1 To Protect Global Health, Work With China

The New York Times

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Section: Section ; Column 0; Editorial Desk

Length: 1484 words

Byline: By Xie Feng

Body

A senior Chinese official in Hong Kong on his government's handling of the ***coronavirus*** outbreak.

HONG KONG -- ***China*** is making headway in the battle against the ***Covid-19*** epidemic. The daily number of new confirmed cases is declining nationwide, including in Wuhan, the epicenter of the outbreak, and other cities in the province of Hubei. Suspected infections are being diagnosed more quickly. As of Thursday, out of about 78,800 confirmed cases, some 2,780 people had died and more than 36,000 had recovered.

Treating the people's lives and health as a top priority, President Xi Jinping and the central government have acted decisively. More than 42,000 medical workers from across ***China*** rushed to Hubei. Comprehensive measures have been taken at the community level to track the health situation of the people. These efforts speak volumes about the Chinese leadership and its ability to mobilize and carry through its decisions.

It takes time to understand a new infectious disease, and any responsible government confronting such a challenge should act with rigor, strictly on the basis of science and evidence. ***China*** detected the outbreak, isolated the virus, sequenced its genome and shared the information with the World Health Organization and other countries in record time.

It has explored multiple methods of diagnosis and treatment. Five drugs are undergoing clinical trials; animal testing has begun on potential ***vaccines***. ***China*** has updated its national ***coronavirus*** diagnosis-and-treatment plan six times, refining it according to science and the facts.

The Chinese government has kept the public informed with daily updates and has solicited the people's suggestions and complaints via the Internet and social media platforms. It has been highly responsive to public opinion, required officials to live up to their duties and continuously improved the nation's public health emergency response system.

The lockdown of Wuhan was considered controversial at first, but it has proved to be sensible and effective. Bruce Aylward, who heads a special W.H.O. panel on the ***Covid-19*** outbreak, said this week, after field investigations, that measures taken in the city had helped stem the spread of the virus.

What people in Wuhan and throughout ***China*** have done has probably prevented many more cases from occurring, and it has bought the rest of the world more time to prepare. Chinese people, especially those in Wuhan, should be recognized for the role they have played.

Unus pro omnibus, omnes pro uno: one for all, all for one. The Chinese people, with their perseverance and optimism, have readily sacrificed themselves and have faced this epidemic united as one, demonstrating the nation's unique spirit and solidarity.

Life is now gradually returning to normal, and while it does, ***China*** remains committed to its economic and social development goals, to eradicating poverty and building a moderately prosperous society in all respects. The Chinese word for "crisis" is composed of two characters: "danger" and "opportunity." The epidemic will not dampen ***China***'s growth in the long run; instead, it will create new momentum.

China, the world's second largest economy, is resilient. It boasts a vast market of nearly 1.4 billion consumers; a middle class 400 million-strong; a talent pool of more than 170 million people with higher education or professional skills; more than 100 million entities engaged in commercial activities; and a full-fledged industrial system. The economic fundamentals for long-term, high-quality growth are sound.

The country is getting back to work in an orderly fashion, and people, goods and capital are moving more smoothly. Soon, the demand that has been suppressed by the epidemic will be released again. The Chinese economy will bounce back, strong.

China has ample tools to make macro policy adjustments. The Chinese government has introduced supportive fiscal and financial measures, including cuts on taxes and fees, and injections of liquidity in the stock market. The purpose of those measures is to cushion key regions, industries and businesses from any shortfalls in funding, manpower or raw materials in order to ensure their efficient economic performance and stabilize expectations on financial markets. The managing director of the International Monetary Fund, Kristalina Georgieva, has said that ***China***'s economy should be expected to "return to normal in the second quarter" of 2020 as "announced policies are implemented."ã€€

The Chinese economy has been defying headwinds anyway, and upgrading fast. New forms and models of business are flourishing: remote health care, online education, virtual workplaces, zero-contact delivery, "buy online, pick up in store" e-commerce. Frontier technologies -- 5-G, big data and artificial intelligence -- are growing, powering industrial transformation and facilitating the integration of the digital and the real economies. Blockchain, the unmanned economy and smart cities are taking off. Research and development in medical equipment, biopharmaceuticals and smart health care; the training of health professionals; innovation in health insurance plans and the improvement of the social security system -- all these developments will unleash immense market and employment potential.

China is also a major engine for global growth, and protecting its supply chains means protecting international ones and sustaining growth worldwide. In the aftermath of the SARS epidemic in 2002-3, it was the committed and forward-looking foreign businesses that did not pivot away from ***China*** that then benefited the most from the economy's rebound. And today, in these difficult times, Qualcomm, for example, has stated that its business plans in ***China*** would not be deflected by the current epidemic.

China is holding its ground not only for its own people but also for the rest of the world. We are deeply grateful to the governments and the people everywhere who have provided precious support and assistance. But the situation remains grave, and the number of cases is increasing in other countries and regions.

This is why it is important to pull together rather than look on passively, much less mock or play the blame game. Viruses do not respect borders, and ***China*** has been fighting hard at the front line. To support ***China*** now, with concrete actions, is also to protect global public health and promote the world's stability and prosperity. ***China***, for its part, is ready to share its experience with other affected countries, and lend a helping hand, especially to those with weaker public health systems.

But to win the battle against this disease, one must respect facts and science, neither spread nor buy into rumors and avoid panic or fear-mongering. Countries need to maintain normal trade and people-to-people exchanges, in

line with the authoritative guidelines and regulations of the W.H.O. They should abide by international human rights agreements and avoid any discrimination.

It is also important to reject ideological biases and a Cold War-like mentality. Attempting to exploit this global public health crisis to smear ***China***'s system or its people for geopolitical gain would be like spreading a political virus. Some conspiracy theories -- including one peddled by an American lawmaker, which claims that the virus was a bioweapon originating from a Chinese lab -- plumb the depths of immorality.

The ***Covid-19*** outbreak is neither the first nor the last challenge to confront all of humankind. But today, unilateralism, protectionism and populism are on the rise; the multilateral trading regime is under attack; an arms race is heating up; and the threats of terrorism, climate change and cyberattacks are growing. All these test human wisdom, international coordination and global governance.

Nonetheless, one hopes that after the ***Covid-19*** epidemic passes into history, we can all remember this period not only for ***China***'s commitment and contribution to global public health, but also because the international community will have displayed solidarity through these tough times.

Let us transcend differences in social systems, history, culture and levels of development; let us share in weal and woe to to protect our global village together and keep building "a community with a shared future for mankind," as President Xi has proposed. Only when the world thrives will ***China*** prosper, and a prosperous ***China*** will only lead to a better world.

Xie Feng is Commissioner of the Ministry of Foreign Affairs of ***China*** in the Hong Kong Special Administrative Region.

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*https://www.nytimes.com/2020/02/28/opinion/**coronavirus**-**china**-government.html*

Graphic

PHOTO: Community workers and volunteers in Wuhan, ***China***, packing groceries purchased through group orders after supermarkets stopped sales to individuals in the midst of the epidemic. (PHOTOGRAPH BY ***China*** Daily/Reuters FOR THE NEW YORK TIMES)

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Person: XI JINPING (58%)

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2 *A Global Race To Figure Out A Silver Bullet*

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Length: 1840 words

Byline: By David E. Sanger, David D. Kirkpatrick, Sui-Lee Wee and Katrin Bennhold

Body

The United States, ***China*** and Europe are battling to be the first to find a cure, bringing a nationalist element to a worldwide crisis.

WASHINGTON -- A global arms race for a ***coronavirus*** ***vaccine*** is underway.

In the three months since the virus began its deadly spread, ***China***, Europe and the United States have all set off at a sprint to become the first to produce a ***vaccine***. But while there is cooperation on many levels -- including among companies that are ordinarily fierce competitors -- hanging over the effort is the shadow of a nationalistic approach that could give the winner the chance to favor its own population and potentially gain the upper hand in dealing with the economic and geostrategic fallout from the crisis.

What began as a question of who would get the scientific accolades, the patents and ultimately the revenues from a successful ***vaccine*** is suddenly a broader issue of urgent national security. And behind the scramble is a harsh reality: Any new ***vaccine*** that proves potent against the ***coronavirus*** -- clinical trials are underway in the United States, ***China*** and Europe already -- is sure to be in short supply as governments try to ensure that their own people are the first in line.

In ***China***, 1,000 scientists are at work on a ***vaccine***, and the issue has already been militarized: Researchers affiliated with the Academy of Military Medical Sciences have developed what is considered the nation's front-runner candidate for success and is recruiting volunteers for clinical trials.

China "will not be slower than other countries," Wang Junzhi, a biological products quality control expert with the Chinese Academy of Sciences, said Tuesday at a news conference in Beijing.

The effort has taken on propaganda qualities. Already, a widely circulated photograph of Chen Wei, a virologist in the People's Liberation Army, receiving an injection of what was advertised to be the first ***vaccine***, has been exposed as a fake, taken before a trip she made to Wuhan, where the virus began.

President Trump has talked in meetings with pharmaceutical executives about making sure a ***vaccine*** is produced on American soil, to assure the United States controls its supplies. German government officials said they believed he tried to lure a German company, CureVac, to do its research and production, if it comes to that, in the United States.

The company has denied it received a takeover offer, but its lead investor made clear there was some kind of approach.

Asked by the German magazine Sport 1 about how the contact with Mr. Trump had unfolded, Dietmar Hopp, whose Dievini Hopp BioTech Holding owns 80 percent of the company, said: "I personally didn't speak to Mr. Trump. He spoke to the company and they immediately told me about it and asked what I thought of it, and I knew immediately that it was out of the question."

The report of the approach was enough to prompt the European Commission to pledge another $85 million to the firm, which has already had support from a European ***vaccine*** consortium.

The same day, a Chinese company offered $133.3 million for an equity stake and other consideration from another German firm in the ***vaccine*** race, BioNTech.

"There has been a global wake-up call that biotechnology is a strategic industry for our societies," Friedrich von Bohlen, the managing director of the holding company that owns 82 percent of CureVac.

And just as nations have insisted on building their own drones, their own stealth fighters and their own cyberweapons, they do not want to be beholden to a foreign power for access to the drugs that are needed in a crisis.

After two decades of farming out drug production to ***China*** and India, "you want the whole production process close to home," Mr. von Bohlen said.

Some experts view the geopolitical competition as healthy, as long as any successes are shared with the world -- which government officials routinely assure they will be.

But they do not say how, or more important, when. And many analysts recall what happened during the swine flu epidemic in 2009, when a company in Australia that was among the first to develop a single-dose ***vaccine*** was required to satisfy demand in Australia before fulfilling export orders to the United States and elsewhere.

That spurred outrage, conspiracy theories and congressional hearings into the reasons for the shortfall.

"You want everybody to cooperate, everybody to race as quickly as they can to a ***vaccine*** and the best candidates to move forward," said Dr. Amesh Adalja of the Center for Health Security at Johns Hopkins University.

But if those showing signs of success are wondering if their companies will be nationalized, he said, it creates a complication that "you don't want to have when you are trying to get a ***vaccine*** made as quickly as possible."

Executives of the world's leading pharmaceutical companies said on Thursday that they were working together and with governments to assure that a ***vaccine*** is developed as quickly as possible and distributed equitably. But they implored governments not to hoard a ***vaccine*** once it is developed, saying that to do so would be devastating for the broader goal of stamping out the ***coronavirus*** pandemic.

"I would encourage everyone not to get into this trap of saying we have to get everything into our countries now and close the borders," said Severin Schwan, the chief executive of the Swiss pharmaceutical company Roche. "It would be completely wrong to fall into nationalist behavior that would actually disrupt supply chains and be detrimental to people around the world."

Adding to the pressure is Mr. Trump's near-daily assurance that breakthroughs are on the way. While antiviral drugs to treat the effects of the ***coronavirus*** may be tested under "compassionate use" guidelines that allow experimentation on desperately ill patients, a ***vaccine*** remains at least 12 to 18 months away, both American officials and the leaders of major pharmaceutical companies say.

"***vaccines*** are injected into healthy people, so we need to ensure safety," a process that takes time, David Loew, an executive vice president of Sanofi Pasteur of France, said on Thursday. His firm is working with Eli Lilly and Johnson & Johnson in the United States, Roche and Takeda in Japan.

In normal times, there is always an element of national competition to the development of drugs. In the months before the ***coronavirus*** began breaking out in Wuhan, the F.B.I. began an effort to root out scientists they believed were stealing biomedical research from the United States, mostly focused on scientists of Chinese descent, including naturalized American citizens, on behalf of ***China***. There were 180 cases under investigation last year.

But the fear is that the urgency to come up with a usable ***vaccine*** will inflame nationalistic tendencies.

China has made clear it is looking for a national champion -- an equivalent to the role that Huawei, a Chinese telecommunications giant, plays in the race to build 5G networks around the world. If the Huawei pattern holds, ***China*** could make deals to increase its influence over poorer or less developed countries, which otherwise might not get affordable access to a ***vaccine***.

There are already signs that ***China*** is using the moment for geopolitical advantage, delivering help to countries that once would have looked to Europe or the United States. Its decision to ship diagnostic kits to the Philippines, an ally of the United States, and to help Serbia was a leading indicator of what may come with drugs and ***vaccines***, when they are available.

Speaking in a teleconference on Thursday, executives from the five biggest pharmaceutical companies said they were working to increase the industry's manufacturing abilities by sharing available capacity to ramp up production once a successful ***vaccine*** or antiviral is identified. They argued for multiple testing programs to increase the chances of success, and then for immediate licensing to allow a quick scaling up of production.

Once a ***vaccine*** is approved, "we'll need to vaccinate billions of people around the world, so we are looking at alternatives to where and how we produce," Mr. Loew said.

But it is governments that get to decide how a ***vaccine*** is approved, and where it can be sold.

"If countries say, 'Gee, let's try to lock up a supply so we can protect our populations,' then it can be a challenge to get the ***vaccine*** to the places where it can make the most difference epidemiologically," said Seth Berkley, the chief executive of GAVI, a nonprofit organization that supplies ***vaccines*** to developing countries.

Mindful of those dangers, though, several European governments and nonprofit groups have already taken steps to prevent either the United States or ***China*** from capturing a monopoly on a potential ***vaccine*** against the ***coronavirus***.

In the aftermath of the Ebola plague that flared across West Africa from 2014 to 2016, Norway, Britain and other mostly European countries as well as the Bill and Melinda Gates Foundation began contributing millions of dollars to a multinational organization, the Coalition for Epidemic Preparedness Initiatives, to fund ***vaccine*** research.

All of its funding agreements included provisions for equal access to assure that "appropriate ***vaccines*** are first available to populations when and where they are needed to end an outbreak or curtail an epidemic, regardless of ability to pay," the organization said in a statement.

In the past two months, the coalition has funded research into eight of the most promising candidates to block the ***coronavirus*** -- including CureVac, the Germany company.

All of which left unclear exactly what Mr. Trump sought from CureVac, if anything, and why the company ousted its American chief executive, Daniel Menichella, days after he met with the White House ***coronavirus*** task force, in a session where Mr. Trump dropped by. The White House declined to comment.

The company itself has issued carefully drafted denials of a takeover offer. "Maybe someone said something," Mr. Von Bohlen said. "But there is no written offer from the United States."

There did not need to be. The mere hint of it was enough to get European officials to offer more funding.

"The fact that other countries tried to buy that company shows that they are the front-runner in the research," said Ursula von der Leyen, the president of the European Commission. "It is a European company -- we wanted to keep it in Europe, it wanted to stay in Europe. It was very important to give it the necessary funding, and that has happened."

David E. Sanger reported from Washington, David D. Kirkpatrick from London, Sui-Lee Wee from Singapore and Katrin Bennhold from Berlin. Liz Alderman contributed reporting from Paris, and Michael D. Shear from Washington.David E. Sanger reported from Washington, David D. Kirkpatrick from London and Sui-Lee Wee from Singapore. Katrin Bennhold contributed reporting from Berlin, Liz Alderman from Paris and Michael D. Shear from Washington.

Graphic

PHOTOS: ***vaccine*** research at Arcturus Therapeutics in San Diego. (PHOTOGRAPH BY BING GUAN/REUTERS) (A1)

French scientists at VirPath in Lyon. Researchers in ***China***, Europe and the United States have all started off at a sprint. (PHOTOGRAPH BY JEFF PACHOUD/AGENCE FRANCE-PRESSE -- GETTY IMAGES) (A17)

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3 Racing for Cure, Scientists Unite In Global Effort

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Length: 1427 words

Byline: By Matt Apuzzo and David D. Kirkpatrick

Body

Never before, scientists say, have so many of the world's researchers focused so urgently on a single topic. Nearly all other research has ground to a halt.

Using flag-draped memes and military terminology, the Trump administration and its Chinese counterparts have cast ***coronavirus*** research as national imperatives, sparking talk of a biotech arms race.

The world's scientists, for the most part, have responded with a collective eye roll.

"Absolutely ridiculous," said Jonathan Heeney, a Cambridge University researcher working on a ***coronavirus vaccine***.

"That isn't how things happen," said Adrian Hill, the head of the Jenner Institute at Oxford, one of the largest ***vaccine*** research centers at an academic institution.

