduct simple clinical trials on hydroxychloroquine's effectiveness, even though the drug was, as one doctor put it, "very very safe."

Two verys.

Now we know that thousands of hospitals around the world relied on Surgisphere data to make determinations about treatment and studies. The WHO, the organization I am assured we must continue funding, halted clinical trials — followed by a number of countries — because of the alleged dangers borne from the imaginary data put together by an adult model.

WHO has now reversed course and resumed studies. If we learn that hydroxychloroquine is helpful mitigating the harm coronavirus — and that's still a big if; a new study today shows that it is not effective as a prophylactic — we can probably thank knee-jerk anti-Trumpism for delays. Scientists have trouble conducting studies, medical journals will take shortcuts in a rush to prove the president wrong (what else could explain it?), and the media will publish any scary story that reaffirms their preexisting prejudices. If you're interested in further corroding public trust in experts, this is a perfect way to do it. It's a scandal.

RETURN TO THE CORNER

**DAVID HARSANYI** is a senior writer for National Review and the author of *First Freedom: A Ride through America's Enduring History with the Gun*. **@davidharsanyi**

# Trump says he's finished hydroxychloroquine regimen to ward off COVID-19

**Courtney Subramanian, USA TODAY** Published 4:56 p.m. ET May 24, 2020

WASHINGTON – President Donald Trump (/story/news/politics/2020/05/23/trump-jeff-sessions-spar-twitter-over-recusal-russia-probe/5242982002/) said he's finished taking his regimen of hydroxychloroquine (/story/news/politics/2020/05/22/coronavirus-birx-reiterates-risks-using-hydroxychloroquine/5246679002/), a controversial drug he's promoted as a treatment for the coronavirus despite warnings from his own U.S. Food and Drug Administration and medical professionals about its effectiveness and potentially dangerous side effects.

"Finished, just finished," Trump said in an interview (http://fullmeasure.news/news/full-episodes/full-measure-may-24-2020-interview-with-the-president) with Sinclair Broadcast's program *Full Measure With Sharyl Attkisson* that aired on Sunday. "And by the way, I'm still here. To the best of my knowledge, here I am."

The president has promoted hydroxychloroquine, an FDA-approved drug used to treat malaria as well as autoimmune conditions such as lupus and rheumatoid arthritis, as a "game-changer." There is little evidence that hydroxychloroquine has been effective to treat or prevent the coronavirus.

The FDA has cautioned against the use of hydroxychloroquine and chloroquine, a related drug, for COVID-19 treatment outside of hospitals or clinical trials due to the risk of life-threatening heart problems.

Trump's comments came as a new study showed COVID-19 patients who took hydroxychloroquine (/story/news/health/2020/05/22/covid-19-study-links-hydroxychloroquine-higher-risk-death/5244664002/) had a higher risk of death than those who were not given the drug. The study, published Friday in the medical journal *The Lancet,* also found that COVID-19 patients were more likely to develop serious heart arrhythmias if treated with hydroxychloroquine or chloroquine.

**More:** Coronavirus, diabetes, obesity and other underlying conditions: Which patients are most at risk? (https://www.usatoday.com/in-depth/news/2020/04/15/coronavirus-risk-90-patients-had-underlying-conditions/2962721001/)

Arrhythmias can lead to sudden cardiac death, according to researchers, but the report did not associate the study's fatalities with adverse cardiac

effects.

The study found a 34% increase in the risk of mortality and a 137% increase in the risk of serious heart arrhythmia for patients who were given hydroxychloroquine. Patients who received hydroxychloroquine and an antibiotic, similar to the regimen Trump said he was taking, saw a 411% increase in the risk of serious heart arrhythmias.

Trump has repeatedly touted hydroxychloroquine even as some of his own health experts have warned of its risks. Dr. Deborah Birx, (/story/news/politics/2020/05/22/coronavirus-birx-reiterates-risks-using-hydroxychloroquine/5246679002/) the White House coronavirus task force coordinator, pointed to the FDA warning about the use of the drug to treat COVID-19 when asked about the recent *Lancet* study.

**US President Donald Trump answers a questions during the daily briefing on the novel coronavirus, COVID-19, at the White House on March 24, 2020, in Washington, DC.** *(Photo: MANDEL NGAN, AFP via Getty Images)*

"I think the FDA has been very clear on their website about their concerns about hydroxychloroquine, particularly when it's combined with a macrolide," she told reporters Friday at a White House press briefing, referring to a class of antibiotics such as azithromycin - a course of treatment similar to the one the president was taking.

The president continued to defend the use of the drug on Sunday, telling Attkisson hydroxychloroquine had "rave reviews" and "many people think it saved their lives."

"I believe in it enough that I took a program because I had two people in the White House that tested positive," he said. "But hydroxy has had tremendous, if you look at it, tremendous, rave reviews.

Trump revealed last week he had been taking the drug daily along with zinc and an initial dose of azithromycin as an added measure to avoid getting the coronavirus. His revelation came after two aides tested positive for COVID-19 and three members of the coronavirus task force entered quarantine over concerns they attended meetings with one of the staff members diagnosed with the virus.

The White House subsequently tightened safety measures including mandating COVID-19 tests for anyone who comes in close proximity with the president while all West Wing staff are required to wear masks except while at their desks.

During Sunday's interview, the president also escalated a war of words (/story/news/politics/2020/05/23/trump-jeff-sessions-spar-twitter-over-recusal-russia-probe/5242982002/) with former Attorney General Jeff Sessions, claiming he wasn't "mentally qualified" for the job and was "a disaster." Trump appointed Sessions to the role in 2017 but has long blamed the former attorney general for his recusal that opened the door for the appointment of special counsel Robert Mueller in the Russia investigation.

"He's not mentally qualified to be attorney general," Trump said. "He was the biggest problem. I mean, look Jeff Sessions put people in place that were a disaster."

The pair traded barbs over the weekend after Trump urged Alabamans to "not trust Jeff Sessions" in a tweet Friday, writing that he "let our Country down."

Sessions, a former Alabama senator who left the Trump administration in late 2018, is running for his old seat and is facing a runoff for the Republican nomination against former Auburn University football coach Tommy Tuberville. Sessions has sought to embrace Trump in the race, despite the president's repeated recriminations.

**'You should drop out':**Trump spars with ex-Attorney General Jeff Sessions amid battle for Alabama Senate seat (/story/news/politics/2020/05/23/trump-jeff-sessions-spar-twitter-over-recusal-russia-probe/5242982002/)

*Contributing: John Fritze*

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# Latest coronavirus updates as UK healthcare staff offered 'Trump drug' hydroxychloroquine trial

More than 40,000 people being enrolled for clinical tests



By **Max Channon, PA**, **Rom Preston-Ellis** & **Alex Green**

**UPDATED** 18:11, 21 MAY 2020

# WHO WARNS AGAINST USE OF HYDROXYCHOLOROQINE TO TREAT COVID-19

Frontline health workers in the UK will able to participate in a clinical trial to test if the malaria drug touted by Donald Trump prevents COVID-19. coronavirus.

Testing to see if chloroquine or hydroxychloroquine can prevent Covid-19 is open to staff in Brighton and Oxford as part of the investigation led by the Bangkok-based Mahidol Oxford Tropical Medicine Research Unit (MORU), which is supported by the University of Oxford and charity Wellcome.

The study is a double-blind, randomised, placebo-controlled trial that will enrol more than 40,000 people who work with confirmed or suspected coronavirus patients from Europe, Africa, Asia and South America, MORU co-principal investigator Professor Sir Nicholas White said in a statement.

“We really do not know if chloroquine or hydroxychloroquine are beneficial or harmful against Covid-19,” he said.

“The best way to find out if they are effective in preventing Covid-19 is in a randomised clinical trial.”

It comes just days after the US president’s decision to take hydroxychloroquine was described as “a staggering, irresponsible act that could very well also amount to self-harm” and there are fears his actions risk running down supplies of the drug for people with other conditions who need it. Dr Stephen Griffin, associate professor in the school of medicine at the University of Leeds, also said those that follow Mr

Trump's example might not only endanger themselves, "but could also deprive patients with chronic autoimmune conditions of their much-needed medication".



the drug has reduced because of demand from those who believe it will prevent Covid-19.

Scientists say the drug has some "very serious" side-effects and there is no evidence that it prevents or treats the disease, and the World Health Organisation WHO has warned against it use to treat COVID-19.

But those running the MORU trial have said chloroquine and hydroxychloroquine "could reduce the chances" of catching coronavirus amid fears of a second wave of infections.

The study's lead UK investigator, Prof Martin Llewelyn of Brighton and Sussex School, said a "safe and effective vaccine may be a long way off".

He added: "If drugs as well tolerated as chloroquine and hydroxychloroquine could reduce the chances of catching Covid-19 this would be incredibly valuable."

Hydroxychloroquine is a prescription drug used for acute malaria and certain types of arthritis.

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It can reduce inflammation, pain, and swelling – and is widely used to treat rheumatic diseases. It is a derivative of chloroquine, which is also used to treat malaria.

The UK Government has said that chloroquine and hydroxychloroquine are not licensed to treat Covid-19 related symptoms or prevent infection. It said the drugs should not be used outside ongoing clinical trials which have reached no conclusions



The first UK participants in the new trial can be enrolled from today at Brighton and Sussex University Hospitals and at Oxford's John Radcliffe Hospital.

Further testing is expected at another four sites by the end of May, with 25 total locations opened across the UK before July and more planned around the globe.

The team aims to deliver results by the end of 2020.