While political leaders have locked their borders, scientists have been shattering theirs, creating a global collaboration unlike any in history. Never before, researchers say, have so many experts in so many countries focused simultaneously on a single topic and with such urgency. Nearly all other research has ground to a halt.

Normal imperatives like academic credit have been set aside. Online repositories make studies available months ahead of journals. Researchers have identified and shared hundreds of viral genome sequences. More than 200 clinical trials have been launched, bringing together hospitals and laboratories around the globe.

"I never hear scientists -- true scientists, good quality scientists -- speak in terms of nationality," said Dr. Francesco Perrone, who is leading a ***coronavirus*** clinical trial in Italy. "My nation, your nation. My language, your language. My geographic location, your geographic location. This is something that is really distant from true top-level scientists."

On a recent morning, for example, scientists at the University of Pittsburgh discovered that a ferret exposed to ***Covid-19*** particles had developed a high fever -- a potential advance toward animal ***vaccine*** testing. Under ordinary circumstances, they would have started work on an academic journal article.

"But you know what? There is going to be plenty of time to get papers published," said Paul Duprex, a virologist leading the university's ***vaccine*** research. Within two hours, he said, he had shared the findings with scientists around the world on a World Health Organization conference call. "It is pretty cool, right? You cut the crap, for lack of a better word, and you get to be part of a global enterprise."

For Mr. Trump, the unabashedly "America First" president, Dr. Duprex and other American scientists represent the world's best hope for a ***vaccine***. "America will get it done!" the president declared.

But trying to sew a "Made in the USA" label onto scientific research gets complicated.

Dr. Duprex's lab in Pittsburgh is collaborating with the Pasteur Institute in Paris and the Austrian drug company Themis Bioscience. The consortium has received funding from the Coalition for Epidemic Preparedness Innovation, a Norway-based organization financed by the Bill and Melinda Gates Foundation and a group of governments, and is in talks with the Serum Institute of India, one of the largest ***vaccine*** manufacturers in the world.

vaccine researchers at Oxford recently made use of animal-testing results shared by the National Institutes of Health's Rocky Mountain Laboratory in Montana.

Separately, the French public-health research center Inserm is sponsoring clinical trials on four drugs that may help treat ***Covid-19*** patients. The trials are underway in France, with plans to expand quickly to other nations.

In some ways, the ***coronavirus*** response reflects a medical community that has long been international in scope. At Massachusetts General Hospital, a team of Harvard doctors is testing the effectiveness of inhaled nitric oxide on ***coronavirus*** patients. The research is being carried out in conjunction with Xijing Hospital in ***China*** and a pair of hospitals in northern Italy. Doctors in those centers have been collaborating for years.

But the ***coronavirus*** has ignited the scientific community in ways that no other outbreak or medical mystery has before. That reflects the scope of the pandemic and the fact that, for many researchers, the hot zone is no longer an impoverished village in the developing world. It is their hometowns.

"This is playing at home," said Professor Hill, of Oxford. He has worked on ***vaccines*** for Ebola, malaria and tuberculosis, diseases that have been most prevalent in Africa. "But for Covid, it is happening right here."

Several scientists said the closest comparison to this moment might be the height of the AIDS epidemic in the 1990s, when scientists and doctors locked arms to combat the disease. But today's technology and the pace of information-sharing dwarfs what was possible three decades ago.

As a practical matter, medical scientists today have little choice but to study the ***coronavirus*** if they want to work at all. Most other laboratory research has been put on hold because of social distancing, lockdowns or work-from-home restrictions.

The pandemic is also eroding the secrecy that pervades academic medical research, said Dr. Ryan Carroll, a Harvard Medical professor who is involved in the ***coronavirus*** trial there. Big, exclusive research can lead to grants, promotions and tenure, so scientists often work in secret, suspiciously hoarding data from potential competitors, he said.

"The ability to work collaboratively, setting aside your personal academic progress, is occurring right now because it's a matter of survival," he said.

One small measure of openness can be found on the servers of medRxiv and bioRxiv, two online archives that share academic research before it has been reviewed and published in journals. The archives have been deluged with ***coronavirus*** research from across the globe. Despite the nationalistic tone set by the Chinese president, Xi Jinping, Chinese researchers have contributed a significant portion of the ***coronavirus*** research available in the archive.

Though Chinese officials initially covered up the outbreak and have since used it for propaganda purposes, Chinese scientists have in many ways led the world's ***coronavirus*** research. A Chinese laboratory made public the

initial viral genome in January, a disclosure that formed the basis for ***coronavirus*** tests worldwide. And some of today's most promising clinical trials can trace their origins to early Chinese research on the disease.

Few areas of the world have been spared. Last year, Jamal Ahmadzadeh, an epidemiologist at Urmia University in Iran, warned that the world needed a rapid-alert system in response to MERS, another ***coronavirus***. No country was immune to the risk, he wrote. In an email last week, as Iran grappled with one of the world's worst ***coronavirus*** outbreaks, he wrote that defeating the virus required information-sharing across laboratories and across borders.

Even scientists working in fields beyond infectious diseases have been drawn into the effort. Dr. Perrone, who is supervising an Italian clinical trial of the immunosuppressive drug tocilizumab, is a cancer specialist. He is involved because of his experience running clinical trials for the National Cancer Institute in Naples.

Dr. Perrone said the ***coronavirus*** pandemic may make medical science more nimble long after the emergency has passed. Ten days after researchers conceived of the trial, the normally laborious government approval process was complete and doctors began enrolling patients, he said. "This should be a lesson for the future," he said.

While Mr. Trump has touted American pharmaceutical prowess, and big drug companies like Pfizer and Johnson & Johnson have announced that they are bankrolling ***coronavirus*** ***vaccine*** research, the biggest drug companies focus on drugs they can sell year after year in affluent countries, not during short-lived crises centered in the developing world. ***vaccine*** research has been seen as insufficiently profitable.

When Ebola captured the world's attention in 2014, for example, the drug giants that chased a ***vaccine*** all took major losses on their investments. The first ***vaccine***, originally devised by a Canadian government lab and now sold by Merck, was approved for sale last year, long after the epidemic faded.

"Of course there are people in competition. This is the human condition," said Dr. Yazdan Yazdanpanah, the director of infectious disease at Inserm in France. "What is important is to come up with a solution for everyone. The way to achieve that is to collaborate."

*https://www.nytimes.com/2020/04/01/world/europe/**coronavirus**-science-research-cooperation.html*

Graphic

PHOTOS: Scientists at the Pasteur Institute in Paris, which is working with a lab at the University of Pittsburgh and an Austrian drug company. (PHOTOGRAPH BY FRANCOIS MORI/ASSOCIATED PRESS)

At Massachusetts General Hospital in Boston, top, doctors are testing a procedure bolstered by research done in conjunction with Xijing Hospital in ***China*** and a pair of hospitals in northern Italy. Above, an I.C.U. at Papa Giovanni XXIII of Bergamo dedicated exclusively to ***Covid-19*** patients. (PHOTOGRAPHS BY MICHAEL DWYER/ASSOCIATED PRESS

FABIO BUCCIARELLI FOR THE NEW YORK TIMES) (A10)

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Person: DONALD TRUMP (77%)

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4 ***This Is Why We Can't Have Nice Cures***

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Length: 3275 words

Byline: By Peter S. Goodman, Katie Thomas, Sui-Lee Wee and Jeffrey Gettleman

Body

As they battle a pandemic that has no regard for borders, the leaders of many of the world's largest economies are in the thrall of unabashedly nationalist principles, undermining collective efforts to tame the novel ***coronavirus***.

The United States, an unrivaled scientific power, is led by a president who openly scoffs at international cooperation while pursuing a global trade war. India, which produces staggering amounts of drugs, is ruled by a Hindu nationalist who has ratcheted up confrontation with neighbors. ***China***, a dominant source of protective gear and medicines, is bent on a mission to restore its former imperial glory.

Now, just as the world requires collaboration to defeat the ***coronavirus*** -- scientists joining forces across borders to create ***vaccines***, and manufacturers coordinating to deliver critical supplies -- national interests are winning out. This time, the contest is over far more than which countries will make iPads or even advanced jets. This is a battle for supremacy over products that may determine who lives and who dies.

At least 69 countries have banned or restricted the export of protective equipment, medical devices or medicines, according to the Global Trade Alert project at the University of St. Gallen in Switzerland. The World Health Organization is warning that protectionism could limit the global availability of ***vaccines***.

With every country on the planet in need of the same lifesaving tools at once, national rivalries are jeopardizing access for all.

"The parties with the deepest pockets will secure these ***vaccines*** and medicines, and essentially, much of the developing world will be entirely out of the picture," said Simon J. Evenett, an expert on international trade who started the University of St. Gallen project. "We will have rationing by price. It will be brutal."

Some point to the tragedy playing out around the world as an argument for greater self sufficiency, so that hospitals are less reliant on ***China*** and India for medicines and protective gear.

China alone makes the vast majority of the core chemicals used to make raw materials for a range of generic medicines used to treat people now hospitalized with ***Covid-19***, said Rosemary Gibson, a health care expert at the Hastings Center, an independent research institution in New York. These include antibiotics, blood pressure treatments and sedatives. "Everyone is competing for a supply located in a single country," Ms. Gibson said.

But if the laudable goal of diversification inspires every nation to look inward and dismantle global production, that will leave the world even more vulnerable, said Chad P. Bown, an international trade expert at the Peterson Institute for International Economics in Washington.

President Trump and his leading trade adviser, Peter Navarro, have exploited the pandemic as an opportunity to redouble efforts to force multinational companies to abandon ***China*** and shift production to the United States. Mr. Navarro has proposed rules that would force American health care providers to buy protective gear and medicines from U.S. suppliers.

''We just don't have the production capacity,'' Mr. Bown said, noting that Chinese industry is restarting, while American factories remain disrupted. ''Just as you don't want to be too dependent on ***China***, you don't want to be too dependent on yourself. You have now walled yourself off from the only way you can potentially deal with this, in your time of greatest need, which is relying on the rest of the world.''

Zero-Sum Mentality

For seven decades after World War II, the notion that global trade enhances security and prosperity prevailed across major economies. When people exchange goods across borders, the logic goes, they become less likely to take up arms. Consumers gain better and cheaper products. Competition and collaboration spur innovation.

But in many countries -- especially the United States -- a stark failure by governments to equitably distribute the bounty has undermined faith in trade, giving way to a protectionist mentality in which goods and resources are viewed as zero-sum.

Now, the zero-sum perspective is a guiding force just as the sum in question is alarmingly limited: Potentially vital supplies of medicine are in short supply, exacerbating antagonism and distrust.

Last week, the Trump administration cited a Korean War-era law to justify banning exports of protective masks made in the United States, while ordering American companies that produce such wares overseas to redirect orders to their home market. One American company, 3M, said halting planned shipments of masks overseas would imperil health workers in Canada and Latin America. On Monday, 3M said it struck a compromise with the government that will send some masks to the United States and some overseas.

In recent weeks, Turkey, Ukraine, Thailand, Taiwan, Indonesia, Bangladesh, Pakistan, South Africa and Ecuador have all banned the export of protective masks. France and Germany imposed bans on masks and other protective gear, lifting them only after the European Union barred exports outside the bloc. India banned exports of respirators and disinfectants.

Britain has prohibited exports of hydroxychloroquine, an anti-malarial drug now being tested for potential benefits against the virus. Hungary has banned exports of the raw material for that drug and medicines that contain it.

''The export bans are not helpful,'' said Mariangela Simao, assistant director general for medicines and health products at the World Health Organization in Geneva. ''It can disrupt supply chains of some products that are actually needed everywhere.''

President Trump has been especially aggressive in securing an American stockpile of hydroxychloroquine, disregarding the counsel of federal scientists who have warned that testing remains minimal, with scant evidence of benefits.

India is the world's largest producer of hydroxychloroquine. Last month, the government banned exports of the drug, though it stipulated that shipments could continue under limited circumstances.

"In this situation, each country has to take care of itself," said Satish Kumar, an adjunct professor at the International Institute of Health Management Research in New Delhi. "If we are not able to take care of our population, it will be a very critical situation."

After Mr. Trump demanded that India lift the export restrictions on Monday night while threatening retaliation, the government appeared to soften its position.

"In view of the humanitarian aspects of the pandemic," said India's foreign ministry spokesman Anurag Srivastava, the government would allow exports "to some nations who have been particularly badly affected" -- an apparent nod to the United States.

Arithmetic suggested that a policy of stockpiling for national needs might leave other countries short. India is likely to require 56 metric tons, but now has only 38 metric tons, said Udaya Bhaskar, director general of the Pharmaceuticals Export Promotion Council of India, an industry body set up by the government to promote exports of Indian medicines.

One manufacturer, Watson Pharma, owned by Teva Pharmaceuticals and based in the western Indian state of Goa, was seeking to triple its production of hydroxychloroquine over the next two weeks.

Genomics and Geopolitics

As global pharmaceutical companies explore new forms of treatment for the ***coronavirus*** -- a complex undertaking even under ideal laboratory conditions -- they are having to navigate an additional layer of real-world intricacy: geopolitics.

Companies steeped in genomics and the rigorous demands of manufacturing must find a way to develop new drugs, begin commercial production and also anticipate how the predilections of nationalists running major economies may limit supplies.

One of the most closely watched drugs, remdesivir, is made by Gilead, an American company. Though clinical trials have not yet been completed, the company has been ramping up manufacturing to meet global demand in advance of the drug's approval.

Like many newer drugs, remdesivir's formula includes "novel substances with limited global availability," according to a statement on the company's website.

Gilead is increasing production in part by expanding beyond its own facilities in the United States, contracting with plants in Europe and Asia, in a move that appeared to hedge its bets against trouble in any one place. "The international nature of the supply chain for remdesivir reminds us that it is essential for countries to work together to create enough supply for the world," said Daniel O'Day, Gilead's chairman and chief executive, in an April 4 statement.

Gilead says it has enough of the drug to treat 30,000 patients, while aiming to amass enough to treat one million by the end of the year. But outside experts questioned whether that would be sufficient.

"There is going to be a real fight over the allocation of the remdesivir supply if indeed it proves effective," said Geoffrey Porges, an analyst for SVB Leerink, an investment bank in Boston.

Another drugmaker, the New York-based Regeneron, is preparing a U.S. plant to produce a cocktail of antibodies developed in genetically engineered mice, with tests planned for hospitalized patients and as a preventative treatment. A similar antibody cocktail proved effective against Ebola.

The company is planning the extraordinary action of shifting the production of some of its most profitable drugs -- one that treats eczema, another for eyes -- to a factory in Ireland to make room for the experimental treatment.

Regeneron's chief executive, Dr. Leonard Schleifer, said the decision to make the new drug cocktail in the United States was both geopolitical and practical.

"You want to make it close to where the need is, and we anticipate there will be great need in the United States," he said.

He acknowledged that making products overseas now posed risks that they could be subject to export bans in that country. In addition, Regeneron is receiving federal funds to expand its manufacturing of the ***vaccine***, which carries the expectation that the company will prioritize the American market.

"It just made good sense to us to do this in the United States," Dr. Schleifer said.

China's Moment

China has seized on the pandemic as an opportunity to present itself as a responsible world citizen, in contrast to Western democracies that failed to reckon with the threat -- not least the United States, now the epicenter of the outbreak.

Ever since President Trump took office, unleashing tariffs on friends and foes alike, ***China***'s paramount leader, Xi Jinping, has sought to exploit the American abdication of global leadership as a chance to crown himself champion of the rules-based trading system.

Given that ***China*** is ruled by an unelected Communist Party that subsidizes state-owned companies and tolerates the widespread theft of intellectual property, those claims have strained credulity.

China's reputation has also suffered as it pursues its Belt and Road Initiative, a $1 trillion collection of infrastructure projects stretching from East Asia to Europe and Africa that has been engineered to spread Beijing's influence and generate business for Chinese companies. Some recipients of Chinese credit have come to see the terms as predatory, prompting accusations that ***China*** is an ascendant colonial power.

China has dispatched doctors and ventilators to Italy while offering aid to France, Germany and Spain. Last month, as the European Union banned exports of protective gear, Serbia's president, Aleksandar Vucic, embraced ***China***'s largess, even kissing the Chinese flag.

"European solidarity does not exist," Mr. Vucic declared. "I believe in my brother, my friend, Xi Jinping, and I believe in help from ***China***. The only country that can help us now is ***China***."

Chinese factories make 80 percent of the world's antibiotics and the building blocks for a huge range of drugs. Chinese officials have pledged to continue to make these wares available to the world. Such moves may bolster ***China***'s standing, yet appear unlikely to pacify the Trump administration.

"Certainly, it would help in projecting ***China***'s soft power," said Yanzhong Huang, a senior fellow for global health at the Council on Foreign Relations. "But I don't know whether this would ease concerns in the West, particularly the United States, on the need to diversify the supply of the manufacturing of active pharmaceutical ingredients."

President Trump has long obsessed over the trade deficit with ***China*** as a supposed scorecard of American victimization. But given ***China***'s role as a dominant supplier of hospital gear and medicines, American health effectively depends on being able to buy more from Chinese factories.

"Right now, the brightest shiny hope that we have is imports of this stuff," said Mr. Bown, the trade expert. "We'd like to run the biggest trade deficit we could possibly find."