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## KEY EVENTS

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17:21

**Huge surge in holiday bookings in Cornwall and Devon**

13:13

**Police wake up visitors in campervans and send them home**

08:58

**EasyJet to resume flights from Bristol**

07:47

# Jewish MD who promoted virus cocktail is leaving community where he tested it

Dr. Vladimir 'Zev' Zelenko, an Orthodox doctor credited with bringing controversial malaria drug to Trump's attention, accused of spreading disinformation about infection rates

By **SHIRA HANAU**
21 May 2020, 6:20 am


Dr. Vladimir Zelenko promoted hydroxychloroquine as a treatment for COVID-19. (Getty Images and screenshot from Whatsapp video via JTA)

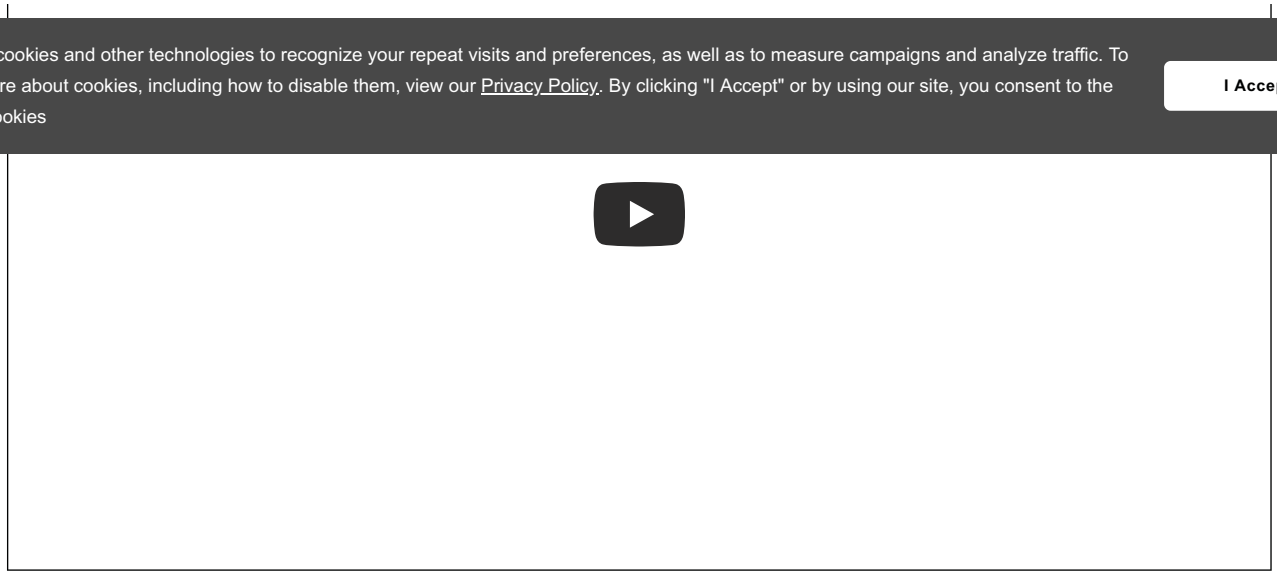
JTA — His rise was meteoric and his fall just as sudden.

Dr. Vladimir "Zev" Zelenko, an Orthodox Jewish doctor who rose to fame in March while promoting a cocktail of drugs he claimed had successfully treated coronavirus – including one that US President Donald Trump said Monday he is taking himself, despite the drug's potentially dangerous side effects – has announced that he is leaving the Jewish community where he has practiced medicine for decades.

In a video shared by the Orthodox news site Yeshiva World News, Zelenko announced he would leave Kiryas Joel, the town north of New York City where, until the coronavirus pandemic, he was known as a beloved community doctor.

"Things have happened," he said speaking directly to the camera. "I've decided that it's time for me to move on. I'm not sure yet what I'm going to do."

> Dr Vladimir Zalenko is closing his Kiryas Yoel office after 20 years



The announcement comes after Zelenko was accused by community leaders of spreading disinformation about the rate of coronavirus infection in Kiryas Joel, leading to discrimination against residents of the village. Zelenko is also being investigated by a federal prosecutor over his claim that a study of the drugs he promoted had won approval from the Food and Drug Administration.

Leaders of the Kiryas Joel community spoke out publicly against Zelenko in an open letter in March.

“We the undersigned institutions strongly believe that the predictions presented by Dr. Zelenko have been proven false and are not supported by the overall medical establishment, specifically in his wild conclusions as to the spread of the virus in our community,” the village’s office of emergency management, a partnership of several community organizations and government agencies formed to respond to the COVID-19 crisis, wrote in an open letter.

The letter was written to contradict Zelenko’s claims, which he promoted in videos posted to YouTube, that 90% of the Kiryas Joel community would be infected with COVID-19.

“These measures have, thanks to the Almighty, resulted in a rate of 90% of the community being healthy, the opposite of Dr Zelenko’s outrageous prediction of a 90% infection rate,” they wrote, referring to the closure of the community’s synagogues, schools, and other buildings.

AXIOS

Updated 5 hours ago - Health

# Trump says he's taking hydroxychloroquine despite FDA warnings

Axios

President Trump said at a roundtable Monday that he's

a preventative measure against the coronavirus.

**Why it matters:** The FDA issued a warning last month that the unproven drug should only be taken in hospitals because of the risk of heart complications. There's no substantiated evidence that taking hydroxychloroquine prevents COVID-19 infections.

**The big picture:** Rick Bright, the former head of a key government vaccine agency, testified last week that he believes he was ousted from his position because of his resistance to promoting hydroxychloroquine, which has long been touted by Trump and his allies in conservative media.

- Bright said that he supported the use of hydroxychloroquine under the supervision of a physician. But when HHS leadership issued a directive to make the drug more broadly available, Bright says he resisted: "I did not think it was the proper or safe way to evaluate that drug in the context of this outbreak."

- Hydroxychloroquine is currently being studied as a potential preventative for health care workers with high risk of exposure to coronavirus patients.

**What he's saying:**

> *"I asked [the White House doctor], what do you think? He said if you'd like it. I said yeah, I'd like it. A lot of front-line workers are taking hydroxychloroquine. I don't take it because — hey, people said oh maybe he owns*

AXIOS

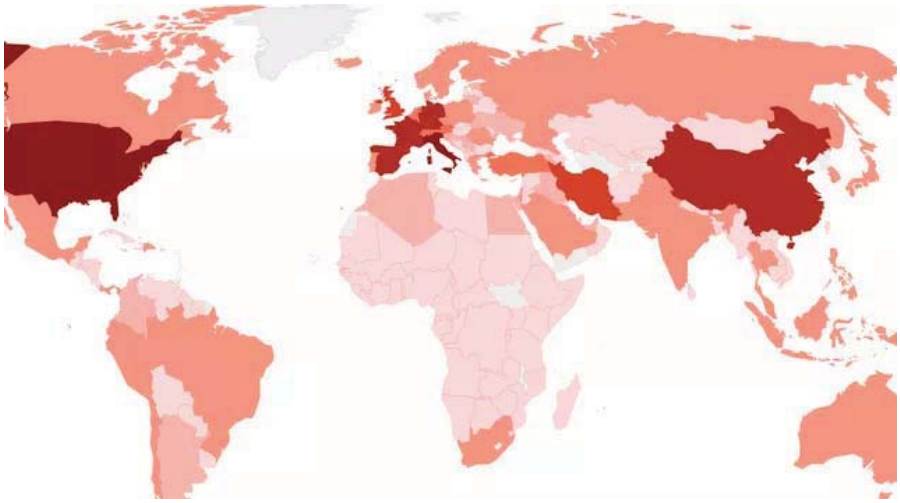
> *them being sick. And there is a very good chance that this has an impact, especially early on. But you look at front-line workers. You look at doctors and nurses. A lot of them are taking it. As a preventative."*

DISCLAIMER: READ THE FDA's WARNINGS ABOUT HYDROXYCHLOROQUINE

# Go deeper

Axios

## World coronavirus updates



All 194 WHO member states are attending a virtual meeting at the World Health Assembly Monday, where an Australian-led draft motion calling for an independent coronavirus inquiry, backed by over 110 countries, is on the agenda.

**By the numbers:** COVID-19 has infected over 4.7 million people and killed more than 315,200 as of Monday morning. Over 1.7 million have recovered from the virus. The U.S. has reported the most cases (over 1.4 million from 11.4 million tests).

Go deeper (2 min. read) ⟶ Updated 19 hours ago - Health

Axios

## Coronavirus dashboard

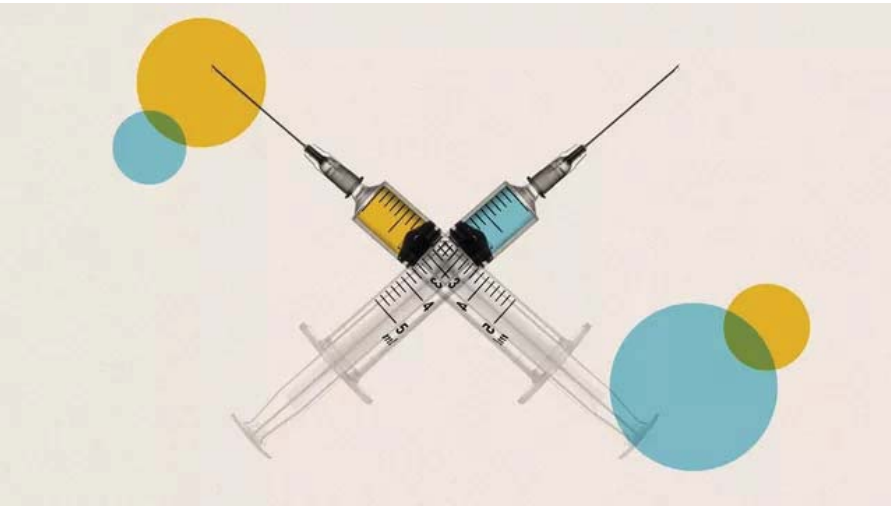


Illustration: Aïda Amer/Axios

1. **Global:** Total confirmed cases as of 9:30 p.m. ET: 4,801,282 — Total deaths: 318,465 — Total recoveries — 1,784,714 — Map.

Total tested: 11,834,568 — Map.

3. **Federal government:** Trump says he started taking hydroxychloroquine about a week ago despite FDA warnings.
4. **World:** China's President Xi accepts invite to address virtual gathering of World Health Organization.
5. **Wall Street:** The stock market had its best day since early April, driven by positive news of Moderna's phase one coronavirus vaccine trial.
6. **States:** Judge tosses out Oregon stay-at-home restrictions.
7. **What should I do?** Hydroxychloroquine questions answered — Traveling, asthma, dishes, disinfectants and being contagious — Masks, lending books and self-isolating — Exercise, laundry, what counts as soap — Pets, moving and personal health — Answers about the virus from Axios experts — What to know about social distancing — How to minimize your risk.
8. **Other resources:** CDC on how to avoid the virus, what to do if you get it, the right mask to wear.

*Subscribe to Mike Allen's Axios AM to follow our coronavirus coverage each morning from your inbox.*

Updated 51 mins ago - Politics & Policy

Bob Herman

# Moderna's coronavirus vaccine shows initial immune response

AXIOS

Moderna's headquarters in Massachusetts. Photo: Maddie Meyer/Getty Images

Healthy patients who received the first doses of Moderna's coronavirus vaccine appeared to have generated antibody responses to the virus, according to early phase one trial data released by the company Monday.

**The big picture:** This is an early snapshot of a small sample size within a trial that is focused on the vaccine's safety. This is a positive first step, but still a first step.

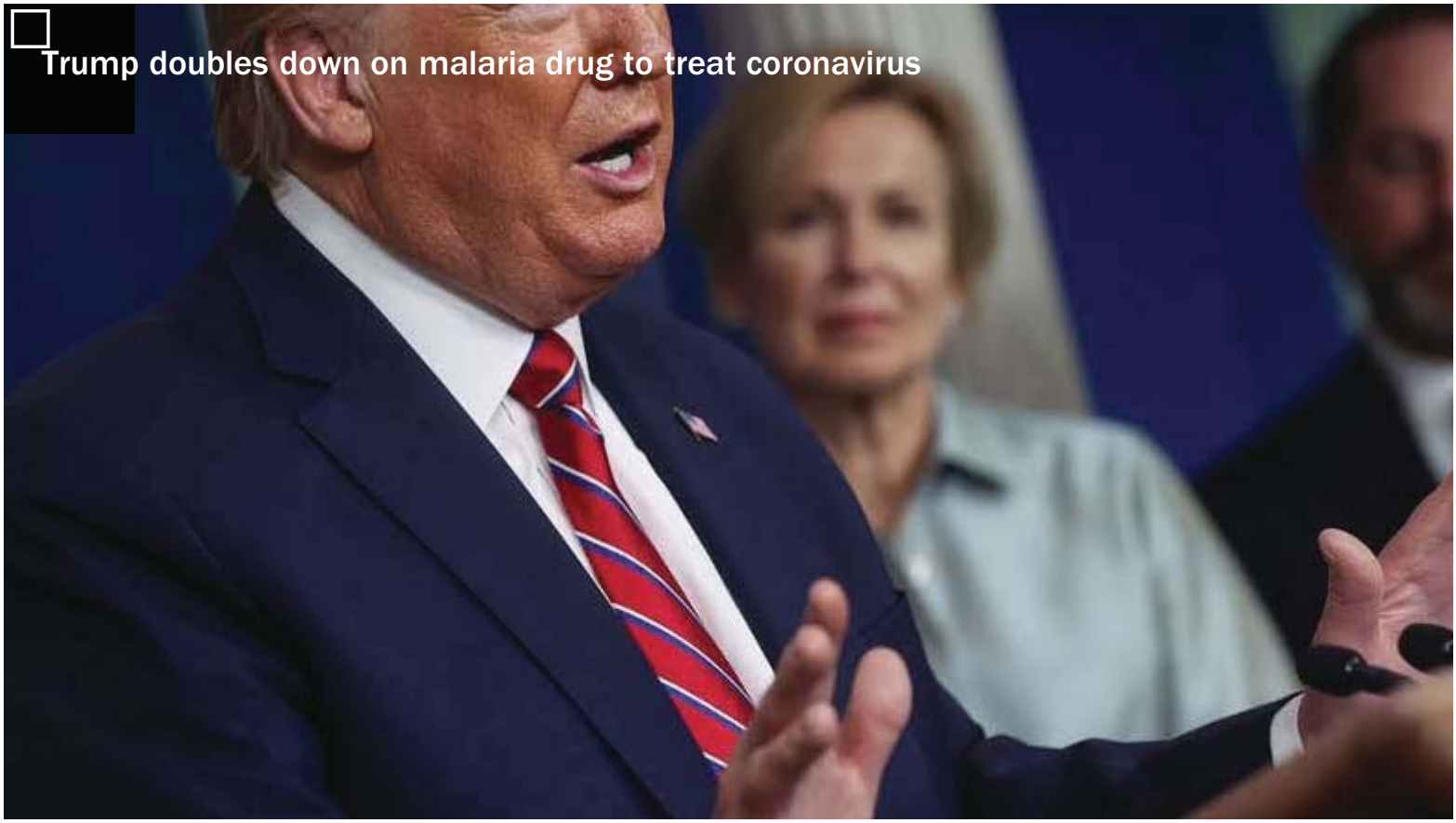
Go deeper (1 min. read) ⟶

12 hours ago - Health

Business

# Trump keeps touting an unproven coronavirus treatment. It's now being tested on thousands in New York.

## The push in the U.S. pandemic epicenter follows the president's declaration that he 'feels good' about compounds with unproven efficacy, hydroxychloroquine and chloroquine.




President Trump on March 20 played up the promise of a malaria drug to possibly treat coronavirus, saying, "What the hell do you have to lose?" (Reuters)

By Christopher Rowland, Jon Swaine and March Josh Dawsey26 at 3:29 PM

New York is moving at unprecedented speed and scale in a human experiment to distribute tens of thousands of doses of anti-malarial drugs to seriously ill patients, spurred by political leaders including President Trump to try a treatment that is not proved to be effective against the coronavirus.

With no proven treatment for the coronavirus, and infections in New York topping 30,000, health experts say the Food and Drug Administration has moved with uncommon speed to authorize New York's sweeping plan to distribute the drugs through hospital networks.

Planning for such a complex initiative would ordinarily take up to nine months, those experts say. In New York, the U.S. epicenter of the covid-19 pandemic, that timeline has been compressed into three days.

The effort has raised concerns among health experts about safety risks — including the danger of fatal heart arrhythmia and vision loss associated with the drugs — and of raising false hopes in the American public. But Trump's direct intervention into complex medical issues, as well as New York Gov. Andrew M. Cuomo's embrace of the strategy, has generated popular excitement about the drugs.

The attention by political leaders also has contributed to runs on supply and hoarding, which New York and other states have tried to block with executive orders restricting prescriptions.

New York will use three medications — hydroxychloroquine and chloroquine in combination with the antibiotic azithromycin — contributed by the Federal Emergency Management Agency and Amneal Pharmaceuticals, the state said. The first wave of patients will receive hydroxychloroquine and azithromycin.

*[Sign up for our Coronavirus Updates newsletter to track the outbreak. All stories linked in the newsletter are free to access.]*


At Elmhurst Hospital in Queens, 13 people died from coronavirus in a single 24-hour period. (Alden Nusser, Joyce Koh/The Washington Post)

Launching such a plan “is something that normally would have been done in six to nine months and we’re doing it in three or four days,” a New York state health official, who spoke on the condition of anonymity to discuss evolving plans candidly, said in an interview Wednesday.

Patient outcomes from the experiment will be gathered electronically and contribute to an “observational” trial being coordinated by the government, the official said. In an observational trial, which is considered less rigorous than a controlled trial comparing a treatment with a

placebo, researchers see if a therapy is safe and effective by gathering and comparing the results in a large database.

In addition to mortality and overall recovery, the study will measure patients' overall viral load, duration on a ventilator and number of days in the hospital.

The FDA would not comment on any aspects of the massive New York experimental effort, citing its own confidentiality rules.

Ground-level hospital administrators are scrambling to set up the reporting programs so outcome data from patients treated with the drugs can be reported back to the state and federal authorities.



"I have never seen anything like this. It is amazing how the country and everybody can pull together and come up with quick, innovative ways to try to attack it," said Onisis Stefas, chief pharmacy officer for Northwell Health, which has 22 hospitals in New York and has already been using the anti-malarial drugs to treat patients on a "compassionate-use" basis.

*[More than 140 nursing homes have reported coronavirus cases. Federal officials won't say which ones.]*

"Everybody's questioning it, and that's why these studies need to be done to confirm it," he said. "There aren't a lot of other options out there."

The initiative is freighted with equal parts hope and politics, which some health-care officials and states suggest are eclipsing science.

Members of the military walk on March 25 into the Javits Center, which is being transformed into a temporary hospital to accommodate the growing number of covid-19 cases in New York City. (Ryan Christopher Jones/The Washington Post)

Nevada, via executive order, this week banned prescriptions of the drugs for the coronavirus until the results of rigorous clinical trials are known.

“We must deal with facts, not fiction,” Nevada’s chief state medical officer, Ishan Azzam, said. Nevada is among states trying to stop runs and hoarding that have depleted supply for people who need the treatments for established uses, including lupus patients. New York’s Cuomo in an executive order has also limited new prescriptions of the anti-malarial drugs to patients with previously approved FDA conditions and to coronavirus patients participating in state-sponsored experiments.

Despite some tantalizing early results, there is scant published evidence that the two anti-malarial drugs will have a benefit for coronavirus patients. More rigorous controlled clinical trials are being conducted in the United States, including in New York and Minnesota, and around the world to prove whether the drugs will work. Anthony S. Fauci, head of the National Institute of Allergy and Infectious Diseases, has repeatedly cautioned, from the same White House lectern as Trump, that indications of benefit so far are anecdotal.

But in the absence of viable alternatives, there has been a global rush to try the drugs. Doctors and hospitals have virtually wiped out U.S. supplies by prescribing them “off label."

The low-cost generic pills have been on the market for decades for malaria, lupus and rheumatoid arthritis. Many experts have said they believe they are relatively safe, although hydroxychloroquine can cause dangerous heart problems and some specialists recommend electrocardiogram screening tests, especially when used in combination with azithromycin. The Mayo Clinic issued a warning Wednesday that doctors need to determine which patients are at risk of potentially fatal arrhythmia before they prescribe the drugs.

“Correctly identifying which patients are most susceptible to this unwanted, tragic side effect and knowing how to safely use these medications is important in neutralizing this threat,” said

Michael J. Ackerman, a Mayo Clinic genetic cardiologist. The drugs also can cause permanent eye damage called retinopathy that can lead to vision loss and blindness.

The FDA's quick action on large-scale observational trials was spurred by Trump's sudden interest in the anti-malarial drugs. As Fauci and others urged caution, Rep. Mark Meadows (R-N.C.), Trump's incoming chief of staff, contacted a family doctor in Upstate New York who claims to have used them to successfully treat hundreds of suspected covid-19 cases.

Vladimir "Zev" Zelenko, a doctor in Monroe, N.Y., said in an interview that he was contacted by Meadows after posting an unsolicited video message to Trump on Facebook in which he told the president: "Please advise the country that they should be taking this medication."

The doctor also published an open letter on Google Docs to fellow medics outlining a treatment plan of recommended doses, which was picked up by conservative media.

Zelenko said that over one call and several text messages, Meadows was "very kind and receptive," and told him his treatment plan was being evaluated at high levels. A person close to Meadows, who like others spoke on the condition of anonymity to candidly discuss internal deliberations, confirmed the two had been in touch this week about the drugs, and said White House experts were evaluating the plan.

Another official said Trump saw Zelenko's treatment plan on television and flagged it in the White House.

Sean Hannity, the Fox News host and informal Trump adviser, read from Zelenko's open letter during a telephone conversation with Vice President Pence that aired on his prime-time show

Monday evening. Rudolph W. Giuliani, the president's personal attorney, championed Zelenko's treatment plan on Twitter the following morning.

Since the start of the coronavirus outbreak, Zelenko, 46, has shared material on Facebook suggesting that the virus may have been deliberately developed by China as a population control device and that its threat was exaggerated by Democrats.

Zelenko acknowledged the drugs could have side effects. "They're not candy," he said. "However, this is an unprecedented health crisis, the world's under attack, this is battlefield medicine."

Supporters of using anti-malarial drugs against the coronavirus have cited several published studies using small patient groups in France, Japan and China. Some other, equally small analysis, has suggested there is no benefit.

But within a matter of days after Trump expressed his support for the drugs last week, Cuomo announced Sunday that 70,000 doses of hydroxychloroquine and up to 750,000 doses of chloroquine are in the pipeline for New York's patients.

“There’s a good basis to believe they could work,” Cuomo said Sunday.