"It's not that we are buying this stuff from ***China*** that's made us vulnerable," he added. "It's that we are buying this stuff from ***China***, and we decided to start a trade war with them."

The Quest for ***vaccines***

China aims to become the first nation to crack the code for a ***vaccine***, a milestone that could cement its status as a world superpower, resonating not unlike the United States' putting a person on the moon.

"Its importance lies in being able to display our scientific and technological prowess to other countries," said Yang Zhanqiu, a virologist at Wuhan University, in the central Chinese city where the ***coronavirus*** first emerged.

About 1,000 Chinese scientists are now engaged in creating ***vaccines*** for the virus, with nine potential versions in development, according to the government. The government is considering bypassing some phases of planned clinical trials to rush potential ***vaccines*** into emergency use as soon as this month.

But one element appears in conspicuously short supply -- international collaboration.

In 2003, when another ***coronavirus***, known as SARS, spread through ***China*** with deadly impact, officials from the American Centers for Disease Control and Prevention deployed to Beijing to help the government forge a containment strategy. In the years that followed, Chinese and American authorities collaborated on epidemics in Africa.

But in recent years, American public health authorities have sharply diminished their presence in Beijing at the direction of the Trump administration, said Jennifer Huang Bouey, an epidemiologist and ***China*** expert at the RAND Corporation.

"Given the overall sentiment that any scientific research will be helping ***China***, the United States is really trying to reduce any collaboration with ***China***," said Ms. Bouey. "That really hurts global health."

"There's a lack of trust," said Mr. Huang at the Council on Foreign Relations. "Nationalism remains very strong among the Chinese public."

Some international collaboration is taking place. Dr. Seth Berkley, the chief executive of the Gavi Alliance, a nonprofit group started by Bill and Melinda Gates that works to get ***vaccines*** to the world's poor, noted that one of the best Ebola ***vaccines*** was discovered by a Canadian public health lab, transferred to an American drug maker and then manufactured in Germany.

"That's how science is done, and we really ought to follow that paradigm," he said. "Nothing illustrates the global nature of this problem better than ***Covid-19***, which started off in Wuhan and spread to 180 countries within three months. This is a global challenge that requires a global response."

But even before a ***vaccine*** is confirmed, national governments are already seeking to lock up future supply.

In Belgium, a company called Univercells is preparing to manufacture two ***vaccines*** that are under development even before clinical trials are completed, according to its co-founder, José Castillo. Univercells expects to begin production by September, with the eventual aim of making as many as 200 million doses a year at a pair of plants south of Brussels.

One country -- Mr. Castillo declined to disclose it -- has already ordered half of the supply of ***vaccines*** that his company will initially make, a share that would decline to 10 percent as production increases.

Some countries will most likely fail to secure enough ***vaccine***. "It's really a matter of scarcity," Mr. Castillo said.

More than overwhelming demand explains the anticipated shortfall. Though the science behind developing ***vaccines*** has advanced substantially, making them often involves labor-intensive techniques that are not designed to quickly produce billions of doses.

"The bottleneck is to produce it, to make it in very large quantities," Mr. Castillo said.

The sense of urgency appears to have inspired President Trump to try to persuade a German company that is developing a possible ***vaccine*** to relocate to the United States. The company, CureVac, has denied it was approached by the United States, and said it had no plans to move.

The president has other weapons. He could cite the Defense Production Act to force American companies to give the United States government priority over other buyers for potential ***vaccines***.

A little-known unit within the Department of Health and Human Services, whose mission is to protect American residents from bioterrorism and pandemics, gives grants to companies to speed their ***vaccine*** development. It also often comes with the requirement that recipients supply the government with a stockpile, said James Robinson, a ***vaccine*** manufacturing expert who sits on the scientific advisory board of the Coalition for Epidemic Preparedness Innovations, an international consortium dedicated to making ***vaccines*** available worldwide.

That division, the Biomedical Advanced Research and Development Authority, recently gave nearly $500 million to Johnson & Johnson to help it develop a ***coronavirus*** ***vaccine*** and set up a U.S. manufacturing facility.

Johnson & Johnson declined to say whether its arrangement with the government would require it to set aside ***vaccines*** for American use. It said it currently had the ability to produce as many as 300 million doses a year at its facility in the Netherlands, was preparing to manufacture a similar number in the United States, and was working with outside partners to add capacity elsewhere.

"If the current administration is still in place when the ***vaccines*** are available, they are going to be really merciless in terms of privileging the U.S. for supply versus the rest of the world," said Michel De Wilde, a ***vaccine*** research consultant, and a former executive at Sanofi, a French ***vaccine*** manufacturer.

Around the world, 50 potential ***vaccines*** are now in the early stages of development, according to the W.H.O. If history is any guide, scientists will eventually produce an effective version.

What is less certain is whether the benefits will be shared.

"I'm worried about every country that has the potential to manufacture the ***vaccine***," said Dr. Richard Hatchett, the chief executive of the ***vaccine*** consortium. "They all have the ability to impose export controls. They all have the ability to nationalize their ***vaccine*** industry."

If that is what happens, the dangers proliferate.

"If there are epidemics out of control in parts of the world," said Dr. Berkley, of the Gavi Alliance, "we will never get control of this because the virus will come back and continue to spread."

Reporting was contributed by Hari Kumar, Karan Deep Singh, Kai Schultz, Javier Hernandez and Andrew Jacobs.

*https://www.nytimes.com/2020/04/10/business/**coronavirus**-**vaccine**-nationalism.html*

Graphic

PHOTOS: Clockwise from top: a ***coronavirus*** researcher in Copenhagen

a factory producing personal protective equipment in Ahmedabad, India

and a cargo plane packed with medical supplies from ***China***. Around the world, labs are working on developing ***vaccines*** and factories are producing protective gear, but is unclear whether lifesaving products will be shared equitably. (PHOTOGRAPHS BY THIBAULT SAVARY/AGENCE FRANCE-PRESSE -- GETTY IMAGES

SAM PANTHAKY/AGENCE FRANCE-PRESSE -- GETTY IMAGES

COMUNIDAD DE MADRID, VIA GETTY IMAGES) (BU6)

China extends a helping hand: Above, officials in Italy welcomed a medical team from ***China*** last month, and, below, President Aleksandar Vucic of Serbia greeted a delegation of Chinese doctors. (PHOTOGRAPHS BY EMANUELE CREMASCHI/GETTY IMAGES

DIMITRIJE GOLL/AGENCE FRANCE-PRESSE -- GETTY IMAGES) (BU7)

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5 ***Coronavirus Live Updates: Turkey to Release Thousands of Prisoners***

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Body

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Turkey's Parliament passes law to release tens of thousands of prisoners.

Turkey's Parliament passed a law early Tuesday that would allow for the release of tens of thousands of prisoners to protect detainees from being infected by the ***coronavirus***.

The bill will allow for the temporary release of about 45,000 prisoners, but it excluded those jailed on terrorism charges, according to the Anadolu Agency, a Turkish state-run news agency.

The bill was supported by 279 lawmakers, while 51 voted against it, according to Anadolu. President Recep Tayyip Erdogan's political party, the Justice and Development Party, supported the bill, as did its nationalist allies.

Aside from those jailed on terrorism charges, prisoners detained for sex offenses, drug offenses and first-degree murder were also excluded.

The law has been criticized by opposition parties for excluding those jailed on terrorism charges, which include journalists and politicians swept up in a crackdown following a coup attempt in 2016.

Justice Minister Abdulhamit Gul on Monday said there were 17 cases of the ***coronavirus*** in five prisons, and that three inmates had died from the virus. Turkey has recorded 56,956 ***coronavirus*** cases and 1,198 deaths.

In the United States and around the world, outbreaks have spread quickly in prisons, where social distancing is impossible. In response, some prisons have released inmates to contain outbreaks, though critics say officials have been too slow to act.

Earlier this month, Attorney General William P. Barr ordered the Bureau of Prisons to expand the group of federal inmates eligible for early release and to prioritize those at three facilities where known ***coronavirus*** cases have grown precipitously, as the virus threatens to overwhelm prison medical facilities and nearby hospitals.

China approves human testing for two new ***vaccines***.

China has approved clinical trials for two experimental ***vaccines*** to treat the ***coronavirus***, the official news agency Xinhua reported on Tuesday, in a global race to fight the pandemic that has killed at least 118,000 people worldwide.

The two ***vaccines*** are being developed by the Wuhan Institute of Biological Products under the state-owned ***China*** National Pharmaceutical Group, and the Beijing-based research arm of Sinovac Biotech, a biopharmaceutical company.

There are currently no ***vaccines*** or drugs for the new ***coronavirus***. ***China***, Europe and the United States are all trying to become the first to produce a ***vaccine***, bringing a nationalist element to the race that has sometimes undermined international cooperation.

About 1,000 Chinese scientists are now engaged in creating ***vaccines*** for the virus, with nine potential versions in development, according to the government. Last month, ***China*** had authorized military scientists to start another clinical trial.

Separately, 111 people from African countries have tested positive for the ***coronavirus*** in the southern metropolis of Guangzhou, Xinhua also reported on Tuesday. ***China*** has faced criticism that people of African descent have been targeted with discriminatory measures, including forced quarantines and testing. More than 4,500 Africans in Guangzhou have been subject to nucleic acid testing since early April, the report said, citing the local authorities.

In Iraq, the fight against ***coronavirus*** means overcoming stigma.

The doctor paused before banging on the front gate, gesturing to his companions in hazmat suits and masks to stand back so they would not be the first thing the home's occupants saw.

"This is very sensitive, very difficult for our society," said Dr. Wissam Cona of the provincial Health Department in Najaf, Iraq. The father of the family at this home had begged him not to come with a retinue of health workers, saying he felt ashamed in front of his neighbors.

For Iraq, one of the biggest obstacles for officials fighting the ***coronavirus*** is the stigma associated with illness and quarantine. It runs so deep that people avoid being tested, prevent family members who want tests from having them and delay seeking medical help until they are catastrophically ill.

It may also help explain why the number of confirmed cases in Iraq is relatively low. Iraq had recorded only 1,352 confirmed ***Covid-19*** cases as of Monday. Iran, with roughly twice Iraq's population, has more than 71,000.

"It is true we have cases that are hidden, and that is because people don't want to come forward and they are afraid of the quarantine and isolation," said Dr. Hazim al-Jumaili, a deputy health minister.

The stigma attached to illness and quarantine in Iraq and other Middle Eastern countries largely reflects cultural and religious beliefs. But it also involves an ingrained distrust of the government, historical experience and the fear that given the ragged state of Iraq's health care system, going to the hospital could be fatal.

"Some believe the virus means that God is displeased with them, or maybe it is a punishment for a sin so they don't want others to see that they are sick," said Dr. Emad Abdul Razzak, a consulting psychiatrist at Iraq's Health Ministry.

Russian disinformation is feeding an 'infodemic.'

As the ***coronavirus*** pandemic has swept the globe, it has been accompanied by a dangerous surge of false information -- an "infodemic," according to the World Health Organization. Analysts say that President Vladimir V. Putin of Russia has played a principal role in the spread of false information as part of his wider effort to discredit the West and destroy his enemies from within.

The House, the Senate and the nation's intelligence agencies have typically focused on election meddling in their examinations of Mr. Putin's long campaign. But the repercussions are wider. An investigation by The New York Times -- involving scores of interviews as well as a review of scholarly papers, news reports, and Russian

documents, tweets and TV shows -- found that Mr. Putin has spread misinformation on issues of personal health for more than a decade.

His agents have repeatedly planted and spread the idea that viral epidemics -- including flu outbreaks, Ebola and now the ***coronavirus*** -- were sown by American scientists. The disinformers have also sought to undermine faith in the safety of ***vaccines***, a triumph of public health that Mr. Putin himself promotes at home.

Moscow's aim, experts say, is to portray American officials as playing down the health alarms and thus posing serious threats to public safety.

At first, Mr. Putin's main disseminator of fake news was Russia Today, which he founded in 2005 in Moscow; in 2008 it was renamed RT, obscuring its Russian origins. As the Kremlin grew more confident, it began to simply recycle old narratives rather than wait for new epidemics to emerge.

The new brand of disinformation is subtler than the old. Darren L. Linvill, a Clemson University expert, and his colleague Patrick L. Warren have argued that Mr. Putin's new methodology seeks less to create than to curate -- to retweet and amplify the existing American cacophony, raising the level of confusion and partisan discord.

Beijing now appears to be borrowing from Mr. Putin's playbook, at least the early drafts. It recently declared that the ***coronavirus*** was devised by Washington as a designer weapon meant to cripple ***China***.

Some medical workers overseas who could help in the U.S. hit roadblocks.

Hospitals in ***coronavirus*** hot spots in the United States are scrambling to address a shortage of medical professionals to help care for patients, as the number of cases continues to grow and as maintaining a full supply of health care workers, who are themselves falling ill, is challenging.

Foreign health workers have been lining up to take jobs at American hospitals, but many are running into roadblocks. Some are having difficulty securing appointments for visas at U.S. consulates overseas that are hobbled by skeletal staffing. Others are running into travel restrictions imposed in the midst of the pandemic.

Still others are already working in the United States, but under the terms of their visas cannot leave the states they are in to work in cities heavily affected by the ***coronavirus***.

"The protective gear and ventilators are slowly but surely getting to the system. But if the number of cases goes up dramatically, we will have equipment and no one to operate it," said Ron Hoppe, chief executive officer of WorldWide HealthStaff Solutions, which matches medical professionals with facilities across the United States.

Even before the ***coronavirus*** pandemic, demand for registered nurses in the United States was projected to grow from 2.9 to 3.4 million between 2016 and 2026, according to the Bureau of Labor Statistics.

"The great supply and demand imbalance that existed before is being laid bare by the crisis," Mr. Hoppe said.

Trump's claim he has power to decide when to reopen the country signals possible clash with governors.

President Trump, who has repeatedly said it was up to governors to manage the response to the ***coronavirus*** pandemic, said on Monday that he would be the one deciding when to reopen the country. His remarks came as governors on each coast said they were working together to determine when and how to ease restrictions and reopen the economy.

Democratic governors expressed skepticism about Mr. Trump's remarks, which raised constitutional questions and signaled the possibility of a major clash if the president tries to reopen businesses in states where governors still want things shut down.

The governors of California, Oregon and Washington are working on a regional approach, as are the governors of New York, Pennsylvania, Connecticut, Delaware, Massachusetts, New Jersey and Rhode Island.

While Mr. Trump has predicted that the economy will bounce back quickly once stay-at-home restrictions are lifted, evidence suggests that it will be a long and slow recovery because of people's fears about the virus.

Republicans and Democrats in Congress are locked in a stalemate over what should be in an emergency aid package, with Democrats seeking more money for state and local governments, hospitals, food assistance and rapid testing. And the Census Bureau, facing difficulties because of the pandemic, said it was seeking a four-month delay in delivering to Congress the population data used to reapportion the House of Representatives.

Cities and states approached the arrival of the ***coronavirus*** with different levels of aggressiveness. Internal emails show that city officials in New Orleans believed there was only a very small chance that someone with the ***coronavirus*** would attend its Mardi Gras celebration in late February. They were wrong, and experts now think the festivities accelerated the spread of the virus in New Orleans, one of the country's largest hot spots.

Millions of children are at risk for measles as ***coronavirus*** fears halt ***vaccines***.

More than 100 million children could be at risk for measles because countries around the world are suspending national immunization programs in order to reduce the risk of ***coronavirus*** infection, international public health leaders warned on Monday.

So far, 24 low- and middle-income countries, including Mexico, Nigeria and Cambodia, have paused or postponed such programs, according to the Measles and Rubella Initiative, a consortium whose members include UNICEF, the American Red Cross, the World Health Organization, the United Nations Foundation and the Centers for Disease Control and Prevention.

Unlike wealthier countries, where parents typically make appointments to follow a routine ***vaccine*** schedule at clinics or private pediatric offices, these countries inoculate large numbers of infants and children in communal settings, like marketplaces, schools, churches and mosques.

Dr. Robin Nandy, the chief of immunization for UNICEF, acknowledged that finding the balance between guarding against the spread of ***Covid-19***, the illness caused by the ***coronavirus***, and preventable diseases like measles was delicate and difficult.

Reporting was contributed by Elaine Yu, Kate Taylor, Sebastian Modak, Alissa J. Rubin, William J. Broad, Miriam Jordan, Annie Correal, Ben Dooley and Makiko Inoue contributed reporting.

*https://www.nytimes.com/2020/04/14/world/**coronavirus**-news.html*

Graphic

PHOTO: A sparse road leading to the Bosphorus Bridge in Istanbul on Sunday during a two-day lockdown. (PHOTOGRAPH BY Chris Mcgrath/Getty Images FOR THE NEW YORK TIMES)

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Company: ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (62%); SINOVAC BIOTECH LTD (51%)

Ticker: SVA (NASDAQ) (51%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (62%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (62%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (62%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (51%); PHARMACEUTICALS & BIOTECHNOLOGY (93%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); ***vaccineS*** (90%); PHARMACEUTICALS PRODUCT DEVELOPMENT (89%); BIOLOGICS MFG (77%); BIOTECHNOLOGY INDUSTRY (77%); EXPERIMENTAL DRUGS (77%); MEDICINALS & BOTANICALS MFG (77%); PHARMACEUTICALS & MEDICINES MFG (77%); HEALTH CARE (68%)

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6 What the Next Year (or Two) May Look Like

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Body

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The ***coronavirus*** is spreading from America's biggest cities to its suburbs, and has begun encroaching on the nation's rural regions. The virus is believed to have infected millions of citizens and has killed more than 34,000.