Although the scale and urgency of New York’s efforts are new, trying unproven drugs on patients who otherwise might die is common in American health care for cancer and many other ailments including rare diseases. The FDA has the power to grant such “compassionate-use” permission, both on an individual basis and under blanket protocols for larger populations, specialists said.

Drug manufacturer Gilead Sciences has said it is working with the FDA to develop a new, broader program of compassionate use for its experimental antiviral drug remdesivir. If successful, the broader program will allow doctors to get the drug for severely ill coronavirus patients without having to seek individual permission from the company and FDA for each patient.


A makeshift morgue was constructed and convention halls were transformed into temporary hospitals to accommodate the coronavirus cases in New York. (Alden Nusser, Joyce Koh/The Washington Post)

“On this scale, I think it is unprecedented. I have never seen anything like this,” said Dianne Bourque, a lawyer specializing in FDA rules at the firm Mintz. “We are seeing an explosion of compassionate-use requests and I think that’s a factor of many of our clients trying desperately to

find anything that works for desperately ill people right now.

“People are throwing everything at this,” she said.

The FDA is working quickly to accommodate such requests, Bourque added, including issuing compassionate-use approval over the past weekend.

The FDA is clearly reacting to pressure from Trump and the general public, who are clamoring for some sort of treatment, said Alison Bateman-House, a professor of population health at New York University and a specialist in compassionate-use programs. She said the FDA is doing the best it can to balance competing interests in a time of crisis.

“It is very dangerous to take your medical advice from someone who does not actually practice medicine,” she said of Trump’s boosterism statements about the anti-malarial drugs at the White House. Yet, she said, there is some reason to believe the treatments could have a beneficial effect, so large-scale compassionate-use trials could be appropriate.

“The FDA is caught between saying it wants good science, and good processes, and what evidence-based medicine requires,” she said, “and this is what our bosses, the people and the president are telling us they want.

“Sometimes safeguarding the public health … is not what the public wants at a given moment,” Bateman-House said. “They want unfettered access.”



# 抵抗病毒重振经济非有疫苗不可吗？

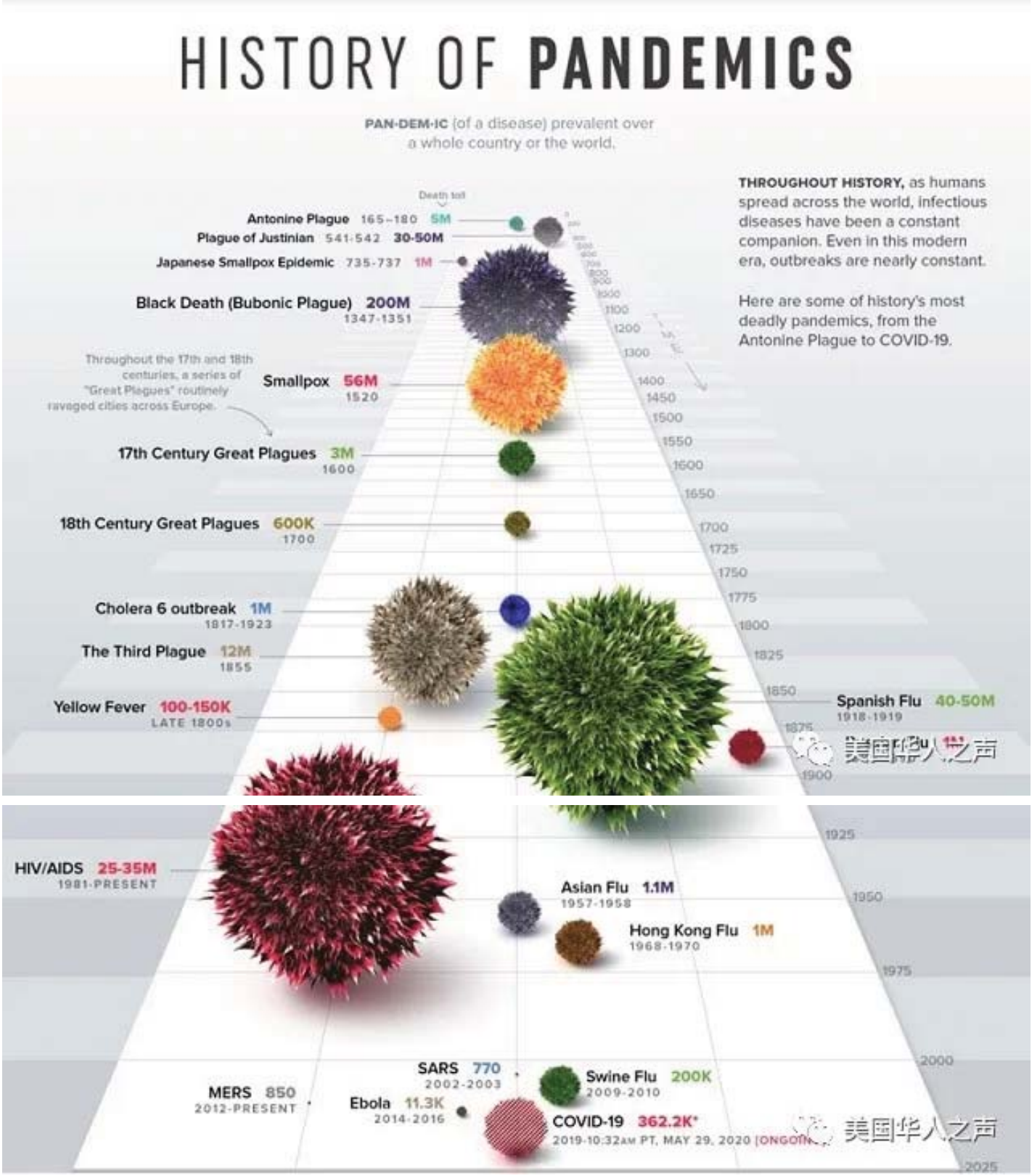
Original 观潮人 美国华人之声 6/6

当前美国和世界大部分地区面临的最大问题已经不是如何控制病毒感染减少死亡，而是如何重振经济，恢复社会正常运转。面对从没遇到过的挑战，如何走通未知的路，众说纷纭各执己见很正常。

有一种声音音量不小，影响也不小。诸多州级和联邦级的政客要员，包括人称“美国钟南山”的福奇，都宣称虽然可以分阶段复工，但要完全恢复正常生活，包括复学，需要等到有疫苗。否则病毒瘟疫会卷土重来，而且比上一波更严重。

瘟疫伴随人类不止千年了，我们先来看看历史记载告诉我们什么，再来看现代科学告诉我们什么。

下面是人类有记载的大瘟疫历史示意图。信息包括导致瘟疫的细菌或病毒，或者该次瘟疫的通俗名称（黑字），大致年代（灰色数字），和大致死亡总人数（彩色数字）。（照顾不太懂生物学的读者又不跑题太远，只啰嗦一句：细菌和病毒的主要区别是细菌可以自己繁殖生长，不依赖被感染的生物体；而病毒比细菌低等，只能借被感染生物体的细胞内生长机制复制自己。因此在自然条件下细菌杀伤力更强，图中统计的历史总死亡人数接近3亿。病毒杀死大约1.3亿。）




由细菌感染引起大瘟疫的病主要有鼠疫（Bubonic）（又称黑死病 Black Death）和霍乱（Cholera）。以鼠疫为主的大瘟疫包括公元六世纪的Plague ofJustinian, 十四世纪的 Black Death，十七世纪的17th Century Great Plagues, 十八世纪的 18th Century Great Plagues, 十九世纪中叶的The Third Plague。各次死了多少人可以看图。以霍乱为主的只列了一条，Cholera 6 Outbreak, 但时间跨度超过100年。

由病毒感染引起大瘟疫的花样就多了，把上列鼠疫和霍乱除去剩下的都是。包括明目繁多的流感（Flu），天花（smallpox），黄热病（Yellow Fever), 艾滋病（HIV/AIDS）等。在图的最下方看到近年来人们谈虎色变，各国投入大量人力金钱去研究防治的SARS，MERS，Ebola，世界范围死亡人数为几百到1万多，却与死亡 4000多万的Spanish Flu 和死亡 2亿多的黑死病同被列为“大瘟疫”，感觉有点怪。

但此文的着眼点不在于死多少人，而在于各种瘟疫现在是否能够被控制；如果能控制，办法途径主要是什么。

**细菌性瘟疫**

鼠疫自有记录到十九世纪中叶肆虐至少1300年，吞噬生命至少2.5亿。但距今150年来却没有再出现大流行，尽管鼠疫细菌还没有彻底从地球上消失。主要原因是随着1928年青霉素的发明，一系列抗生素很快出现，其中链霉素，庆大霉素，多西环素，等等都对鼠疫有很好疗效。世界任何地方一旦发现病例，马上使用抗生素治疗，能流行开来的可能性变得很小。特效治疗霍乱的抗生素包括四环素类，大环内酯类和氟喹诺酮类。

有没有预防鼠疫的疫苗呢？一直有人在研究，但至今没有一个被美国 FDA（食品药品管理局）批准。第一个预防霍乱的疫苗发明于1885年，后来陆续几十个，最新的一个在2016年被FDA 批准。前后几十种霍乱疫苗对降低死亡人数也许有些作用，但效果都不很好。最好的也是最新的预防期也只有一两年，现在主要用于保护需要到高危区旅行的人。

重点：控制细菌性瘟疫的主要手段不是疫苗，而是有效治疗药物，即能杀死细菌的抗生素。一种抗生素往往能杀死多种细菌。

**病毒性瘟疫**

对付病毒感染引起的瘟疫，治疗药物方面的情况很简单，简单到令人沮丧：至今没有针对任何一种病毒感染的有效治疗药物。原因不难理解，病毒本来就没有生命，所以没得可“杀”。病毒在体外时，一些物理和化学的条件（例如高温或酸）能让一些病毒变性，失去感染能力。病毒一旦进入人体，人所能做的最多就是阻止病毒在人体里大量复制，并尽快将其排除。

病毒大量复制会导致对各种器官的伤害，甚至死亡（有许多种机理，包括免疫系统的细胞因子风暴，等等，超出此文探讨范围）。但病毒种类繁多，复制步骤不尽相同，却都牵涉人体基因表达，很难做到用药物阻断病毒复制又不影响人体自身功能。

但冠状病毒的结构很特别，提供了走通这条途径的可能性。后面详细解释。

用疫苗对抗病毒性瘟疫在疫苗二百多年的历史里不乏成功之例。例如上图里的天花，黄热病。更多例子没有在图里，例如人们熟悉的小儿麻痹，麻疹，等等。

疫苗本身并不破坏病毒。疫苗是在人还没有被感染时让身体提前产生识别病毒的抗体。一旦感染，立刻就有抗体来对付。下面一节将有更深入的解释。

与一种抗生素可以杀死好多种细菌不同，抗体的专一性决定了针对每一种病毒，哪怕与同类只有微小差别，都需要做不同的疫苗。例如流感病毒有A，B，C，D 四型，感染人群并引发病症的主要是 A 和 B 型。但仅 A 型就有近200种可能的亚型，已经被发现的有130多种（例如著名的H1N1）。有疫苗的仅是几种最常见的A 和 B 的亚型，每年根据流行预报进行不同的混合，制成当季的通用流感疫苗。如果实际出现的与预计的相差大，那么那一季的防疫效果就会差。