Yet President Trump this week proposed guidelines for reopening the economy and suggested that a swath of the United States would soon resume something resembling normalcy. For weeks now, the administration's view of the crisis and our future has been rosier than that of its own medical advisers, and of scientists generally.

In truth, it is not clear to anyone where this crisis is leading us. More than 20 experts in public health, medicine, epidemiology and history shared their thoughts on the future during in-depth interviews. When can we emerge from our homes? How long, realistically, before we have a treatment or ***vaccine***? How will we keep the virus at bay?

Some felt that American ingenuity, once fully engaged, might well produce advances to ease the burdens. The path forward depends on factors that are certainly difficult but doable, they said: a carefully staggered approach to reopening, widespread testing and surveillance, a treatment that works, adequate resources for health care providers -- and eventually an effective ***vaccine***.

Still, it was impossible to avoid gloomy forecasts for the next year. The scenario that Mr. Trump has been unrolling at his daily press briefings -- that the lockdowns will end soon, that a protective pill is almost at hand, that football stadiums and restaurants will soon be full -- is a fantasy, most experts said.

"We face a doleful future," said Dr. Harvey V. Fineberg, a former president of the National Academy of Medicine.

He and others foresaw an unhappy population trapped indoors for months, with the most vulnerable possibly quarantined for far longer. They worried that a ***vaccine*** would initially elude scientists, that weary citizens would abandon restrictions despite the risks, that the virus would be with us from now on.

"My optimistic side says the virus will ease off in the summer and a ***vaccine*** will arrive like the cavalry," said Dr. William Schaffner, a preventive medicine specialist at Vanderbilt University medical school. "But I'm learning to guard against my essentially optimistic nature."

Most experts believed that once the crisis was over, the nation and its economy would revive quickly. But there would be no escaping a period of intense pain.

Exactly how the pandemic will end depends in part on medical advances still to come. It will also depend on how individual Americans behave in the interim. If we scrupulously protect ourselves and our loved ones, more of us will live. If we underestimate the virus, it will find us.

More Americans may die than the White House admits.

Covid-19, the illness caused by the ***coronavirus***, is arguably the leading cause of death in the United States right now. The virus has killed more than 1,800 Americans almost every day since April 7, and the official toll may be an undercount.

By comparison, heart disease typically kills 1,774 Americans a day, and cancer kills 1,641.

Yes, the ***coronavirus*** curves are plateauing. There are fewer hospital admissions in New York, the center of the epidemic, and fewer ***Covid-19*** patients in I.C.U.s. The daily death toll is still grim, but no longer rising.

An epidemiological model produced by the White House originally predicted 100,000 to 240,000 deaths by midsummer. Another model, by the University of Washington's Institute for Health Metrics and Evaluation, now puts that figure at 60,000.

While this is encouraging news, it masks some significant concerns. The institute's projection runs through Aug. 4, describing only the first wave of this epidemic. Without a ***vaccine***, the virus is expected to circulate for years, and the death tally will rise over time.

The gains to date were achieved only by shutting down the country, a situation that cannot continue indefinitely. The White House's "phased" plan for reopening will surely raise the death toll no matter how carefully it is executed. The best hope is that fatalities can be held to a minimum.

Reputable longer-term projections for how many Americans will die vary, but they are all grim. Various experts consulted by the Centers for Disease Control and Prevention in March predicted that the virus eventually could reach 48 percent to 65 percent of all Americans, with a fatality rate just under 1 percent, and would kill up to 1.7 million of them if nothing were done to stop the spread.

A model by researchers at Imperial College London cited by the president on March 30 predicted 2.2 million deaths in the United States by September under the same circumstances.

By comparison, about 420,000 Americans died in World War II.

The limited data from ***China*** are even more discouraging. Its epidemic has been halted -- for the moment -- and virtually everyone infected in its first wave has died or recovered.

China has officially reported about 83,000 cases and 4,632 deaths, which is a fatality rate of over 5 percent. The Trump administration has questioned the figures but has not produced more accurate ones.

Fatality rates depend heavily on how overwhelmed hospitals get and what percentage of cases are tested. ***China***'s estimated death rate was 17 percent in the first week of January, when Wuhan was in chaos, according to a Center for Evidence-Based Medicine report, but only 0.7 percent by late February.

In this country, hospitals in several cities, including New York, came to the brink of chaos. Officials in both Wuhan and New York had to revise their death counts upward this week when they realized that many people had died at home of ***Covid-19***, strokes, heart attacks or other causes, or because ambulances never came for them.

In fast-moving epidemics, far more victims pour into hospitals or die at home than doctors can test; at the same time, the mildly ill or asymptomatic never get tested. Those two factors distort the true fatality rate in opposite ways. If you don't know how many people are infected, you don't know how deadly a virus is.

Only when tens of thousands of antibody tests are done will we know how many silent carriers there may be in the United States. The C.D.C. has suggested it might be 25 percent of those who test positive. Researchers in Iceland said it might be double that.

China is also revising its own estimates. In February, a major study concluded that only 1 percent of cases in Wuhan were asymptomatic. New research says perhaps 60 percent were. Our knowledge gaps are still wide enough to make epidemiologists weep.

"All models are just models," Dr. Anthony S. Fauci, science adviser to the White House ***coronavirus*** task force, has said. "When you get new data, you change them."

There may be good news buried in this inconsistency: The virus may also be mutating to cause fewer symptoms. In the movies, viruses become more deadly. In reality, they usually become less so, because asymptomatic strains reach more hosts. Even the 1918 Spanish flu virus eventually faded into the seasonal H1N1 flu.

At the moment, however, we do not know exactly how transmissible or lethal the virus is. But refrigerated trucks parked outside hospitals tell us all we need to know: It is far worse than a bad flu season.

The lockdowns will end, but haltingly.

No one knows exactly what percentage of Americans have been infected so far -- estimates have ranged from 3 percent to 10 percent -- but it is likely a safe bet that at least 300 million of us are still vulnerable.

Until a ***vaccine*** or another protective measure emerges, there is no scenario, epidemiologists agreed, in which it is safe for that many people to suddenly come out of hiding. If Americans pour back out in force, all will appear quiet for perhaps three weeks.

Then the emergency rooms will get busy again.

"There's this magical thinking saying, 'We're all going to hunker down for a while and then the ***vaccine*** we need will be available,'" said Dr. Peter J. Hotez, dean of the National School of Tropical Medicine at Baylor College of Medicine.

In his wildly popular March 19 article in Medium, "***Coronavirus***: The Hammer and the Dance," Tomas Pueyo correctly predicted the national lockdown, which he called the hammer, and said it would lead to a new phase, which he called the dance, in which essential parts of the economy could reopen, including some schools and some factories with skeleton crews.

Every epidemiological model envisions something like the dance. Each assumes the virus will blossom every time too many hosts emerge and force another lockdown. Then the cycle repeats. On the models, the curves of rising and falling deaths resemble a row of shark teeth.

Surges are inevitable, the models predict, even when stadiums, churches, theaters, bars and restaurants remain closed, all travelers from abroad are quarantined for 14 days, and domestic travel is tightly restricted to prevent high-intensity areas from reinfecting low-intensity ones.

The tighter the restrictions, experts say, the fewer the deaths and the longer the periods between lockdowns. Most models assume states will eventually do widespread temperature checks, rapid testing and contact tracing, as is routine in Asia.

Even the "Opening Up America Again" guidelines Mr. Trump issued on Thursday have three levels of social distancing, and recommend that vulnerable Americans stay hidden. The plan endorses testing, isolation and contact tracing -- but does not specify how these measures will be paid for, or how long it will take to put them in place.

On Friday, none of that stopped the president from contradicting his own message by sending out tweets encouraging protesters in Michigan, Minnesota and Virginia to fight their states' shutdowns.

China did not allow Wuhan, Nanjing or other cities to reopen until intensive surveillance found zero new cases for 14 straight days, the virus's incubation period. Compared with ***China*** or Italy, the United States is still a playground.

Americans can take domestic flights, drive where they want, and roam streets and parks. Despite restrictions, everyone seems to know someone discreetly arranging play dates for children, holding backyard barbecues or meeting people on dating apps.

Partly as a result, the country has seen up to 30,000 new case infections each day. ''People need to realize that it's not safe to play poker wearing bandannas,'' Dr. Schaffner said.

Even with rigorous measures, Asian countries have had trouble keeping the virus under control.

China, which has reported about 100 new infections per day, recently closed all the country's movie theaters again. Singapore has closed all schools and nonessential workplaces. Japan recently declared a state of emergency. (South Korea has struggled at times, too, but on Sunday reported only eight new cases, the first single-digit increase in two months.)

Resolve to Save Lives, a public health advocacy group run by Dr. Thomas R. Frieden, the former director of the C.D.C., has published detailed and strict criteria for when the economy can reopen and when it must be closed.

Reopening requires declining cases for 14 days, the tracing of 90 percent of contacts, an end to health care worker infections, recuperation places for mild cases and many other hard-to-reach goals.

''We need to reopen the faucet gradually, not allow the floodgates to reopen,'' Dr. Frieden said. ''This is a time to work to make that day come sooner.''

Immunity will become a societal advantage.

Imagine an America divided into two classes: those who have recovered from infection with the ***coronavirus*** and presumably have some immunity to it; and those who are still vulnerable.

''It will be a frightening schism,'' Dr. David Nabarro, a World Health Organization special envoy on ***Covid-19***, predicted. ''Those with antibodies will be able to travel and work, and the rest will be discriminated against.''

Already, people with presumed immunity are very much in demand, asked to donate their blood for antibodies and doing risky medical jobs fearlessly.

Soon the government will have to invent a way to certify who is truly immune. A test for IgG antibodies, which are produced once immunity is established, would make sense, said Dr. Daniel R. Lucey, an expert on pandemics at Georgetown University's law school. Many companies are working on them.

Dr. Fauci has said the White House was discussing certificates like those proposed in Germany. ***China*** uses cellphone QR codes linked to the owner's personal details so others cannot borrow them.

The California adult-film industry pioneered a similar idea a decade ago. Actors use a cellphone app to prove they have tested H.I.V. negative in the last 14 days, and producers can verify the information on a password-protected website.

As Americans stuck in lockdown see their immune neighbors resuming their lives and perhaps even taking the jobs they lost, it is not hard to imagine the enormous temptation to join them through self-infection, experts

predicted. Younger citizens in particular will calculate that risking a serious illness may still be better than impoverishment and isolation.

"My daughter, who is a Harvard economist, keeps telling me her age group needs to have ***Covid-19*** parties to develop immunity and keep the economy going," said Dr. Michele Barry, who directs the Center for Innovation in Global Health at Stanford University.

It has happened before. In the 1980s, Cuba successfully contained its small AIDS epidemic by brutally forcing everyone who tested positive into isolation camps. Inside, however, the residents had their own bungalows, food, medical care, salaries, theater troupes and art classes.

Dozens of Cuba's homeless youths infected themselves through sex or blood injections to get in, said Dr. Jorge Pérez Ávila, an AIDS specialist who is Cuba's version of Dr. Fauci. Many died before antiretroviral therapy was introduced.

It would be a gamble for American youth, too. The obese and immunocompromised are clearly at risk, but even slim, healthy young Americans have died of ***Covid-19***.

The virus can be kept in check, but only with expanded resources.

The next two years will proceed in fits and starts, experts said. As more immune people get back to work, more of the economy will recover.

But if too many people get infected at once, new lockdowns will become inevitable. To avoid that, widespread testing will be imperative.

Dr. Fauci has said "the virus will tell us" when it's safe. He means that once a national baseline of hundreds of thousands of daily tests is established across the nation, any viral spread can be spotted when the percentage of positive results rises.

Detecting rising fevers as they are mapped by Kinsa's smart thermometers may give an earlier signal, Dr. Schaffner said.

But diagnostic testing has been troubled from the beginning. Despite assurances from the White House, doctors and patients continue to complain of delays and shortages.

To keep the virus in check, several experts insisted, the country also must start isolating all the ill -- including mild cases.

In this country, patients who test positive are asked to stay in their homes but keep away from their families.

Television news has been filled with recuperating personalities like CNN's Chris Cuomo, sweating alone in his basement while his wife left food atop the stairs, his children waved and the dogs hung back.

But even Mr. Cuomo ended up illustrating why the W.H.O. strongly opposes home isolation. On Wednesday, he revealed that his wife had the virus.

"If I was forced to select only one intervention, it would be the rapid isolation of all cases," said Dr. Bruce Aylward, who led the W.H.O. observer team to ***China***.

In ***China***, anyone testing positive, no matter how mild their symptoms, was required to immediately enter an infirmary-style hospital -- often set up in a gymnasium or community center outfitted with oxygen tanks and CT scanners.

There, they recuperated under the eyes of nurses. That reduced the risk to families, and being with other victims relieved some patients' fears. Nurses even led dance and exercise classes to raise spirits, and help victims clear their lungs and keep their muscle tone.

Still, experts were divided on the idea of such wards. Dr. Fineberg co-wrote a New York Times Op-Ed article calling for mandatory but "humane quarantine processes."

By contrast, Marc Lipsitch, an epidemiologist at the Harvard T.H. Chan School of Public Health, opposed the idea, saying: "I don't trust our government to remove people from their families by force."

Ultimately, suppressing a virus requires testing all the contacts of every known case. But the United States is far short of that goal.

Someone working in a restaurant or factory may have dozens or even hundreds of contacts. In ***China***'s Sichuan Province, for example, each known case had an average of 45 contacts.

The C.D.C. has about 600 contact tracers and, until recently, state and local health departments employed about 1,600, mostly for tracing syphilis and tuberculosis cases.

China hired and trained 9,000 in Wuhan alone. Dr. Frieden recently estimated that the United States will need at least 300,000.

There will not be a ***vaccine*** soon.

Even though limited human trials of three candidates -- two here and one in ***China*** -- have already begun, Dr. Fauci has repeatedly said that any effort to make a ***vaccine*** will take at least a year to 18 months.

All the experts familiar with ***vaccine*** production agreed that even that timeline was optimistic. Dr. Paul Offit, a vaccinologist at the Children's Hospital of Philadelphia, noted that the record is four years, for the mumps ***vaccine***.

Researchers differed sharply over what should be done to speed the process. Modern biotechnology techniques using RNA or DNA platforms make it possible to develop candidate ***vaccines*** faster than ever before.

But clinical trials take time, in part because there is no way to rush the production of antibodies in the human body.

Also, for unclear reasons, some previous ***vaccine*** candidates against coronaviruses like SARS have triggered "antibody-dependent enhancement," which makes recipients more susceptible to infection, rather than less. In the past, ***vaccines*** against H.I.V. and dengue have unexpectedly done the same.

A new ***vaccine*** is usually first tested in fewer than 100 young, healthy volunteers. If it appears safe and produces antibodies, thousands more volunteers -- in this case, probably front-line workers at the highest risk -- will get either it or a placebo in what is called a Phase 3 trial.

It is possible to speed up that process with "challenge trials." Scientists vaccinate small numbers of volunteers, wait until they develop antibodies, and then "challenge" them with a deliberate infection to see if the ***vaccine*** protects them.

Challenge trials are used only when a disease is completely curable, such as malaria or typhoid fever. Normally, it is ethically unthinkable to challenge subjects with a disease with no cure, such as ***Covid-19***.

But in these abnormal times, several experts argued that putting a few Americans at high risk for fast results could be more ethical than leaving millions at risk for years.

"Fewer get harmed if you do a challenge trial in a few people than if you do a Phase 3 trial in thousands," said Dr. Lipsitch, who recently published a paper advocating challenge trials in the Journal of Infectious Diseases. Almost immediately, he said, he heard from volunteers.

Others were deeply uncomfortable with that idea. "I think it's very unethical -- but I can see how we might do it," said Dr. Lucey.

The hidden danger of challenge trials, vaccinologists explained, is that they recruit too few volunteers to show whether a ***vaccine*** creates enhancement, since it may be a rare but dangerous problem.

"Challenge trials won't give you an answer on safety," said Michael T. Osterholm, director of the University of Minnesota's Center for Infectious Disease Research and Policy. "It may be a big problem."

Dr. W. Ian Lipkin, a virologist at Columbia University's Mailman School of Public Health, suggested an alternative strategy. Pick at least two ***vaccine*** candidates, briefly test them in humans and do challenge trials in monkeys. Start making the winner immediately, even while widening the human testing to look for hidden problems.

As arduous as testing a ***vaccine*** is, producing hundreds of millions of doses is even tougher, experts said.

Most American ***vaccine*** plants produce only about 5 million to 10 million doses a year, needed largely by the 4 million babies born and 4 million people who reach age 65 annually, said Dr. R. Gordon Douglas Jr., a former president of Merck's ***vaccine*** division.

But if a ***vaccine*** is invented, the United States could need 300 million doses -- or 600 million if two shots are required. And just as many syringes.

"People have to start thinking big," Dr. Douglas said. "With that volume, you've got to start cranking it out pretty soon."

Flu ***vaccine*** plants are large, but those that grow the ***vaccine*s** in chicken eggs are not suitable for modern ***vaccine*s**, which grow in cell broths, he said.

European countries have plants but will need them for their own citizens. ***China*** has a large ***vaccine*** industry, and may be able to expand it over the coming months. It might be able to make ***vaccine*s** for the United States, experts said. But captive customers must pay whatever price the seller asks, and the safety and efficacy standards of some Chinese companies are imperfect.

India and Brazil also have large ***vaccine*** industries. If the virus moves rapidly through their crowded populations, they may lose millions of citizens but achieve widespread herd immunity well before the United States does. In that case, they might have spare ***vaccine*** plant capacity.

Alternatively, suggested Arthur M. Silverstein, a retired medical historian at the Johns Hopkins School of Medicine, the government might take over and sterilize existing liquor or beer plants, which have large fermentation vats.

"Any distillery could be converted," he said.

Treatments are likely to arrive first.

In the short term, experts were more optimistic about treatments than ***vaccine*s**. Several felt that so-called convalescent serum could work.

The basic technique has been used for over a century: Blood is drawn from people who have recovered from a disease, then filtered to remove everything but the antibodies. The antibody-rich immunoglobulin is injected into patients.

The obstacle is that there are now relatively few survivors to harvest blood from.

In the pre-***vaccine*** era, antibodies were "farmed" in horses and sheep. But that process was hard to keep sterile, and animal proteins sometimes triggered allergic reactions.

The modern alternative is monoclonal antibodies. These treatment regimens, which recently came very close to conquering the Ebola epidemic in eastern Congo, are the most likely short-term game changer, experts said.

The most effective antibodies are chosen, and the genes that produce them are spliced into a benign virus that will grow in a cellular broth.

But, as with ***vaccines***, growing and purifying monoclonal antibodies takes time. In theory, with enough production, they could be used not just to save lives but to protect front-line workers.

Antibodies can last for weeks before breaking down -- how long depends on many factors, Dr. Silverstein noted -- and they cannot kill virus that is already hidden inside cells.

Having a daily preventive pill would be an even better solution, because pills can be synthesized in factories far faster than ***vaccines*** or antibodies can be grown and purified.

But even if one were invented, production would have to ramp up until it was as ubiquitous as aspirin, so 300 million Americans could take it daily.

Mr. Trump has mentioned hydroxychloroquine and azithromycin so often that his news conferences sound like infomercials. But all the experts agreed with Dr. Fauci that no decision should be made until clinical trials are completed.

Some recalled that in the 1950s inadequate testing of thalidomide caused thousands of children to be born with malformed limbs. More than one hydroxychloroquine study has been halted after patients who got high doses developed abnormal heart rhythms.

"I doubt anyone will tolerate high doses, and there are vision issues if it accumulates," Dr. Barry said. "But it would be interesting to see if it could work as a PrEP-like drug," she added, referring to pills used to prevent H.I.V.

Others were harsher, especially about Mr. Trump's idea of combining a chloroquine with azithromycin.

"It's total nonsense," said Dr. Luciana Borio, a former director of medical and biodefense preparedness at the National Security Council. "I told my family, if I get Covid, do not give me this combo."

Chloroquine might protect patients hospitalized with pneumonia against lethal cytokine storms because it damps down immune reactions, several doctors said.

That does not, however, make it useful for preventing infections, as Mr. Trump has implied it would be, because it has no known antiviral properties.

Several antivirals, including remdesivir, favipiravir and baloxavir, are being tested against the ***coronavirus***; the latter two are flu drugs.

Trials of various combinations in ***China*** are set to issue results by next month, but they will be small and possibly inconclusive because doctors there ran out of patients to test. End dates for most trials in the United States are not yet set.

Goodbye, 'America First.'

Previously unthinkable societal changes have taken place already. Schools and business have closed in every state, and tens of millions have applied for unemployment. Taxes and mortgage payments are delayed, and foreclosures forbidden.

Stimulus checks, intended to offset the crisis, began landing in checking accounts this week, making much of America, temporarily, a welfare state. Food banks are opening across the country, and huge lines have formed.

A public health crisis of this magnitude requires international cooperation on a scale not seen in decades. Yet Mr. Trump is moving to defund the W.H.O., the only organization capable of coordinating such a response.

And he spent most of this year antagonizing ***China***, which now has the world's most powerful functioning economy and may become the dominant supplier of drugs and ***vaccines***. ***China*** has used the pandemic to extend its global influence, and says it has sent medical gear and equipment to nearly 120 countries.

A major recipient is the United States, through Project Airbridge, an air-cargo operation overseen by Mr. Trump's son-in-law, Jared Kushner.

This is not a world in which "America First" is a viable strategy, several experts noted.

"If President Trump cares about stepping up the public health efforts here, he should look for avenues to collaborate with ***China*** and stop the insults," said Nicholas Mulder, an economic historian at Cornell University. He has called Mr. Kushner's project "Lend-Lease in reverse," a reference to American military aid to other countries during World War II.

Dr. Osterholm was even blunter. "If we alienate the Chinese with our rhetoric, I think it will come back to bite us," he said.

"What if they come up with the first ***vaccine***? They have a choice about who they sell it to. Are we top of the list? Why would we be?"

Once the pandemic has passed, the national recovery may be swift. The economy rebounded after both world wars, Dr. Mulder noted.

The psychological fallout will be harder to gauge. The isolation and poverty caused by a long shutdown may drive up rates of domestic abuse, depression and suicide.

Even political perspectives may shift. Initially, the virus heavily hit Democratic cities like Seattle, New York and Detroit. But as it spreads through the country, it will spare no one.

Even voters in Republican-leaning states who do not blame Mr. Trump for America's lack of preparedness or for limiting access to health insurance may change their minds if they see friends and relatives die.

In one of the most provocative analyses in his follow-up article, "***Coronavirus***: Out of Many, One," Mr. Pueyo analyzed Medicare and census data on age and obesity in states that recently resisted shutdowns and counties that voted Republican in 2016.

He calculated that those voters could be 30 percent more likely to die of the virus.

In the periods after both wars, Dr. Mulder noted, society and incomes became more equal. Funds created for veterans' and widows' pensions led to social safety nets, measures like the G.I. Bill and V.A. home loans were adopted, unions grew stronger, and tax benefits for the wealthy withered.

If a ***vaccine*** saves lives, many Americans may become less suspicious of conventional medicine and more accepting of science in general -- including climate change, experts said.

The blue skies that have shone above American cities during this lockdown era could even become permanent.

Graphic

PHOTOS: From top: Picking up food at a nonprofit in Manhattan's Washington Heights neighborhood

testing samples in Brooklyn

few commuters on the Staten Island Ferry. President Trump's rosy outlook for reopening is not shared by experts. (PHOTOGRAPHS BY MISHA FRIEDMAN FOR THE NEW YORK TIMES) (A1)

Checking temperatures at Manhattan's Bellevue Hospital. Testing has been troubled from the beginning

despite White House assurances, doctors and patients continue to complain of shortages.

America may soon be divided into two distinct classes: those who have some immunity to the ***coronavirus*** and can return to work and school and church

and those who are still vulnerable. (A14)

A tent in an outdoor I.C.U. hospital in Central Park. The ***coronavirus*** is spreading from America's cities to its suburbs and rural regions. (A14-A15)

A patient arrived at NewYork-Presbyterian Hospital in Manhattan. Most experts believe that once the crisis is over the nation and economy will revive quickly, but not before a period of intense pain.

The view from Weehawken, N.J. The virus has killed more than 1,800 Americans almost every day since April 7, more than heart disease or cancer, and the official toll may be an undercount. (A15)

Below, refrigerated trucks were used as mobile morgues on Randall's Island in New York

above, a health worker checked her P.P.E. in a mirror in Central Park. (PHOTOGRAPHS BY MISHA FRIEDMAN FOR THE NEW YORK TIMES) (A16)

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7 Oxford Group's Earlier Work Provides Edge in vaccine Race

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Body

As scientists at the Jenner Institute prepare for mass clinical trials, new tests show their ***vaccine*** to be effective in monkeys.

In the worldwide race for a ***vaccine*** to stop the ***coronavirus***, the laboratory sprinting fastest is at Oxford University.

Most other teams have had to start with small clinical trials of a few hundred participants to demonstrate safety. But scientists at the university's Jenner Institute had a head start on a ***vaccine***, having proved in previous trials that similar inoculations -- including one last year against an earlier ***coronavirus*** -- were harmless to humans.

That has enabled them to leap ahead and schedule tests of their new ***coronavirus*** ***vaccine*** involving more than 6,000 people by the end of next month, hoping to show not only that it is safe, but also that it works.

The Oxford scientists now say that with an emergency approval from regulators, the first few million doses of their ***vaccine*** could be available by September -- at least several months ahead of any of the other announced efforts -- if it proves to be effective.

Now, they have received promising news suggesting that it might.

Scientists at the National Institutes of Health's Rocky Mountain Laboratory in Montana last month inoculated six rhesus macaque monkeys with single doses of the Oxford ***vaccine***. The animals were then exposed to heavy quantities of the virus that is causing the pandemic -- exposure that had consistently sickened other monkeys in the lab. But more than 28 days later all six were healthy, said Vincent Munster, the researcher who conducted the test.

"The rhesus macaque is pretty much the closest thing we have to humans," Dr. Munster said, noting that scientists were still analyzing the result. He said he expected to share it with other scientists next week and then submit it to a peer-reviewed journal.

Immunity in monkeys is no guarantee that a ***vaccine*** will provide the same degree of protection for humans. A Chinese company that recently started a clinical trial with 144 participants, SinoVac, has also said that its ***vaccine*** was effective in rhesus macaques. But with dozens of efforts now underway to find a ***vaccine***, the monkey results are the latest indication that Oxford's accelerated venture is emerging as a bellwether.

"It is a very, very fast clinical program," said Emilio Emini, a director of the ***vaccine*** program at the Bill and Melinda Gates Foundation, which is providing financial support to many competing efforts.

Which potential ***vaccine*** will emerge from the scramble as the most successful is impossible to know until clinical trial data becomes available.

More than one ***vaccine*** would be needed in any case, Dr. Emini argued. Some may work more effectively than others in groups like children or older people, or at different costs and dosages. Having more than one variety of ***vaccine*** in production will also help avoid bottlenecks in manufacturing, he said.

But as the first to reach such a relatively large scale, the Oxford trial, even if it fails, will provide lessons about the nature of the ***coronavirus*** and about the immune system's responses that can inform governments, donors, drug companies and other scientists hunting for a ***vaccine***.

"This big U.K. study," Dr. Emini said, "is actually going to translate to learning a lot about some of the others as well."

All of the others will face the same challenges, including obtaining millions of dollars in funding, persuading regulators to approve human tests, demonstrating a ***vaccine***'s safety and -- after all of that -- proving its effectiveness in protecting people from the ***coronavirus***.

Paradoxically, the growing success of efforts to contain the spread of ***Covid-19***, the disease caused by the virus, may present yet another hurdle.

"We're the only people in the country who want the number of new infections to stay up for another few weeks, so we can test our ***vaccine***," Prof. Adrian Hill, the Jenner Institute's director and one of five researchers involved in the effort, said in an interview in a laboratory building emptied by Britain's monthlong lockdown.

Ethics rules, as a general principle, forbid seeking to infect human test participants with a serious disease. That means the only way to prove that a ***vaccine*** works is to inoculate people in a place where the virus is spreading naturally around them.

If social distancing measures or other factors continue to slow the rate of new infections in Britain, he said, the trial might not be able to show that the ***vaccine*** makes a difference: Participants who received a placebo might not be infected any more frequently than those who have been given the ***vaccine***. The scientists would have to try again elsewhere, a dilemma that every other ***vaccine*** effort will face as well.

The Jenner Institute's ***coronavirus*** efforts grew out of Professor Hill's so-far unsuccessful pursuit of a ***vaccine*** against a different scourge, malaria.

He developed a fascination with malaria and other tropical diseases as a medical student in Dublin in the early 1980s, when he visited an uncle who was a priest working in a hospital during the civil war in what is now Zimbabwe.

"I came back wondering, 'What do you see in these hospitals in England and Ireland?'" Professor Hill said. "They don't have any of these diseases."

The major drug companies typically see little profit in epidemics that afflict mainly developing countries or run their course before a ***vaccine*** can hit the market. So after training in tropical medicine and a doctorate in molecular genetics, Professor Hill, 61, helped build Oxford's institute into one of the largest academic centers dedicated to nonprofit ***vaccine*** research, with its own pilot manufacturing facility capable of producing a batch of up to 1,000 doses.

The institute's effort against the ***coronavirus*** uses a technology that centers on altering the genetic code of a familiar virus. A classic ***vaccine*** uses a weakened version of a virus to trigger an immune response. But in the technology that the institute is using, a different virus is modified first to neutralize its effects and then to make it

mimic the one scientists seek to stop -- in this case, the virus that causes ***Covid-19***. Injected into the body, the harmless impostor can induce the immune system to fight and kill the targeted virus, providing protection.

Professor Hill has worked with that technology for decades to try to tweak a respiratory virus found in chimpanzees in order to elicit a human immune response against malaria and other diseases. Over the last 20 years, the institute has conducted more than 70 clinical trials of potential ***vaccines*** against the parasite that causes malaria. None have yet yielded a successful inoculation.

In 2014, however, a ***vaccine*** based on the chimp virus that Professor Hill had tested was manufactured in a large enough scale to provide a million doses. That created a template for mass production of the ***coronavirus*** ***vaccine***, should it prove effective.

A longtime colleague, Prof. Sarah Gilbert, 58, modified the same chimpanzee virus to make a ***vaccine*** against an earlier ***coronavirus***, MERS. After a clinical trial in Britain demonstrated its safety, another test began in December in Saudi Arabia, where outbreaks of the deadly disease are still common.

When she heard in January that Chinese scientists had identified the genetic code of a mysterious virus in Wuhan, she thought she might have a chance to prove the speed and versatility of their approach.

"We thought, 'Well, should we have a go?'" she recalled. "'It'll be a little lab project and we'll publish a paper.'"

It did not stay a "little lab project" for long.

As the pandemic exploded, grant money poured in. All other ***vaccines*** were soon put into the freezer so that the institute's laboratory could focus full-time on ***Covid-19***. Then the lockdown forced everyone not working on ***Covid-19*** to stay home altogether.

"The whole world doesn't usually stand up and say, 'How can we help? Do you want some money?'" Professor Hill said.

"***vaccines*** are good for pandemics," he added, "and pandemics are good for ***vaccines***."

Other scientists involved in the project are working with a half dozen drug manufacturing companies across Europe and Asia to prepare to churn out billions of doses as quickly as possible if the ***vaccine*** is approved. None have been granted exclusive marketing rights, and one is the giant Serum Institute of India, the world's largest supplier of ***vaccines***.

Donors are currently spending tens of millions of dollars to start the manufacturing process at facilities in Britain and the Netherlands even before the ***vaccine*** is proven to work, said Sandy Douglas, 37, a doctor at Oxford overseeing ***vaccine*** production.

"There is no alternative," he said.

But the team has not yet reached an agreement with a North American manufacturer, in part because the major pharmaceutical companies there typically demand exclusive worldwide rights before investing in a potential medicine.

"I personally don't believe that in a time of pandemic there should be exclusive licenses," Professor Hill said. "So we are asking a lot of them. Nobody is going to make a lot of money off this."

The Jenner Institute's ***vaccine*** effort is not the only one showing promise. Two American companies, Moderna and Inovio, have started small clinical trials with technologies involving modified or otherwise manipulated genetic material. They are seeking both to demonstrate their safety and to learn more about dosing and other variables. Neither technology has ever produced a licensed drug or been manufactured at scale.

A Chinese company, CanSino, has also started clinical trials in ***China*** using a technology similar to the Oxford institute's, using a strain of the same respiratory virus that is found in humans, not chimps. But demonstrating the effectiveness of a ***vaccine*** in ***China*** may be difficult because ***Covid-19*** infections there have plummeted.

Armed with safety data from their human trials of similar ***vaccines*** for Ebola, MERS and malaria, though, the scientists at Oxford's institute persuaded British regulators to allow unusually accelerated trials while the epidemic is still hot around them.

The institute last week began a Phase I clinical trial involving 1,100 people. Crucially, next month it will begin a combined Phase II and Phase III trial involving another 5,000. Unlike any other ***vaccine*** project now underway, that trial is designed to prove effectiveness as well as safety.

The scientists would declare victory if as many as a dozen participants who are given a placebo become sick with ***Covid-19*** compared with only one or two who receive the inoculation. "Then we have a party and tell the world," Professor Hill said. Everyone who had received only the placebo would also be vaccinated immediately.

If too few participants are infected in Britain, the institute is planning other trials where the ***coronavirus*** may still be spreading, possibly in Africa or India.

"We'll have to chase the epidemic," Professor Hill said. "If it is still raging in certain states, it is not inconceivable we end up testing in the United States in November."

Carl Zimmer contributed reporting.

*https://www.nytimes.com/2020/04/27/world/europe/**coronavirus**-**vaccine**-update-oxford.html*

Graphic

PHOTO: Prof. Adrian Hill, director of the Jenner Institute at Oxford. His team has created a ***vaccine*** that has been successful in monkeys. (PHOTOGRAPH BY MARY TURNER FOR THE NEW YORK TIMES) (A5)

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8 ***Get Ready for the Global Fight Over vaccines***

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Body

This isn't just about saving lives. It's also about power, profit and national prestige.