有的病毒本身还多变，这边刚做了疫苗，那边就变了，疫苗就不管用了。一个典型例子是导致艾滋病的 HIV 病毒。

加上对疫苗的安全性要求比对药物的要高，疫苗的研制不仅艰难费时且成功率不太高，比研制药物更难。现在能被安全有效的疫苗控制的病毒仅是病毒里的极少数。
重点：目前控制病毒性瘟疫的主要手段是疫苗。但是疫苗的研制艰难费时，而且一种疫苗只能针对一个特定的病毒，效率比较低。

### 为什么研制疫苗比研制药物更难

这部分有点长，因为问题不是那么简单。对一部分读者可能还需要从什么是疫苗讲起。已经了解了和现在没时间了解的读者可以直接跳到COVID-19 部分。

人体进化来是有抗病能力的，来自免疫系统。一辈子很少生病的人不在少数，而细菌病毒无处不在，不发病不是因为他们没有接触到细菌病毒，而是因为相对于接触到的细菌或病毒的数量与活性，他们的免疫功能够强。免疫系统很复杂很神奇，是个多防线多兵种，从侦察兵游击队到坦克军团导弹部队等等，时间空间协同配合，有爆发又有制约的作战系统。这里没法详细介绍，只提与疫苗有关的部分。

抗体，相信绝大多数人听过这个名词，是一种结构特殊的蛋白质，大体的样子可以比作双头导弹。它的目标专一性在免疫系统里与导弹有相似之处。例如都是流感病毒，不同亚型之间结构上差别很小，但每一种都需要专门的抗体。但是由于自然界存在的细菌病毒和其它有害物的种类实在太多了，还不停有新种变出来，人体不可能为每一种都预备好足够的抗体。

人体进化来的策略是敌人进来了，“指挥部”认为有必要使用导弹时现动员免疫系统来生产。生产需要时间，平均大约一星期左右。这是为什么大部分人得流感时喝喝水睡睡觉，7-10天症状会消失。

这个防御反击策略多数情况下能够奏效（指一般健康人，免疫系统有缺陷或已经有其它疾病的是另外话题）。但凡事总有例外，遇到繁殖极快对细胞损伤极大的敌人时，还没等到七八天战斗已经结束了。结果可能是人死了，没死的可能留下永久性伤害。人们用瘟疫，大瘟疫等词描述这样的状况。

为对付一再出现的还没有治疗药物的瘟疫，能不能事先让身体准备足专门对付这种瘟疫的导弹（抗体）呢？想法不错。但免疫系统的“指挥部”不是大脑，抗体不是“想”有就能有的。想要在没有外敌入侵时就产生，需要用“计谋”诱使免疫系统提前动员。

以病毒为例，可以把一种结构与目标病毒的某些地方相同但对人没有伤害的东西注入人体；如果它能够引起免疫系统足够的警觉去产生针对它的抗体（没有军队见只蚊子就造导弹去打的），当目标病毒真来时，抗体就会立即进入战争状态。
这个以假乱真诱使免疫系统提前工作的东西就叫疫苗。它能有效的前提之一是与目标病毒足够“像”，否则即使诱发了抗体，目标病毒真来时也不会被提前准备的抗体识别。

用导弹形容抗体是仅就其寻找目标的精准性专一性而言。抗体的“头”找到目标后抗体本身并不会去“炸”目标，而是用它“尾部”的功能招来免疫系统里多种进攻部队发动多种方式的歼灭战。这后续部分太复杂，我们还是聚焦在疫苗上。

疫苗的目的只是引发出抗体，让抗体等在那里（有些抗体可以等很多年，甚至终生），等真病毒来时才执行下一步任务。但是疫苗若做得不够好，接种时引发了希望以后才引发的免疫反应，其结果将类似于生一场病。这样的疫苗就是不安全的。
————————————————————
从上面的讨论可以看出研究制造疫苗至少有三大最基本的挑战（技术方面的挑战就太多了）。1）要能够引起免疫机制的反应，从而产生抗体。2）产生的抗体要能够识别真正的目标，并发动整个免疫系统投入战争。3）疫苗接种时引起的反应还不能太强，不能对人体有负面影响。三条都满足了才能被考虑成为疫苗。

二百多年前，在18世纪的最后几年里，人类第一次成功使用接种的疫苗对天花病毒产生免疫力。第一个疫苗是完全自然的，是病毒本身，不过是从牛身上来的，即牛痘。由于是感染牛的病毒，人在受它感染时病症很轻。但是它又与人的天花病毒有足够“像”的地方，使人体里产生的抗体能够识别天花病毒。

用牛痘抗天花的成功给人的启示是也可以尝试用感染人的病毒或细菌本身，只要能把“毒性”降到足够低（“减毒”），甚至让它彻底失去活性（“灭活”），提高安全性。但对不同的病毒和细菌如何减毒或灭活又不使其变性太多，否则抗体可能不识别入侵的病毒细菌，技术上很难。

这个用目标本身做武器的路子二百多年沿用至今，有诸多成功，成为第一个疫苗研发平台。它的优势是免疫反应有保证，抗体目标先天正确，只要不在追求安全性时被带偏。它的劣势是安全性和生产。起始点是病毒或细菌本身，显而易见先天就不安全。而要大批制造疫苗需要先大量培养病毒细菌，集中提纯后再进行减毒或灭活的处理。这个过程很难高效，且在安全方面挑战很大。

近二十多年来随着分子遗传学的发展，诸多新技术被用在疫苗研发上，带来新平台。例如用重组蛋白或重组肽模仿目标病毒或细菌表面的一小部分，以期调动免疫系统，产生能识别目标的抗体。这多少有点撞运气，因为模仿不能保证总是足够“像”。但是这条途径有研发生产过程与病毒细菌无关和能工业化大量生产的优势。

新的成功带来新的启发，既然用来做疫苗的重组蛋白是由工业化培养的活细胞做“代孕”得到的，何不把放到“代孕”细胞里的重组DNA 基因直接放到人体里，让人体细胞在生产自己的东西时顺便把重组蛋白也带出来。而这样得到的重组蛋白一出来便已在体内，直接让免疫系统“看到”。这就是所谓的 “DNA疫苗” 或 “RNA 疫苗”的基础。不过注射的 DNA 或 RNA 并不是真正意义上的疫苗，而是疫苗的“前身”，或者“信息”。一旦序列设计好，DNA 和RNA 都可用分子生物学的方法合成。

不难看出使用分子生物技术制做疫苗的主要优势是相对安全性，因为没有完整的细菌或病毒存在，无论是对人体还是在生产过程中都没有目标所带的“毒性”。但是需要强调一点，疫苗不引发目标病毒或细菌所引发的症状不代表不会有其它副作用。副作用的种类可以说无穷多。

这样一来在用临床试验检验安全性时，优势又似乎变成劣势。目标细菌或病毒会有什么症状，什么时候出症状，基本是已知的，容易监测。而新产品会有何种副作用，以及什么时候显现出来，都是未知的。这为临床试验的设计带来难度，因为很难知道到底需要试多久，可能会漏掉什么。大批使用后才发现某种副作用就麻烦了。曾有使用后又撤销，甚至引起诉讼的先例。

与治疗药物相比，疫苗的研发和临床试验有两大劣势。一是在安全性上对疫苗要求更高，因为疫苗是给大量的没病的人防病用的。如果为防范一个很小的传染机会去接种疫苗，却受到副作用的伤害，那就不合算了。厂家可能还会惹上官司。而治疗药物，特别是救治急症的，只要让人捡回命，有点副作用可能也会被接受。

另一大挑战是如何确定有效性。治疗药物是给病人用的，临床试验时找些病人分两组，一组用药一组用安慰剂，统计比较两组的症状变化（超级简化了的描述）。而疫苗是给没病的人防病的。接种疫苗后产不产生抗体可以抽血到体外检测，抽出来的抗体在试管里找不找得到目标细菌或病毒也容易检测。但试管里的结果不代表在体内遇到该种病毒或细菌时抗体一定能阻挡住感染。所以FDA 不会根据试管里的结果批准疫苗。做人的试验时又不能像做动物试验时那样让其直接接触病毒。所以，确定有效性的第三期临床试验通常要做好多年。在传染病没有流行时是比较难有结果的。

COVID-19

COVID-19 的中文名称是新型冠状病毒。意思当然是过去没有在人类传播过的冠状病毒。继续顾名思义便知疫情初期的“三没有”：人体没有够量的现成抗体；没有已经证明有效的治疗药物；没有已经证明有效又安全的疫苗。

人被感染过后，不论有没有过症状，他们的免疫系统大概率会制造出针对这种病毒的抗体，而且抗体应该能存留在体内一段时间。美国有了检测抗体的方法后，一些地方随机抽样对大量人群进行了抗体检测，结果显示无症状受感染者比有症状的多。目前还不知道抗体在身体里能存留多久，再遇到COVID-19 时有多少防护能力。这部分铺开去有很多有意思的话题，但本文重心是疫苗和治疗药物。

这部分采取倒叙，从最近的事说起。

半个多月前，5月15日，川普总统率一众要员高调宣布成立 COVID-19 疫苗专攻领导组，命名为“神速行动”（Operation Warp Speed），由白宫资深顾问库什纳为总协调人。科研部分由世界顶级疫苗研发专家，曾多年在医药巨头 GSK 公司任研究发展总监的斯劳维（Moncef Slaoui）博士负责。生产和派发则由曾主管美国陆军后勤的四星上将颇纳（Gustave Perna）将军负责，一旦确定某个疫苗有效立即以打仗的速度生产并送发各地。暂定目标是到2021年1月时有3亿份疫苗在各地使用。

上节讲了疫苗研发的艰难费时，对新型冠状病毒的疫苗没区别。有区别的是投入的人力财力。一般情况下一个公司针对一种病只能选一到两个平台研发疫苗。一个项目直到证明失败，不会启动新的。用这种接力的方式通常需要很多年。现在美国以举国之力攻关，所有平台一起上。打仗有人海战术，抗病毒也可以有“苗海”战术，只要有钱。

斯劳维博士讲话时透露目前全世界处在各个阶段的疫苗研发项目有100多个，他的团队认为比较有希望的有14个。美国将与世界各国通力合作。他虽然表示有希望有信心，但也指出毕竟时间太紧，挑战很大，人所能做的只有全力以赴。