All the world agrees: We need a ***vaccine*** *for the* ***coronavirus***. But as soon as we get one, it's going to open up a geopolitical can of worms.

Despite the *commitment of the Bill & Melinda Gates Foundation*, international demand will outstrip initial supply. What then? How to avoid a repeat of the pushing and shoving that have characterized the global scramble for personal protective equipment and diagnostic tests?

Rich countries will compete for priority access to whichever ***vaccine*** first makes its way to market. Poor countries, at the back of the queue, will have to wait until the ***vaccine*** receives "*prequalification*" from the World Health Organization and is then distributed by aid organizations. There are *more than 25 million refugees* in the world, 80 percent of them hosted by developing countries. They are least likely to be factored into any government's ***vaccine*** order and the least likely to be vaccinated. In turn, their populations could become hotbeds of epidemic resurgence, which would not only keep the disease in circulation but would also most likely stigmatize them further.

This is not the preface to an anti-***vaccination*** tirade. ***vaccines*** have saved millions of lives. They are an essential tool of public health. But have we been led to expect too much of them? Have we invested too much of our hopes — and our resources — in them at the expense of other public health measures?

Our modern faith in the power of ***vaccines*** was cemented in the 1970s. At the time, global public health officials wanted to strengthen international commitment to fighting disease and improving health around the world. At an ambitious and influential conference in Almaty, Kazakhstan, in 1978, health leaders from around the world *issued a declaration stating* that socio-economic development was vital for health and that health care had to be integrated with goals like clean drinking water and safe working conditions.

The Almaty conference had been planned to tread cautiously amid Cold War rivalries, but power politics ended up deciding the trajectory of what followed. Critics of the declaration — many of them from the United States — argued that its goals were unrealistic and unaffordable. Instead, they said, the emphasis should be on tackling specific diseases for which effective technologies of prevention or control existed — like ***vaccines***. The critics prevailed.

Without doubt, a safe and effective ***vaccine*** has a vital role to play in preventing or controlling a resurgence of the ***coronavirus*** epidemic. But as the Alma Ata Declaration shows, ***vaccines*** and international politics have always been tied together. And this time will be no different. In fact, in the face of a pandemic that has decimated economies, disrupted lives and shaken politics, the political battle will probably be fiercer than ever.

Some of the more than 100 candidate ***vaccines*** are already entering human trials. They are being developed by Chinese companies such as CanSino Bio and by American companies such as Moderna and Inovio. Each has financial support from its national government. Pfizer is collaborating with a German biotech company, BioNTech. The American government is also supporting a collaboration between GSK and Sanofi, two of the world's largest pharmaceutical companies, while researchers at Oxford University are collaborating with the Serum Institute of India, a private company. Many of these investigations are supported by the Oslo-based Coalition for Epidemic Preparedness Innovations, itself funded by a number of governmental and nongovernmental donors.

It is impossible to know who will win this race. A great deal is at stake. In addition to saving lives, this is also about power, profit and national prestige.

Developing a new ***vaccine*** costs hundreds of millions of dollars. Pharmaceutical companies are tight-lipped when it comes to disclosing profits, though according to one estimate, production of HPV ***vaccines*** quickly yielded a return of more than five times investment. More certain is that the rapidly growing ***vaccine*** market has become the pharmaceutical industry's major source of growth.

Since many candidate ***vaccines*** are being developed by transnational collaborations, it is hard to know whether any country will be able to employ a ***vaccine*** to political ends as ***China*** has done with ventilator production. But the case of polio ***vaccination*** during the Cold War is instructive: Communists trumpeted their relative success rolling out the ***vaccine*** in their half of a divided Germany as proof of the superiority of the socialist system. Scott Gottlieb, a former commissioner of the Food and Drug Administration under President Trump, *published an article* in The Wall Street Journal recently arguing that the United States needs to "win the race to a ***vaccine***" to beat ***China*** and secure supplies.

Whichever ***vaccine*** reaches the market first, supply will lag behind global demand for many months. The fight over personal protective equipment and diagnostic tests in recent weeks has been unedifying: The United States has been *accused of "modern piracy"* after reports that it essentially hijacked shipments of masks bound for Europe; ***China*** has used the distribution of protective equipment and test kits to advance political aims *in Latin America* and elsewhere. Imagine what happens with a ***vaccine***.

Recent history offers insights, though little reassurance. In 2009, H1N1 influenza was declared a pandemic. The declaration automatically activated the *advance purchase agreements* that the governments of many wealthy countries had signed with ***vaccine*** manufacturers — in some cases, with two or more manufacturers. These countries (including the United States and many European Union members) then had a prior claim on a limited ***vaccine*** supply. Poor countries, unable to pay the annual costs of such agreements, had to wait months. It's not public knowledge whether such contracts have been signed for a ***coronavirus*** ***vaccine*** — but it is likely.

Public health has always been political, but the politics have changed. In the 1970s, the W.H.O. and the annual meetings of its World Health Assembly provided a forum in which all countries had an equal voice. The W.H.O.'s charter, and its representative character, gave it moral authority. Today, multiple international organizations interact in global health governance. In many, a country's influence depends on its financial contribution, and industrial interests are well represented, too. The authority once vested in the W.H.O. has become fragmented.

On April 24, world leaders convening by video under W.H.O. auspices *committed to* ensuring that ***vaccine*** supplies would be distributed equitably. But the leaders of ***China***, India, Russia and the United States did not take part in that meeting. There is now no forum to ensure — or even advise — global cooperation when it comes to a ***coronavirus*** ***vaccine***.

But containing the ***coronavirus*** and preventing further suffering will require more than a ***vaccine***. Global cooperation will have to extend beyond ***vaccine*** development, and even beyond distribution. Public health leaders should look back to the Alma Ata Declaration and remember that fighting disease — including this one — requires more than just a single technology.

Stuart Blume, an emeritus professor of science and technology studies at the University of Amsterdam, has advised governments and international organizations on research policy. He is the author, most recently, of “Immunization: How ***vaccines*** Became Controversial.”

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PHOTO: (PHOTOGRAPH BY Maxwell Holyoke-Hirsch FOR THE NEW YORK TIMES)

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9 *Profits and Pride at Stake, Race to vaccine Intensifies*

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Body

Governments, companies and academic labs are accelerating their efforts amid geopolitical crosscurrents, questions about safety and the challenges of producing enough doses for billions of people.

WASHINGTON -- Four months after a mysterious new virus began its deadly march around the globe, the search for a ***vaccine*** has taken on an intensity never before seen in medical research, with huge implications for public health, the world economy and politics.

Seven of the roughly 90 projects being pursued by governments, pharmaceutical makers, biotech innovators and academic laboratories have reached the stage of clinical trials. With political leaders -- not least President Trump -- increasingly pressing for progress, and with big potential profits at stake for the industry, drug makers and researchers have signaled that they are moving ahead at unheard-of speeds.

But the whole enterprise remains dogged by uncertainty about whether any ***coronavirus*** ***vaccine*** will prove effective, how fast it could be made available to millions or billions of people and whether the rush -- compressing a process that can take 10 years into 10 months -- will sacrifice safety.

Some experts say the more immediately promising field might be the development of treatments to speed recovery from ***Covid-19***, an approach that has generated some optimism in the last week through initially encouraging research results on remdesivir, an antiviral drug previously tried in fighting Ebola.

In an era of intense nationalism, the geopolitics of the ***vaccine*** race are growing as complex as the medicine. The months of mutual vilification between the United States and ***China*** over the origins of the virus have poisoned most efforts at cooperation between them. The U.S. government is already warning that American innovations must be protected from theft -- chiefly from Beijing.

"Biomedical research has long been a focus of theft, especially by the Chinese government, and ***vaccines*** and treatments for the ***coronavirus*** are today's holy grail," John C. Demers, the assistant attorney general for national security, said on Friday. "Putting aside the commercial value, there would be great geopolitical significance to being the first to develop a treatment or ***vaccine***. We will use all the tools we have to safeguard American research."

The intensity of the global research effort is such that governments and companies are building production lines before they have anything to produce.

"We are going to start ramping up production with the companies involved," Dr. Anthony S. Fauci, the director of the National Institute of Allergy and Infectious Diseases and the federal government's top expert on infectious diseases, said on NBC this week. "You don't wait until you get an answer before you start manufacturing."

Two of the leading entrants in the United States, Johnson & Johnson and Moderna, have announced partnerships with manufacturing firms, with Johnson & Johnson promising a billion doses of an as-yet-undeveloped ***vaccine*** by the end of next year.

Not to be left behind, the Britain-based pharmaceutical giant AstraZeneca said this week that it was working with a ***vaccine*** development project at the University of Oxford to manufacture tens of millions of doses by the end of this year.

With the demand for a ***vaccine*** so intense, there are escalating calls for "human-challenge trials" to speed the process: tests in which volunteers are injected with a potential ***vaccine*** and then deliberately exposed to the ***coronavirus***.

Because the approach involves exposing participants to a potentially deadly disease, challenge trials are ethically fraught. But they could be faster than simply inoculating human subjects and waiting for them to be exposed along with everyone else, especially as the pandemic is brought under control in big countries.

Even when promising solutions are found, there are big challenges to scaling up production and distribution. Bill Gates, the Microsoft founder, whose foundation is spending $250 million to help spur ***vaccine*** development, has warned about a critical shortage of a mundane but vital component: medical glass.

Without sufficient supplies of the glass, there will be too few vials to transport the billions of doses that will ultimately be needed.

The scale of the problem and the demand for a quick solution are bound to create tensions between the profit motives of the pharmaceutical industry, which typically fights hard to wring the most out of their investments in new drugs, and the public's need for quick action to get any effective ***vaccines*** to as many people as possible.

So far, much of the research and development has been supported by governments and foundations. And much remains to be worked out when it comes to patents and what national governments will claim in return for their support and pledges of quick regulatory approval.

Given the stakes, it is no surprise that while scientists and doctors talk about finding a "global ***vaccine***," national leaders emphasize immunizing their own populations first. Mr. Trump said he was personally in charge of "Operation Warp Speed" to get 300 million doses into American arms by January.

Already, the administration has identified 14 ***vaccine*** projects it intends to focus on, a senior administration official said, with the idea of further narrowing the group to a handful that could go on, with government financial help and accelerated regulatory review, to meet Mr. Trump's goal. The winnowing of the projects to 14 was reported Friday by NBC News.

But other countries are also signaling their intention to nationalize their approaches. The most promising clinical trial in ***China*** is financed by the government. And in India, the chief executive of the Serum Institute of India -- the world's largest producer of ***vaccine*** doses -- said that most of its ***vaccine*** "would have to go to our countrymen before it goes abroad."

George Q. Daley, the dean of Harvard Medical School, said thinking in country-by-country rather than global terms would be foolhardy since it "would involve squandering the early doses of ***vaccine*** on a large number of individuals at low risk, rather than covering as many high-risk individuals globally" -- health care workers and older adults -- "to stop the spread" around the world.

Given the proliferation of vaccine projects, the best outcome may be none of them emerging as a clear winner.

"Let's say we get one vaccine quickly but we can only get two million doses of it at the end of next year," said Anita Zaidi, who directs the Bill and Melinda Gates Foundation's vaccine development program. "And another vaccine, just as effective, comes three months later but we can make a billion doses. Who won that race?"

The answer, she said, "is we will need many different vaccines to cross the finish line."

Speed Versus Safety

At 1 a.m. on March 21, 1963, a 5-year-old girl named Jeryl Lynn Hilleman woke up her father. She had come down with the mumps, which had made her miserable with a swollen jaw.

It just so happened that her father, Maurice, was a vaccine designer. So he told Jeryl Lynn to go back to bed, drove to his lab at Merck to pick up some equipment, and returned to swab her throat. Dr. Hilleman refrigerated her sample back at his lab and soon got to work weakening her viruses until they could serve as a mumps vaccine. In 1967, it was approved by the F.D.A.

To vaccine makers, this story is the stuff of legend. Dr. Hilleman still holds the record for the quickest delivery of a vaccine from the lab to the clinic. vaccines typically take ten to fifteen years of research and testing. And only six percent of the projects that scientists launch reach the finish line.

For a world in the grips of Covid-19, on the other hand, this story is the stuff of nightmares. No one wants to wait four years for a vaccine, while millions die and economies remain paralyzed.

Some of the leading contenders for a coronavirus vaccine are now promising to have the first batches ready in record time, by the start of next year. They have accelerated their schedules by collapsing the standard vaccine timeline.

They are combining trials that used to be carried out one after the other. They are pushing their formulations into production, despite the risk that the trials will fail, leaving them with millions of useless doses.

But some experts want to do even more to speed up the conveyor belt. Writing last month in the journal vaccines, the vaccine developer Dr. Stanley A. Plotkin and Dr. Arthur L. Caplan, a bioethicist at NYU Langone Medical Center, proposed infecting vaccinated volunteers with the coronavirus -- the method known as challenge trials. The procedure might cut months or years off the development but would put test subjects at risk.

Challenge trials were used in the early days of vaccine research but now are carried out under strict conditions and only for illnesses, like flu and malaria, that have established treatments.

In an article in March in The Journal of Infectious Diseases, a team of researchers wrote, "Such an approach is not without risks, but every week that vaccine rollout is delayed will be accompanied by many thousands of deaths globally."

Dr. Caplan said that limiting the trials to healthy young adults could reduce the risk, since they were less likely to suffer serious complications from Covid-19. "I think we can let people make the choice and I have no doubt many would," he said.

In Congress, Representative Bill Foster, Democrat of Illinois and a physicist, and Representative Donna E. Shalala, Democrat of Florida and the former secretary of the Department of Health and Human Services, organized a bipartisan group of 35 lawmakers to sign a letter asking regulators to approve such trials.

The organizers of a website set up to promote the idea, 1daysooner.org, say they have signed up more than 9,100 potential volunteers from 52 countries.

Some scientists caution that truly informed consent, even by willing volunteers, may not be possible. Even medical experts do not yet know all the effects of the virus. Those who have appeared to recover might still face future problems.

Even without challenge trials, accelerated testing may run the risk of missing potential side effects. A vaccine for dengue fever, and one for SARS that never reached the market, were abandoned after making some people more susceptible to severe forms of the diseases, not less.

"It will be extremely important to determine that does not happen," said Michel De Wilde, a former senior vice president of research and development at Sanofi Pasteur, a vaccine maker in France.

When it comes to the risks from flawed vaccines, China's history is instructive.

The Wuhan Institute of Biological Products was involved in a 2018 scandal in which ineffective vaccines for diphtheria, tetanus, whooping cough and other conditions were injected into hundreds of thousands of babies.

The government confiscated the Wuhan institute's "illegal income," fined the company, and punished nine executives. But the company was allowed to continue to operate. It is now running a coronavirus vaccine project, and along with two other Chinese groups has been allowed to combine its safety and efficacy trials.

Several Chinese scientists questioned the decision, arguing that the vaccine should be shown to be safe before testing how well it works.

Nationalism Versus Globalism

In the early days of the crisis, Harvard was approached by the Chinese billionaire Hui Ka Yan. He arranged to give roughly $115 million to be split between Harvard Medical School and its affiliated hospitals and the Guangzhou Institute of Respiratory Diseases for a collaborative effort that would include developing coronavirus vaccines.

"We are not racing against each other, we are racing the virus," said Dr. Dan Barouch, the director of the Center for Virology and vaccine Research at Beth Israel Deaconess Medical Center and a professor at Harvard Medical School who is also working with Johnson & Johnson. "What we need is a global vaccine -- because an outbreak in one part of the world puts the rest of the world at risk."

That all-for-one sentiment has become a mantra among many researchers, but it is hardly universally shared.

In India, the Serum Institute -- the heavyweight champion of vaccine manufacturing, producing 1.5 billion doses a year -- has signed agreements in recent weeks with the developers of four promising potential vaccines. But in an interview with Reuters, Adar Poonawalla, the company's billionaire chief executive, made it clear that "at least initially" any vaccine the company produces would have to go to India's 1.3 billion people.

The tension between those who believe a vaccine should go where it is needed most and those dealing with pressures to supply their own country first is one of the defining features of the global response.

The Trump administration, which in March put out feelers to a German biotech company to acquire its vaccine research or move it to American shores, has awarded grants of nearly half a billion dollars each to two U.S.-based companies, Johnson & Johnson and Moderna.

Johnson & Johnson, though based in New Jersey, conducts its research in the Netherlands.

Paul Stoffels, the company's vice chairman and chief scientific officer, said in an interview that the Department of Health and Human Services understood "we can't pick up our research and move it" to the United States. But it made sure that the company joined a partnership with Emergent BioSolutions -- a Maryland biological production firm -- to produce the first big batches of any approved vaccine for the United States.

"The political reality is that it would be very, very hard for any government to allow a vaccine made in their own country to be exported while there was a major problem at home," said Sandy Douglas, a researcher at the University of Oxford. "The only solution is to make a hell of a lot of vaccine in a lot of different places."

The Oxford vaccine team has already begun scaling up plans for manufacturing by half a dozen companies across the world, including China and India, plus two British manufacturers and the British-based multinational AstraZeneca.