记者提问：如果到明年1月疫苗没出来怎么办；即便目标能达成，距现在也有半年多，美国要不要开放；如果开放，发生新感染怎么办。

总统川普的回答是，我们会竭尽全力，希望能制出疫苗。但无论有没有疫苗美国都必须恢复正常，重振经济。几个月来我们学了很多也做了很多。出现新感染不是不可能，哪里出现我们就在哪里扑灭它。我们并不是只依赖疫苗，我们还有很有希望的治疗药物，例如瑞德西韦（Remdesivir）.....
完美转承，主角出场。

瑞德西韦 （Remdesivir）

几个月来被美国总统一提再提的瑞德西韦是什么？也许有人对“人民的希望”这一译名还有印象。

疫情爆发不久，COVID-19 还叫 SARS-cov-2 或2019-nCoV等名称时瑞德西韦曾吹起过一阵旋风。今年1月31日美国顶级医学期刊的网络版发表了用瑞德西韦救治美国第一例确诊病患的论文（https://www.nejm.org/doi/full/10.1056/NEJMoa2001191 ）。效果可以说是“惊艳”，用药1日后便不需吸氧；3日后，“除咳嗽改善比较缓慢外，所有其他临床症状均已消退。”（摘自该论文）

瑞德西韦直到现在都仍属第三期临床试验性新药。今年5月1日美国 FDA 根据初步结果发布“紧急授权”，放宽了医生的使用权限。之前的使用，如果不在临床试验项目内，都只能通过“同情用药”的途径。“同情用药”是在川普推动下通过的一项“松绑”性立法，给予病患到重症期没有任何办法时自愿选择使用试验性新药的权力。（搞不懂以前不许“同情用药”，病人只能等死的法是怎么立的。）

那位美国第一例真是不幸中至少有两大幸。其一，因为是第一例，估计医生比较紧张，病人还在用氧气管补氧，远没到须要上呼吸机的时候，就决定启动“同情用药”程序。所以他的用药时间比后来很多病患要早。其二，瑞德西韦对COVID-19 的大规模临床试验还没开始，药厂为三期试验准备的药品还不那么稀缺，他能很快得到药。待疫情进一步爆发，大批出现的感染者就没那么幸运了。

因为存量有限，生产周期长，药厂（Gilead 吉利德）自2月底已无法满足“同情用药”的需求，不得不只优先1700多名孕妇和儿童。直到4月6日吉利德宣布生产出新的一批药，150万剂，才开始

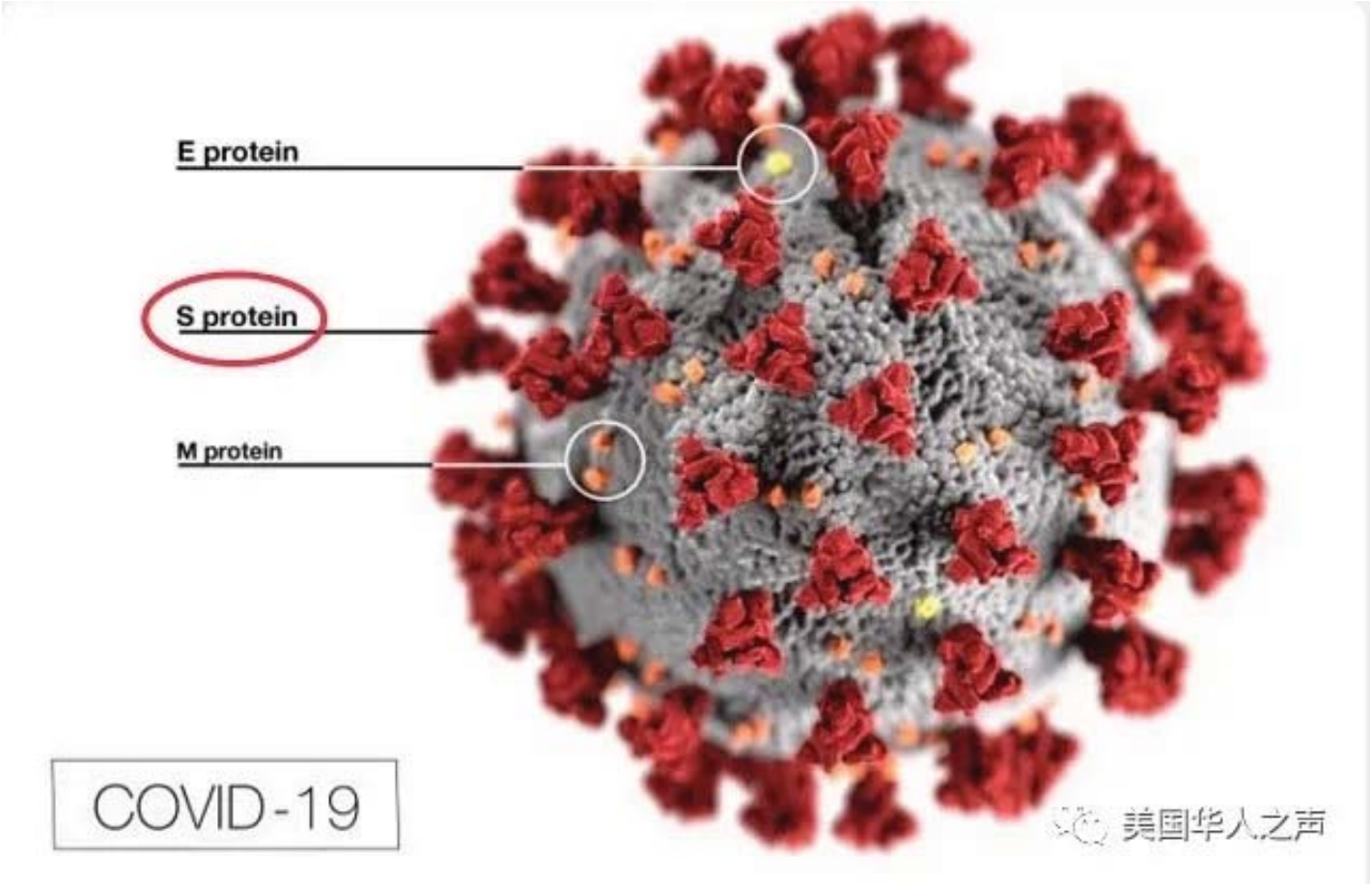
向更多病患提供“同情用药”，并在多个国家开启多项三期临床试验。下一批500万剂量的药要10月份才能得到了。https://www.fiercepharma.com/manufacturing/gilead-to-donate-1-5m-doses-covid-19-hopeful-remdesivir-as-manufacturing-skyrockets

从那时起，包括在 FDA “紧急授权”之后，有多个”结果”出现，有些发表在专业杂志上，有些是曝给新闻媒体。从完全没用到特效神药，说什么的都有。想要做判断，首先记住两条基本道理：任何药用太晚了都不会管用，用太少了也不会管用。

比如，平时常有病人因某个器官衰竭而死亡；在病毒流行期等到感染者器官衰竭了才来用药，哪怕对灭病毒再有效的药也跟无效没区别了。而缺常识缺脑子，或者另有目的的人可能首先把死亡归于药无效。

再比如，美国确诊第一例是新年探亲后1月15日从武汉回美的湖北人，十有八九是中小身材，特别是与西方人相比。如果试验药的推荐用量对他很有效，同样量用在身体比他大一倍的人身上就相当于把用量减了大约一半，药效可能就会差很多。（同样一勺盐放进小瓶和大瓶里，水的咸味能一样么？大瓶的水不够咸你怪盐么？）知道了这点你再看见有报告说药效不明显的人里肥胖症（Obese）比例相对高，你会说什么？

详细分析各种试验报告是专业论文的工作，太枯燥。读者也许对瑞德西韦的作用机理和它带来什么希望更感兴趣。下面试着用图帮忙做简化到不能再简化的说明。



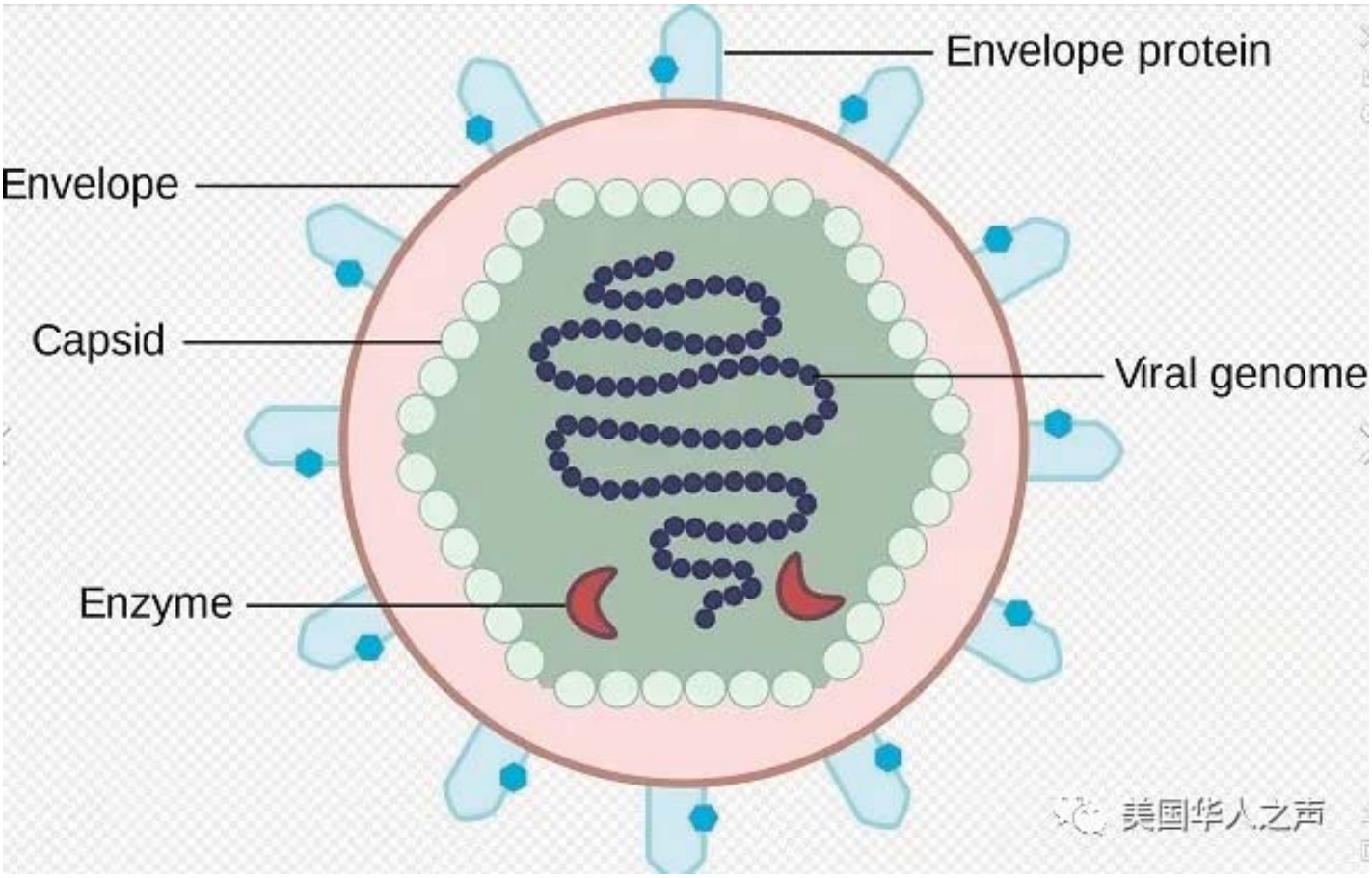

这是人们几个月来早已眼熟能辩的冠状病毒表面的示意图。所有称为冠状病毒的基本都长这模样，例如 SARS，MERS等。COVID-19 是这个家族里最新被发现的成员。冠状病毒对人的感染传播能力比通常RNA 病毒强很多的重要原因是有包膜（灰色部分），从包膜突出来的S 蛋白（S protein 红色）可以找到人体某些细胞表面为冠状病毒充当“带路党”的 ACE2 受体或 TMPRSS2 受体。病毒顺着那里“摸进村”。而大多数RNA 病毒都没有包膜，它们靠胡打乱撞，相对不那么容易进入细胞。

顺便提一句，组成包膜的成分可以被肥皂水溶解分离。“皮之不存”，S 蛋白也就“毛将焉附”。这是为什么认真洗手有保护作用。

再顺便提一句，人体很多种器官和组织的细胞表面都有 ACE2 或 TMPRSS2 受体，这些细胞都可能受到冠状病毒不同程度的感染。这是为什么由冠状病毒引发的病症不限于肺炎。

估计看过冠状病毒包膜内部构造示意图的人要少得多。网上可以找到好多种，因为都是示意，都做了大量简化，对细节取舍各不相同。下面是其中之一，这张没画S 蛋白。我们要看的重点是：1）中间弯弯曲曲的链状物代表通常的没有包膜的 RNA 病毒原体；2）与 RNA 一起被包裹在内的酶（Enzyme 由红块代表）。冠状病毒里的酶有十几种，都是不同结构不同功能的蛋白质分子，在

病毒复制自己的时候同时被复制，又被包裹进新的病毒。对图中标注的各种成分在病毒里的相对位置不必认真。




一般的没包膜的 RNA 病毒要复制自己，不仅需要钻进细胞，还要找到细胞里人的 RNA 表达的部位，挤进去蹭便车。整个过程很复杂，需借用好多种人的酶为工具。而冠状病毒包膜里有复制过程所需要的酶，像个自背工具袋的入侵者。这些酶是病毒特有的，人没有。

万事皆有利也有弊。病毒自带人体没有的工具方便了复制自己，但这些人体没有的东西也可以方便地成为药物攻击的靶子。打这种靶子的药对付了病毒却不影响人体。瑞德西韦盯住的靶子是RNA链复制酶 （RdRp），是合成新链必须的工具。瑞德西韦是一种核苷酸类似物，打到靶子上能使复制酶停止工作，从而停止新链的合成。细胞随时都在清理无用的“垃圾”，不再复制自己的病毒会很快被细胞当“垃圾”清除。

所以，瑞德西韦能有效地帮助抑制并消灭入侵的特定冠状病毒，而且不依赖也不影响人体的机能。也就是说，在使用的时间够早，使用的药量够足的条件下，不会只消灭一部分人身上的病毒，不消灭另一部分人身上的病毒。

但是病毒有可能使某些感染者原先已有的疾病突然恶化，或无感觉发生血栓，等不到病毒被消灭人就不行了。对这样的情况多早算“够早”，的确是个难题。

重点：对于大多数本来健康的人群，瑞德西韦带来一个震撼的希望：基于冠状病毒的特殊结构，COVID-19引发的瘟疫有希望成为第一个通过治疗药物得到控制的病毒性瘟疫。但是，希望要成为现实，一个重要条件是瑞德西韦能够满足世界范围的需求。可惜目前还达不到。但是以目前的产量，为美国解禁开放重振经济作后盾是可以的。川普总统说的没有错。

本文开头指出诸多政客设法让人们相信没有疫苗就不能恢复正常。也许由于缺乏知识他们真这么认为；也许他们是想拖延恢复经济的进程，借以压制川普竞选连任的势头。希望读者读了以上叙述能做自己的判断了。

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也许有人会问，既然所有冠状病毒都带 RNA 链复制酶，瑞德西韦是不是对其它冠状病毒同样有效呢？从目前试验结果来看不是。

这又要从万事有利就有弊说起。前面曾用导弹比喻抗体的特定性，目标一旦锁定不会打偏，除非一模一样的目标出现在另外的地方（疫苗的原理）。瑞德西韦属于一类化学小分子，作用是钻进生物大分子的功能作用点，使其丧失功能。而达成这一任务所需要的目标特定性不比抗体低。

前面暂时省略了一点，RdRp 全名的意思是 “依赖于RNA的RNA链复制酶”，即如果 RNA 不同，RdRp 的结构就会不同，但功能相同。不同冠状病毒里的RNA 的确不同，那么 RdRp 就应该有所不同。但实际会有多大程度的不同，而这种不同又会在多大程度上影响到一个特定化学分子的亲和力，很难在短时间内从结构上分析出来。目前多半靠直接用病毒去试验。瑞德西韦原本是以艾博拉病毒的RdRp 为靶子的，结果打 COVID-19 更有效，只能说是运气。换一个化合物完全有可能反过来，或者比瑞德西韦对 COVID-19 更有效。这样的先例早就有很多。

将来若能找到一个靶子在所有冠状病毒里都一模一样，就有希望制出“广谱”抗冠状病毒的“抗毒素”了。

**氯喹和羟基氯喹 （Chloroquine,Hydroxychloroquine）**

在瑞德西韦因缺货暂时沉寂时，一个配角（下面解释为什么这样称）登场，掀起的却不仅是旋风，简直是风暴，而且还在持续。起因是川普在3月19日的白宫抗疫简报会上高调推荐了用羟基氯喹加阿奇霉素（Azithromycin）对抗冠状病毒感染（在美国都是处方药，需医生开方）。

疫情在两个大洋彼岸呈爆发之势不过两个月，所有人都措手不及。研制新药绝对来不及，人们争相抓现成药来试运气。从中国，韩国和意大利都传出消息氯喹有一定效果。有意大利医生做了小规模试验，发表的结果是用羟基氯喹加阿奇霉素比单用氯喹好，而两种办法都比不用药要好。

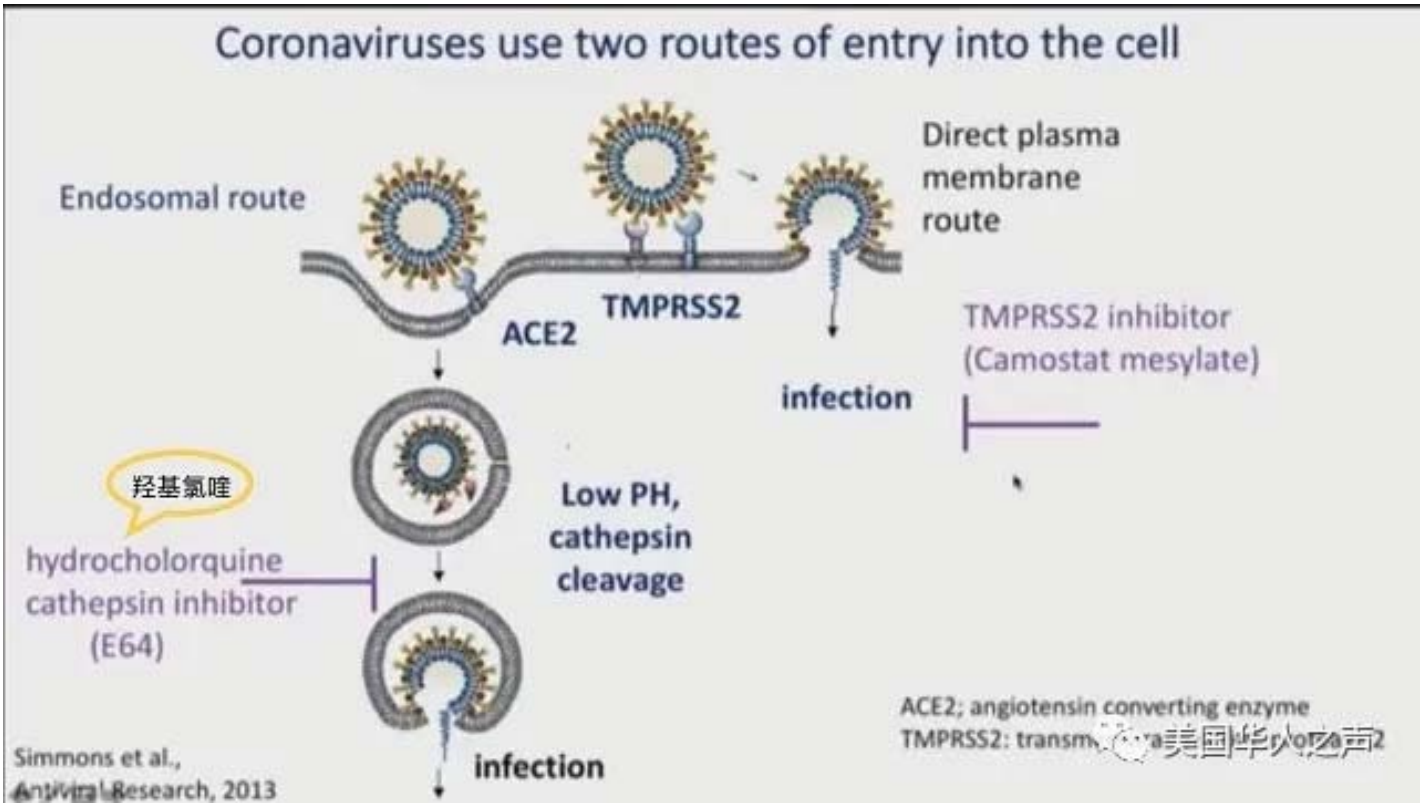
面对汹涌而来的病毒，川普可能也觉新药是远水救不了近火，尽管一个劲给 FDA 松绑。一听说有现成的极便宜的老药能帮忙，他太想让美国人也受益了。估计他没想到的是，连能致死的病毒都没能让他的政敌和仇视他的媒体把时时对准他的枪先放一放。他的话音一落，美国媒体的反应给人的感觉像天要塌了。而FDA 在3月28日发布的“紧急授权”使用氯喹或羟基氯喹帮助 COVID-19 感染者的信息完全被大媒体视而不见，淹没在他们声讨川普的滔天口水中。大多数民众基本不知道。政治方面的事情稍后再说，先搞清楚氯喹是什么东西才有判断的根据。