In China, the government's instinct is to showcase the country's growth into a technological power capable of beating the United States. There are nine Chinese Covid-19 vaccines in development, involving 1,000 scientists and the Chinese military.

China's Center for Disease Control and Prevention predicted that one of the vaccines could be in "emergency use" by September, meaning that in the midst of the presidential election in the United States, Mr. Trump might see television footage of Chinese citizens lining up for injections.

"It's a scenario we have thought about," one member of Mr. Trump's coronavirus task force said. "No one wants to be around that day."

Traditional Versus New Methods

The more than 90 different vaccines under development work in radically different ways. Some are based on designs used for generations. Others use genetic-based strategies that are so new they have yet to lead to an approved vaccine.

"I think in this case it's very wise to have different platforms being tried out," Dr. De Wilde said.

The traditional approach is to make vaccines from viruses.

When our bodies encounter a new virus, they start learning how to make effective antibodies against it. But they are in a race against the virus as it multiplies. Sometimes they produce effective antibodies quickly enough to wipe out an infection. But sometimes the virus wins.

vaccines give the immune system a head start. They teach it to make antibodies in advance of an infection.

The first vaccines, against diseases like rabies, were made from viruses. Scientists weakened the viruses so that they could no longer make people sick.

A number of groups are weakening the coronavirus to produce a vaccine against Covid-19. In April, the Chinese company Sinovac announced that their inactivated vaccine protected monkeys.

Another approach is based on the fact that our immune system makes antibodies that lock precisely onto viruses. As scientists came to understand this, it occurred to them that they didn't have to inject a whole virus into someone to trigger immunity. All they needed was to deliver the fragment of a viral protein that was the precise target.

Today these so-called subunit viral vaccines are used against hepatitis B and shingles. Many Covid-19 subunit vaccines are now in testing.

In the 1990s, researchers began working on vaccines that enlisted our own cells to help train the immune system. The foundation of these vaccines is typically a virus called an adenovirus. The adenovirus can infect our cells, but is altered so that it doesn't make us sick.

Scientists can add a gene to the adenovirus from the virus they want to fight, creating what's known as a viral vector. Some viral vectors then invade our cells, stimulating the immune system to make antibodies.

Researchers at the University of Oxford and the Chinese company CanSino Biologics have created a viral vector ***vaccine*** for ***Covid-19***, and they've started safety trials on volunteers. Others including Johnson & Johnson are going to launch trials of their own in the coming months.

Some groups, including the American company Inovio Pharmaceuticals, are taking a totally different approach. Instead of injecting viruses or protein fragments, they're injecting pure DNA, which is read by the cell's machinery, making a copy as an RNA molecule. The RNA is then read by the cell's protein-building factories, making a viral protein. The protein in turn comes out of the cell, where immune cells bump into it and make an antibody to it.

Other teams are creating RNA molecules rather than DNA. Moderna and a group at Imperial College London have launched safety trials for RNA ***vaccines***. While experimental, these genetic ***vaccines*** can be quickly designed and tested.

Designing Versus Manufacturing

It is one thing to design a ***vaccine*** in record time. It is an entirely different challenge to manufacture and distribute one on a scale never before attempted -- billions of doses, specially packaged and transported at below-zero temperatures, to nearly every corner of the world.

"If you want to give a ***vaccine*** to a billion people, it better be very safe and very effective," said Dr. Stoffels of Johnson & Johnson. "But you also need to know how to make it in amounts we've never really seen before."

So the race is on to get ahead of the enormous logistical issues, from basic manufacturing capacity to the shortages of medical glass and stoppers that Mr. Gates and others have warned of.

Researchers at Johnson & Johnson are trying to make a five-dose vial to save precious glass, which might work if a smaller dose is enough for inoculation.

Each potential ***vaccine*** will require its own customized production process in special "clean" facilities for drug making. Building from scratch might cost tens of millions of dollars per plant. Equipping one existing facility could easily cost from $5 million to $20 million. Ordering and installing the necessary equipment can take months.

Governments as well as organizations like the Gates Foundation and the nonprofit Coalition for Epidemic Preparedness Innovations are putting up money for production facilities well before any particular ***vaccine*** is proven effective.

What's more, some ***vaccines*** -- including those being tested by the American companies Moderna and Inovio -- rely on technology that has never before yielded a drug that was licensed for use or mass-produced.

But even traditional processes face challenges.

Because of staff illnesses and social distancing, the pandemic this spring slashed productivity by 20 percent at the MilleporeSigma facility in Danvers, Mass., that supplies many drug makers with the equipment used for brewing ***vaccines***.

Then, about three weeks ago, the first clinical trials for new proposed ***vaccines*** started. Urgent calls poured from customers around the world. Even before the first phase of the first trials, manufacturers were scrambling.

"Demand went through the roof, and everybody wanted it yesterday," said Udit Batra, MilleporeSigma's chief executive, who has expanded production and asked other customers to accept delays to avoid becoming a bottleneck.

Treatments Versus ***vaccines***

Even as the world waits for a ***vaccine***, a potential treatment for ***coronavirus*** is already here -- and more could be on the way.

On Friday, the Food and Drug Administration granted emergency authorization for the use of remdesivir as a treatment of severely ill patients.

Remdesivir showed modest success in a federally funded clinical trial, slowing the progression of the disease, but without significantly reducing fatality rates.

The F.D.A.'s decision to allow its use comes as hundreds of other drugs -- mainly existing medicines that are being used for other conditions -- are being tested around the world to see if they hold promise. The F.D.A. said there are currently 72 therapies in trial.

Studies of drugs tend to move more quickly than ***vaccine*** trials. ***vaccines*** are given to millions of people who are not yet ill, so they must be extremely safe. But in sicker people, that calculus changes, and side effects might be an acceptable risk.

As a result, clinical trials can be conducted with fewer people. And because drugs are tested in people who are already sick, results can be seen more quickly than in ***vaccine*** trials, where researchers must wait to see who gets infected.

Public health experts have cautioned there will likely be no magic pill. Rather, they are hoping for incremental advances that make ***Covid-19*** less deadly.

"Almost nothing is 100 percent, especially when you are dealing with a virus that really creates a lot of havoc in the body," said Dr. Luciana Borio, a former director of medical and biodefense preparedness for the National Security Council under President Trump.

Antiviral drugs like remdesivir battle the virus itself, slowing its replication in the body.

The malaria drug hydroxychloroquine -- which has been enthusiastically promoted by Mr. Trump and also received emergency authorization to be used in ***coronavirus*** patients -- showed early promise in the laboratory. However, small, limited studies in humans have so far been disappointing.

So have some H.I.V. treatments, including a two-drug cocktail sold as Kaletra, which failed in a Chinese trial.

Other researchers have focused on identifying immunosuppressant drugs that address the most severe form of ***Covid-19***, when the body's immune system goes into overdrive, attacking the lungs and other organs.

Many in the medical community are closely watching the development of antibody drugs that could act to neutralize the virus, either once someone is already sick or as a way of blocking the infection in the first place.

Several hospitals are also administering plasma from recovered patients to people who are sick with ***Covid-19***, in the hopes that the antibodies of survivors will give the patients a boost.

Dr. Scott Gottlieb, a former F.D.A. commissioner, and others said that by the fall, the treatment picture for ***Covid-19*** could look more hopeful.

If proven effective in further trials, remdesivir may become more widely used. One or two antibody treatments may also become available, providing limited protection to health care workers.

Even without a ***vaccine***, Dr. Borio said, a handful of early treatments could make a difference. "If you can protect people that are vulnerable and you can treat people that come down with the disease effectively," she said, "then I think it will change the trajectory of this pandemic."

David E. Sanger reported from Washington, David D. Kirkpatrick from London, Carl Zimmer and Katie Thomas from New York and Sui-Lee Wee from Singapore. Denise Grady and Maggie Haberman contributed reporting.David E. Sanger reported from Washington, David D. Kirkpatrick from London, Carl Zimmer and Katie Thomas from New York and Sui-Lee Wee from Singapore. Denise Grady and Maggie Haberman contributed reporting.

*https://www.nytimes.com/2020/05/02/us/politics/**vaccines-coronavirus**-research.html*

Graphic

PHOTOS: Working on a possible ***vaccine*** in Belo Horizonte, Brazil. (PHOTOGRAPH BY DOUGLAS MAGNO/AFP -- GETTY IMAGES) (A1)

A lab technician testing a ***Covid-19*** ***vaccine*** in Belgrade, Serbia. Given the proliferation of ***vaccine*** projects, the best outcome may be multiple viable options. (PHOTOGRAPH BY OLIVER BUNIC/BLOOMBERG NEWS)

Treating a ***Covid-19*** patient at Brooklyn Hospital Center. Some experts think finding treatments for sick patients would be a better pursuit than ***vaccines***. (PHOTOGRAPH BY VICTOR J. BLUE FOR THE NEW YORK TIMES) (A12)

Women waiting for a health checkup in Mumbai, India. A powerful ***vaccine*** manufacturer in the country made it clear that "at least initially" any ***vaccine*** it produces would go to India's 1.3 billion people. (PHOTOGRAPH BY ATUL LOKE FOR THE NEW YORK TIMES)

Daniel O'Day, the chief executive of Gilead, in the Oval Office on Friday. (PHOTOGRAPH BY ERIN SCHAFF/THE NEW YORK TIMES)

A researcher working on a ***vaccine*** in Belo Horizonte, Brazil. (PHOTOGRAPH BY DOUGLAS MAGNO/AGENCE FRANCE-PRESSE -- GETTY IMAGES) (A13)

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10 China Hustles for vaccine, Despite Patchy Reputation

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Body

By some measures, it is winning the race, with four companies already testing their vaccine candidates on humans.

China wants to beat the world in the race to find a coronavirus vaccine -- and, by some measures, it is doing just that.

Desperate to protect its people and to deflect growing international criticism of how it handled the outbreak, it has slashed red tape and offered resources to drug companies. Four Chinese companies have started testing their vaccine candidates on humans, more than the United States and Britain combined.

But China's leaders have empowered a vaccine industry that has long been mired in quality problems and scandals. Just two years ago, Chinese parents erupted in fury after they discovered ineffective vaccines had been given mostly to babies.

Finding a vaccine isn't enough. China's companies must also win over the trust of the public, who might be more inclined to choose a foreign-made vaccine over a Chinese one.

"The Chinese now do not have confidence in the vaccines produced in China," said Ray Yip, the former head of the Gates Foundation in China. "That's probably going to be the biggest headache. If they didn't have all those incidents, people will probably line up by the miles to get it."

The need is urgent. More than 247,000 people have died globally, by official figures as of Monday, and the true count is probably much higher. The coronavirus remains stubbornly difficult to stamp out -- even China, which officially appears to have tamed the spread, has suffered from sporadic outbreaks.

China also wants to deflect accusations that its silencing of early warnings contributed to the global pandemic. Developing a vaccine for the world would, in addition, burnish its standing as a global scientific and medical power.

So China has made its vaccine a national priority, though it hasn't disclosed spending details. One senior official said a vaccine for emergency use could be ready by September. State media has made a celebrity out of Chen Wei, the Chinese military's top virologist, who is leading one of the vaccine efforts. The public is responding.

Huang Shiyue, an 18-year-old first-year medical student in Wuhan, left her apartment on a recent early Sunday morning for the first time in three months to take a taxi to a wellness center an hour away. There, she offered up her arm in the name of science.

But in an illustration of how difficult it will be to find a safe and effective treatment, Ms. Huang grew dizzy and sick.

"If I can help and benefit people with one little move," she said, "then I think this is a very worthwhile thing."

China's vaccine drive has put Beijing's considerable strengths and glaring weaknesses on display. With its firm hand on the levers of Chinese industry, Beijing can corral companies and scientists to reach national goals.

At the same time, China's vaccine companies have been accustomed to a closed political system that has a history of covering up safety scandals and protects them from foreign competition. Few invest heavily in research and development, and they have not discovered many products with global impact.

Instead, many invest more in selling and distribution, a large chunk of which includes managing relationships with local disease control centers. Experts say that creates incentives for corruption.

China's regulators also tend to look the other way when it comes to state-owned firms, which make up about 40 percent of the vaccine industry. Many vaccine makers operate with an expectation of impunity, knowing that even if they are found to have produced faulty products, they are unlikely to be shut down.

The vaccine that Ms. Huang received is being developed by CanSino Biologics, a Tianjin-based pharmaceutical firm, and the medical science arm of the People's Liberation Army. The CanSino vaccine was the first to enter Phase 2 trials, which in the hierarchy of drug testing means it is further along than the world's other candidates, though there is no guarantee that it will be proven effective. (It has been tested so far on 508 people; a candidate from Oxford University in Phase 1 trials, or earlier-stage testing, has been administered to twice as many people.)

One other Chinese institution also has a candidate in Phase 2 testing -- the Wuhan Institute of Biological Products, an arm of state-run Sinopharm Group. Sinovac Biotech, a private company and the Beijing Institute of Biological Products, which also belongs to Sinopharm, have potential vaccines in Phase 1 trials.

The Wuhan institute was involved in a 2018 scandal in which defective vaccines for diphtheria, tetanus, whooping cough and other conditions were injected into hundreds of thousands of babies. China imposed a $1.3 billion fine on another virus maker involved, Changchun Changsheng. The scandal led to the firing of dozens of officials and pledges of a swift industry cleanup.

The government confiscated the Wuhan institute's "illegal income," fined the company and punished nine executives.

The Wuhan institute has been sued at least twice in China by plaintiffs who have alleged that the institute's vaccines have caused "abnormal reactions," according to court documents. In both cases, the court ruled that the Wuhan institute had to partially compensate the victims a total of roughly $71,500. Its executives have been accused at least three times of bribing officials at local centers for disease and control in various provinces to thank them for purchasing their vaccines. The executives were convicted but no criminal charges were pursued against the company.

Sinovac Biotech had also been involved in a bribery scandal, according to court documents. From 2002 to 2014, a court in Beijing said, the general manager of Sinovac Biotech gave China's deputy director in charge of drug evaluations nearly $50,000 to help the firm with drug approvals. Sinovac was not charged. The general manager was a man surnamed Yin, the documents showed. Chinese media reports have said that person is the current chief executive, Yin Weidong, who held the title of general manager from 2001 to 2017.

Sinovac, the Wuhan institute, and its parent, China National Biotec Group, did not respond to requests for comment.

Despite the companies' earlier stumbles, the Chinese government has given them permission to accelerate trials. Regulators in the United States and other places have done the same for other companies. The Wuhan institute, Sinovac and the Beijing institute got combined approvals to run the first two phases, a decision questioned by several Chinese scientists, who felt that safety results from the first phase should be evaluated before the second phase was begun.

Ding Sheng, the dean of the pharmacy school at Tsinghua University in Beijing, said that some companies were "adopting unconventional methods" in the preclinical research stage, running tasks like the design process and animal modeling at the same time when they should be done consecutively, according to the People's Daily, the Communist Party's official newspaper.

"I understand the people's eager anticipation of a ***vaccine***," Dr. Ding was quoted as saying. "But from a scientific point of view, no matter how anxious we are, we cannot lower our standards." He did not respond to a request for comment.

Dr. Chen's academy issued calls on the internet for phase one volunteers. Ms. Huang successfully registered for the second round on April 10. The next day, she got a call and text message: Please come tomorrow.

"Of course, I was worried at the beginning," she said. "To say you're not at all worried is impossible, right?" She surfed the internet and called her teacher, who listed pros and cons. She sought advice from her parents.

Then she went. Workers ran an antibody test, to make sure she was not already immune to the ***coronavirus***, an H.I.V. test and a pregnancy test.

The participants were divided into low- and medium-dose groups and another placebo group, as part of a "double-blind" experiment. They were not told their group.

Fifteen minutes after Ms. Huang got her shot, she started to feel dizzy. Her stomach hurt. Her heart began beating fast. She got diarrhea.

Dr. Chen and other doctors checked her. Someone offered her hot water. She took a walk in the sun. Finally, they took her in an ambulance to a subway station, where she took a taxi home.

Ms. Huang said she feels fine at home.

Shi Zibo, a junior in college, also signed up to be a volunteer and got the shot on April 12. On the fourth day, he got a slight fever but said he has no other side effects.

"I felt very proud when I received the call," Mr. Shi said. "There are not many opportunities for me in to contribute to other people in this life, so I will not regret it, regardless of the final result."

Amber Wang and Liu Yi contributed research in Beijing.

*https://www.nytimes.com/2020/05/04/business/**coronavirus**-**china**-**vaccine**.html*

Graphic

PHOTOS: Sinovac Biotech's laboratory in Beijing. The company is working on a ***coronavirus*** ***vaccine***. It was also involved in a bribery scandal. (PHOTOGRAPH BY NICOLAS ASFOURI/AGENCE FRANCE-PRESSE -- GETTY IMAGES)

The Wuhan Institute of Virology in ***China***'s central Hubei province. Right, a nurse administering a ***vaccination*** to an infant at a Chinese Center for Disease Control and Prevention station in southern ***China***'s Jiangxi province, in 2018. The ***vaccination*** industry in ***China*** has been troubled by scandals. (PHOTOGRAPHS BY HECTOR RETAMAL/AGENCE FRANCE-PRESSE -- GETTY IMAGES

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11 Coronavirus Live Updates: U.S. Opts Out of $8 Billion Global vaccine Pledge

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Body

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World leaders join to pledge $8 billion for ***vaccine***, but the U.S. sits out.