用氯喹治疗疟疾已经有70多年历史。羟基氯喹是氯喹的改进版，晚大约十年上市，作用相同但副作用低一些。然而氯喹一直也没有被禁用。后来陆续发现它们对风湿和红斑狼疮等病有抑制作用，被批准为治疗药物之一。世界上每天都有成百万的人在为不同目的使用氯喹。

实际上不仅是治疗，氯喹早就被用来预防疟疾了。十几年前去非洲旅行前问家庭医生需不需要做点防护。根据所去之地医生给我们打了预防黄热病的疫苗，开了预防疟疾的羟基氯喹，并嘱在出发前7天开始吃。

医治其它病的历史先略去（上面几行只是想说按医生开的剂量吃，吃不死人），直接跳到用氯喹和羟基氯喹对付冠状病毒。为叙述方便下面用氯喹代表两者，除非有必要特指羟基氯喹。自疫情在中国发酵，中文网络上就开始流传各种如何防范的 “专家建议”，其中就有建议准备氯喹和锌的。他们没解释为什么。

见到不止一名美国知名教授参照氯喹治疗疟疾的机理，解释冠状病毒感染细胞时氯喹能起的作用，他们说的基本一致。下图是美国宾夕法尼亚大学Susan Weiss 教授今年4月在美国医学科学院院长主持的国际专家视频交流会上发言时使用的一张图。中文字是我加的，但原有的拼写有误的英文名我改不了。正确拼法是hydroxychloroquine 。仍然采用这张图是因为它展示的内容容易懂。




虽然有 ACE2 “带路”，细胞还是不让**冠状病毒**直接进“村”，而是先用细胞膜的一部分将病毒包裹“隔离”，形成囊膜。病毒在囊膜里面什么都做不了。直到囊膜里的组织蛋白酶（cathepsin）**在酸性条件下切开缺口，病毒才能去找细胞里复制 RNA 的地方，真正开始有害的感染过程。**

羟基氯喹和氯喹被认为在这一步能起到与它们消灭人体里疟疾寄生虫时相似的作用，即降低囊膜里面的酸性。酸性不足时组织蛋白酶不能有效工作，病毒则继续被围困，给细胞里的“清洁工”更多时间来排除它。锌离子被认为能协助氯喹控制酸度，而阿奇霉素是抗生素，防止细菌趁虚而入。

图中羟基氯喹下面还列了组织蛋白酶抑制剂（E64），那当然是更直接地抑制这个酶。但是氯喹价格要低太多，更适合大众使用。

与瑞德西韦相比，氯喹并没有直接作用在病毒上，而是通过影响囊膜内的微环境来影响病毒的命运。如果用晚了或用少了，细胞里已经有正在复制的病毒，氯喹就只有眼睁睁看着的份。所以前面称它为“配角”。

但是人的肌体里有亿万个细胞，不会同一时间被感染，总是从几个细胞开始扩散开来。如果有一批细胞已经在复制病毒，甚至引发了轻微症状，氯喹就算帮不上这一批细胞的忙，至少可以减慢复制出来的病毒对其它细胞的感染。然而，如果等到人都上了呼吸机或者某个器官已经开始衰

竭，再用氯喹来阻挡对剩下的好细胞的感染，无论什么结果对整个人体所能起的作用都是非常非常有限的。

从原理看，氯喹和瑞德西韦的作用刚好形成两道不重叠的防线：氯喹阻止病毒从囊膜里出来，瑞德西韦则是在病毒出来之后复制自己时才能狙击。第一道防线对冠状病毒没有特异性，相对“广谱”，但不是“铜墙铁壁”。两个药若组队配合说不定对COVID-19 有好疗效，也许还能减少瑞德西韦的用量。不知有没有医生想得到去试。

再进一步，比较以下两种情况：一种是在病毒找到 ACE2 之前氯喹就已等在细胞里，当细胞膜包裹病毒时连同氯喹一起包在囊膜里；另一种是许多囊膜已经形成，然后氯喹才进“村”到处找。前者应该更有利于氯喹发挥作用，优化效果。

如果以上分析合理，那么氯喹对冠状病毒具有类似于对疟疾所具有的预防效果应该不是无稽之谈。现在我们知道世界上不少国家，包括中国和美国，都有医护人员使用氯喹保护自己。川普在5月18日答记者问时透露他在大约10天前开始在白宫医生指导下使用羟基氯喹，原因与他的生活服务员之一在5月7日被检测出COVID-19 阳性有关。

非洲有大量人口为防治疟疾服用氯喹。很多人曾预期亚欧美洲疫情高峰过后会轮到非洲，并且因为那里医疗条件差，疫情爆发起来会更惨烈。这个情况一直没有要出现的迹象，除了气温高外说不定也与氯喹的普遍使用有关。印度的情况可能类似。目前美国的氯喹主要来自印度。

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不嫌我啰嗦的人可能想知道更新的发展：比氯喹还要靠前的防线应该是能阻止冠状病毒找到ACE2。对，“闭门羹”策略。已经有公司宣称，从包括几十亿个已知抗体的抗体库里筛选出了能识别并抓住COVID-19 病毒表面 S 蛋白的抗体。抗体的个头比一般受体要大，能挡在 S 蛋白与ACE2 之间。据报道在试管里的效果达到了预期。不进入细胞而表面又被抗体抓住的病毒相对容易被免疫系统清除。

单克隆抗体可经由工业化培养的细胞大量生产。生产出来的抗体一般属治疗药物，不属疫苗。目前市场上有多种治疗癌症，自身免疫，等疾病的抗体药物。但是，抗体药物比跟瑞德西韦，特别是氯喹，相比生产成本要高很多。

## 抗疫变成政治斗争新战场

按说上面讨论的都应属于科学界和医学界的问题。但在当今美国社会，极左派和被他们煽动起来恨川普的人以诋毁川普为第一目标，什么都可以当武器，包括无辜美国人的生命。外来的病毒瘟疫不仅没能使他们稍有收敛，反而像抓到又一波攻击的机遇，似乎死人越多对他们越有利。

疫情初期夸大物资短缺，天天搞帮记者到疫情简报会上起哄喊缺呼吸机，谁都看得出来他们不是要为民众发声，而是在变着法儿看川普笑话。没想到川普像变戏法似的短期内就让抗疫物资里最难生产的呼吸机多到美国用不了。他们又像苍蝇一样赶快找别的地方叮。先前已经有人把疫情爆发以来民主党的种种恶行讲得清清楚楚有理有据。这里着重看与药有关的。

川普引介氯喹后，媒体，左派政客和商业巨头在他们掌控的媒体上攻击的疯狂程度不是一两页能描写的，写它们都觉倒胃。只举一两例他们做的事。

为“证明”氯喹无效，他们用退伍军人医院的病患进行试验。病患中多数是高龄且有各种疾病的。他们不在感染初期给病患用药，而是等到严重了需上呼吸机或有器官开始衰竭才用。然后赶紧把氯喹不管用的结论曝给媒体。如果读者读了上面的章节，应该清楚药有不同机理，没有任何药会在无论什么条件下对所有人都管用。

用错误的条件得出不合理或不全面的结果要比用正确方法得到正确结果容易得多。而拿错误结果来操纵舆论迷惑大众更是容易，只要有无良媒体帮你重复1000遍。但是要知道，在这过程中也许有人本应能得到救治，却因为没有正确使用药物而失去宝贵的时间。他们的健康甚至生命被一些人用做政治斗争的武器了。

无良记者也好，无良医生也罢，说什么做什么还属于个人行为，影响范围和强制性都不会太大。但是有行政权力的人就不同了。在左派为反对而反对的竞赛中，密西根和内华达州的民主党籍州长们用行动冲在了最前面，竟然颁布行政命令禁止州内医生试用氯喹帮助COVID-19 感染者。

左派指责川普的理由是他不是医生却推荐医药，滥用了权力。川普确实不是医生，但他只是说听说有一种现成的方法可能有效，如果你愿意尝试可以与你的医生商量。而州长们也不是医生，却用他们手里的权力强行剥夺医生和病人选择尝试一种治疗方法的机会。是谁滥用了选民给的权力？

我曾想如果我住在这两州之一，如果我有亲友感染，愿意尝试氯喹却不可得，若有三长两短我一定要到法院控告州长滥用权力。内华达州果然有医生在4月21日联名到州法院告州长和其他政府官员侵犯医生和病人的权力。后来两个州先后都解除了禁令。这打的不应该是川普的脸吧。

说白了，我们看到的这些怪象都反应了左派人士的心理扭曲，他们认为如果病人治好了或者经济搞好了是在给川普加分。所以凡是川普建议的他们就得反对，凡是川普反对的他们就得拥护，甚至不惜用美国人的生命当政治牌打。**除了无知虚伪卑鄙到无底线，我不知道还能用什么词语来形容极左派。希望在选举的时候人们要看清楚。**

# 羟氯喹治疗有效且更安全，在“上海方案”中治疗性药物列首位

2020年03月16日15:26 来源：人民网-上海频道

人民网上海3月16日电 （龚莎）上海公布了《上海市2019冠状病毒病综合救治专家共识》后，这份“上海方案”备受关注，在今天下午举行的上海市政府新闻发布会上，有记者问到方案里的治疗方式在临床救治中效果如何，上海市卫生健康委副主任衣承东做了相关情况介绍。

他表示，新冠肺炎起病急、发展快，上海专家以国家指导方案为基础，结合临床经验和病人临床实际情况，在临床救治的同时，边摸索、边发现、边调整和边总结，形成了《上海市“2019新冠病毒病”综合救治专家共识》，也就是上述的“上海方案”。 在阻止轻中度患者向重症发展、提高重症和危重症患者救治成功率方面，“上海方案”有三方面的突破。

一是在临床思维上，形成了分类治疗、精准治疗、系统治疗的理念。

二是在治疗方法上，突显了多学科融合的序贯支持治疗。

三是在标本兼治上，形成了中西医结合独特模式，率先提出了安全性更好的羟氯喹治疗轻中度新冠病毒病的全国多中心临床研究，已入组184例。初步结果显示羟氯喹治疗有效且更安全，在“上海方案”中治疗性药

物列首位。明确了新冠病毒病转重症的临床检测指标，并据此进行早期干预。通过新的血液过滤、蛋白酶抑制剂应用等措施有效救治了重症患者。

上海方案在武汉前方的使用中也得到了很好的验证。上海方案中医治疗以大承气汤为主，使用后减少了激素应用，防止了激素应用后并发症的发生，缩短了住院时间，促进了患者康复。上海方案中清热宣肺的荆银合剂，在雷神山医院、部分方舱医院使用中取得较好效果。3月12日上海市卫生健康委在国家卫生健康委主办、世界卫生组织协办的国际通报会上也和与会专家分享了上海方案。

(责编：龚莎、韩庆)