A fund-raising conference on Monday organized by the European Union brought pledges from countries around the world -- including Japan, Canada, Australia and Norway -- to fund laboratories that have promising leads in developing and producing a ***vaccine***.

Prime ministers, a king, a prince and Madonna all chipped in to an $8 billion pot to fund a ***coronavirus*** ***vaccine***, but President Trump skipped the chance to contribute. Officials in his administration noted that the United States is pouring billions of dollars into its own research efforts.

For more than three hours, one by one, global leaders said a few words over video link and offered their nations' contribution, small or large, whatever they could muster. For Romania, it was $200,000. For Canada, $850 million. The biggest contributors were the European Union and Norway, with each pledging one billion euros, or $1.1 billion.

The details of how the money raised will be distributed remain to be sorted out. The European Commission, the executive branch of the European Union that spearheaded the initiative, said the money would be spent over the next two years to support promising initiatives around the globe. The ultimate goal is to deliver universal and affordable access to medication to fight ***Covid-19***, the disease caused by the ***coronavirus***.

The multilateral effort stood in sharp contrast to the solo road the United States is on as scientists everywhere scramble to develop a ***vaccine*** to stop the virus that has ravaged most parts of the globe, leaving 250,000 dead so far.

In Washington on Monday, senior Trump administration officials sought to talk up American contributions to ***coronavirus*** ***vaccine*** efforts worldwide, but did not explain the United States' absence at the European-organized conference.

The U.S. government has spent money on ***vaccine*** research and development, including $2.6 billion through the Biomedical Advanced Research and Development Authority, an arm of the Health and Human Services Department. Jim Richardson, the State Department's director of foreign assistance, said American companies had also provided $7 billion so far toward a ***coronavirus*** ***vaccine*** and treatment.

And the United States was not the world's only major power to be absent from the teleconference. Russia, too, did not participate.

China, where the virus originated, was represented by its ambassador to the European Union and made no financial pledge.

Leaders in ***China*** are desperate to protect their people and deflect growing international criticism of how it has handled the ***coronavirus***, wants to come out on top in the race to find a ***coronavirus*** ***vaccine*** -- and by some measures it is doing so.

The country has slashed red tape and offered resources to drug companies in a bid to empower the country's ***vaccine*** industry. Four Chinese companies have begun testing their ***vaccine*** candidates on humans, more than the United States and Britain combined.

Latest in science: Researchers are adapting gene therapy to develop a ***vaccine***.

Researchers at two Harvard-affiliated hospitals are adapting a proven form of gene therapy to develop a ***coronavirus*** ***vaccine***, which they expect to test in people later this year, they announced on Monday.

Their work employs a method already used in gene therapy for two inherited diseases, including a form of blindness: It uses a harmless virus as a vector, or carrier, to bring DNA into the patient's cells. In this case, the DNA should instruct the cells to make a ***coronavirus*** protein that would stimulate the immune system to fight off future infections.

So far, the team has studied its ***vaccine*** candidates only in mice. Tests for safety and potency in monkeys should begin within a month or so at another academic center, the researchers said. But two of seven promising versions are already being manufactured for studies in humans.

At this early stage, Dr. Luk H. Vandenberghe, director of the Grousbeck Gene Therapy Center at Massachusetts Eye and Ear, estimates the manufacturing cost per dose of ***vaccine*** to be from $2.50 to $250.

"We are presenting a different angle from everybody else," Dr. Vandenberghe, director said. Several other ***vaccine*** projects involve viral vectors, but no others use adeno-associated viruses.

The approach has several advantages, he added.

One is that the type of vector, an adeno-associated virus, or AAV, is a harmless virus that is already used in two approved forms of gene therapy and has been tested in many patients and found to be safe. Another plus is that the technique requires very small amounts of the vector and DNA to produce immunity, so the yield of doses would be high. In addition, many drug and biotech companies, large and small, already produce adeno-associated virus and could easily switch to producing the form needed for the ***vaccine***.

The research is one of at least 90 ***vaccine*** projects speeding ahead around the world in desperate efforts that hold the best and probably only hope of stopping or at least slowing the pandemic.

One potential problem that every ***vaccine*** project will be on the lookout for is disease enhancement: the possibility that a ***vaccine***, instead of preventing infection, could actually make the disease worse.

The two scientists said the many research groups forging ahead with ***vaccine*** projects were racing not against one another, but against the ***coronavirus***.

They survived the Holocaust, but now they're confronting the virus.

The generation that endured Nazi death camps is especially vulnerable to the pandemic.

The New York area is home to just under 40,000 Holocaust survivors, down from nearly twice that many in 2011, according to Selfhelp Community Services, which serves Nazi victims. Now those survivors, mostly in their 80s and 90s, face a new menace that targets people like them.

"This pandemic is the greatest threat to this generation since the Second World War," said Stephen D. Smith, executive director of the USC Shoah Foundation, which interviews survivors of genocide.

In New York State, the ***coronavirus*** has killed more than twice as many people age 80 and up as it has people under 60.

One got out of Nazi Germany on a Kindertransport train to Sweden, never again seeing his parents, who were exterminated in the death camps. One survived two notorious concentration camps, Auschwitz and Bergen-Belsen, and was discovered by British troops on a pile of bodies, half-dead with typhus. One endured freezing temperatures and near starvation in a slave-labor camp in Siberia.

Last month, all three died by the same tiny microorganism, isolated once more from their family members.

And for survivors who have eluded the virus, memories of that dark time, never far out of mind, find new salience in the present plague.

For Diana Kurz, 83, who escaped Vienna with her mother when she was 4 years old, said the ***coronavirus*** reminded her of those years in Vienna, when any random encounter might be deadly.

"I guess I picked that up as a child," she said, "that feeling of dread all the time. That's what it is like now. You never know if other people on the street are going to give you the virus, or were going to turn you in to the Gestapo because you were a Jew."

Three Russian medics have plunged from windows after complaining about officials' handling of the pandemic.

Three medical workers in Russia who had been in disputes with the health authorities over handling the ***coronavirus*** have plunged from upper-story windows, local news outlets have reported.

Some reports suggested that the falls, which killed two doctors and left a third in critical condition, were suicides or accidents.

They came amid a police crackdown on doctors who have publicly criticized the government's response. Russian dissidents have long attributed mysterious falls from balconies and other apparent accidents to state violence.

Aleksandr Shulepov, a medic for an ambulance service in the Voronezh region, south of Moscow, fell on Saturday from a window of a hospital where he was being treated for ***Covid-19***. He was in critical conduction with a fractured skull.

He and a colleague had complained in online videos about a lack of personal protective equipment. He also said he was required to continue working after he tested positive for the virus, according to Vesti Voronezh, a local newspaper.

In response to the videos, the police warned Mr. Shulepov's colleague of possible criminal charges for spreading false information, the paper reported. Mr. Shulepov posted a video recanting his allegations.

In the Siberian region of Krasnoyarsk, Elena Nepomnyashchaya, the chief doctor at a hospital, fell from a window on April 26 and died six days later. She had objected to the regional authorities' plan to treat ***Covid-19*** patients there, according to TBK, a local news outlet, and had complained about insufficient protective equipment.

Natalya Lebedeva, the head of the ambulance service at Star City, the Russian cosmonaut training center, died on April 24 after a plunge from a window at a hospital where she was being treated for ***Covid-19***.

The authorities reported that it was an accident. The newspaper Moskovsky Komsomolets wrote that Ms. Lebedeva had committed suicide after managers accused her of allowing the spread of the virus within the space program.

10 German soccer players test positive for the virus as their league weighs restarting games.

As one of the first major sports leagues to detail its plans to return to action, Germany's top soccer league has become the bellwether for restarting sports events postponed by the ***coronavirus*** epidemic.

That decision became more complicated on Monday when 10 players were found to have the virus after blanket testing of 1,724 individuals from the 36 teams in the top two divisions of the league, the Bundesliga. The majority are believed to be asymptomatic.

It was not clear if the results would derail plans to restart the league, a decision that could come on Wednesday. But the test results were seen as a harbinger for the heavy considerations all sports organizations would face as they make reopening plans, many of them contingent on widespread testing.

The National Rugby League in Australia -- which is aiming to return on May 28 -- ran into similar complications. Four players from the South Sydney Rabbitohs were told to stay home from training on Monday because of flulike symptoms. And the coach of the Sydney Roosters, Trent Robinson, also has symptoms and will be tested.

If the Bundesliga cannot resume its season, even without spectators -- a decision with far-reaching financial implications -- it would not bode well for the rest of the soccer world. Germany has been lauded for its relative success containing the outbreak, and has one of the lowest death rates among major countries at less than 10 per 100,000 people.

England's Premier League is expected to decide on Friday whether there is a way forward to reopen amid disharmony among its 20 teams. In Spain and Italy, there are also cautious moves toward playing again. (Spanish players returned to training on Monday but were limited to working out alone.)

Elsewhere, that option has been ruled out, most notably in France, where last week the prime minister declared the season over. The seasons in the Netherlands and in Belgium have also been officially called off.

Reporting was contributed by Denise Grady, Matina Stevis-Gridneff, Lara Jakes and John Leland.

*https://www.nytimes.com/2020/05/05/world/**coronavirus**-news.html*

Graphic

PHOTO: President Trump participating in a Fox News town hall at the Lincoln Memorial in Washington, D.C., on Sunday. The United States was absent on a teleconference to raise money toward a ***vaccine***. (PHOTOGRAPH BY Anna Moneymaker/The New York Times FOR THE NEW YORK TIMES)

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Subject: ***vaccineS*** (92%); EUROPEAN UNION (91%); VIRUSES (91%); CORONAVIRUSES (90%); FUNDRAISING (90%); INFECTIOUS DISEASE (90%); INTERNATIONAL ECONOMIC ORGANIZATIONS (90%); DISEASE AGENTS & VECTORS (89%); RESEARCH & DEVELOPMENT (89%); ***COVID-19*** ***CORONAVIRUS*** (78%); DISEASES & DISORDERS (78%); DRUG DESIGN & DISCOVERY (78%); FUNDRAISING INDUSTRY (78%); INTERNATIONAL ASSISTANCE (78%); PRIME MINISTERS (78%); US FEDERAL GOVERNMENT (78%); EMBASSIES & CONSULATES (77%); EURO (77%); EUROPEAN UNION INSTITUTIONS (77%); MEDICAL RESEARCH (77%); PUBLIC OFFICIALS (77%); HEALTH DEPARTMENTS (76%); US PRESIDENTIAL CANDIDATES 2020 (75%); FOREIGN AID (72%); BIOMEDICINE (70%); FOREIGN RELATIONS (70%)

Organization: EUROPEAN UNION (84%); EUROPEAN COMMISSION (54%)

Industry: ***vaccineS*** (92%); DRUG DESIGN & DISCOVERY (78%); FUNDRAISING INDUSTRY (78%); PHARMACEUTICALS INDUSTRY (78%); EURO (77%); HEALTH DEPARTMENTS (76%); BIOLOGICS MFG (73%)

Geographic: UNITED STATES (97%); EUROPE (94%); ***CHINA*** (93%); EUROPEAN UNION MEMBER STATES (93%); CANADA (92%); NORWAY (92%); AUSTRALIA (79%); JAPAN (79%); ROMANIA (79%)

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12 ***U.S. to Accuse China Of Trying to Steal Data***

The New York Times

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Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 7

Length: 1758 words

Byline: By David E. Sanger and Nicole Perlroth

Body

Iran and other nations are also looking to steal data and exploit the pandemic with attacks on infrastructure, officials say.

WASHINGTON -- The F.B.I. and the Department of Homeland Security are preparing to issue a warning that ***China***'s most skilled hackers and spies are working to steal American research in the crash effort to develop ***vaccines*** and treatments for the ***coronavirus***. The efforts are part of a surge in cybertheft and attacks by nations seeking advantage in the pandemic.

The warning comes as Israeli officials accuse Iran of mounting an effort in late April to cripple water supplies as Israelis were confined to their houses, though the government has offered no evidence to back its claim. More than a dozen countries have redeployed military and intelligence hackers to glean whatever they can about other nations' virus responses. Even American allies like South Korea and nations that do not typically stand out for their cyberabilities, like Vietnam, have suddenly redirected their state-run hackers to focus on virus-related information, according to private security firms.

A draft of the forthcoming public warning, which officials say is likely to be issued in the days to come, says ***China*** is seeking "valuable intellectual property and public health data through illicit means related to ***vaccines***, treatments and testing." It focuses on cybertheft and action by "nontraditional actors," a euphemism for researchers and students the Trump administration says are being activated to steal data from inside academic and private laboratories.

The decision to issue a specific accusation against ***China***'s state-run hacking teams, current and former officials said, is part of a broader deterrent strategy that also involves United States Cyber Command and the National Security Agency. Under legal authorities that President Trump issued nearly two years ago, they have the power to bore deeply into Chinese and other networks to mount proportional counterattacks. This would be similar to their effort 18 months ago to strike at Russian intelligence groups seeking to interfere in the 2018 midterm elections and to put malware in the Russian power grid as a warning to Moscow for its attacks on American utilities.

But it is unclear exactly what the U.S. has done, if anything, to send a similar shot across the bow to the Chinese hacking groups, including those most closely tied to ***China***'s new Strategic Support Force, its equivalent of Cyber Command, the Ministry of State Security and other intelligence units.

The forthcoming warning is also the latest iteration of a series of efforts by the Trump administration to blame ***China*** for being the source of the pandemic and exploiting its aftermath.

Secretary of State Mike Pompeo claimed this month that there was "enormous evidence" that the virus had come from a Chinese lab before backing off to say it had come from the "vicinity" of the lab in Wuhan. United States intelligence agencies say they have reached no conclusion on the issue, but public evidence points to a link between the outbreak's origins at a market in Wuhan and ***China***'s illegal wildlife trafficking.

The State Department on Friday described a Chinese Twitter campaign to push false narratives and propaganda about the virus. Twitter executives have pushed back on the agency, noting that some of the Twitter accounts that the State Department cited were actually critical of Chinese state narratives.

But it is the search for ***vaccines*** that has been a particular focus, federal officials say.

"***China***'s long history of bad behavior in cyberspace is well documented, so it shouldn't surprise anyone they are going after the critical organizations involved in the nation's response to the ***Covid-19*** pandemic," said Christopher Krebs, the director of the Cybersecurity and Infrastructure Security Agency. He added that the agency would "defend our interests aggressively."

Last week, the United States and Britain issued a joint warning that "health care bodies, pharmaceutical companies, academia, medical research organizations and local governments" had been targeted. While it named no specific countries -- or targets -- the wording was the kind used to describe the most active cyberoperators: Russia, ***China***, Iran and North Korea.

The hunt for spies seeking intellectual property has also accelerated. For months, F.B.I. officials have been visiting major universities and presenting largely unclassified briefings about their vulnerabilities.

But some of those academic leaders and student groups have pushed back, comparing the rising paranoia about stolen research to the worst days of the Red Scare era. They particularly objected when Senator Tom Cotton, Republican of Arkansas, declared last month on Fox News that it was "a scandal" that the United States had "trained so many of the Chinese Communist Party's brightest minds to go back to ***China***."

Security experts say that while there is a surge of attacks by Chinese hackers seeking an edge in the race for a ***Covid-19*** ***vaccine***, or even effective treatment, the Chinese are hardly alone in seeking to exploit the virus.

Iranian hackers were also caught trying to get inside Gilead Sciences, the maker of remdesivir, the therapeutic drug approved 10 days ago by the Food and Drug Administration for clinical trials. Government officials and Gilead have refused to say if any element of the attack, which was first reported by Reuters, was successful.

Israel's security advisers met last week for a classified session on a cyberattack on April 24 and 25, which the authorities were calling an attempt to cut off water supplies to rural parts of the country. The Israeli news media has widely blamed the attack on Iran, though they have offered no evidence in public. The effort was detected fairly quickly and did no damage, the authorities said.

The rush to attribute the attack to Iran could be faulty. When a Saudi petrochemical plant was similarly attacked in 2017, Iran was presumed as the source of the effort to cause an industrial accident. It turned out to be coordinated from a Russian scientific institute.

The ***coronavirus*** has created whole new classes of targets. In recent weeks, Vietnamese hackers have directed their campaigns against Chinese government officials running point on the virus, according to cybersecurity experts.

South Korean hackers have taken aim at the World Health Organization and officials in North Korea, Japan and the United States. The attacks appeared to be attempts to compromise email accounts, most likely as part of a broad effort to gather intelligence on virus containment and treatment, according to two security experts for private firms who said they were not authorized to speak publicly. If so, the moves suggest that even allies are suspicious of official government accounting of cases and deaths around the world.

In interviews with a dozen current and former government officials and cybersecurity experts over the past month, many described a "free-for-all" that has spread even to countries with only rudimentary cyberability.

"This is a global pandemic, but unfortunately countries are not treating it as a global problem," said Justin Fier, a former national security intelligence analyst who is now the director of cyberintelligence at Darktrace, a cybersecurity firm. "Everyone is conducting widespread intelligence gathering -- on pharmaceutical research, PPE orders, response -- to see who is making progress."

The frequency of cyberattacks and the spectrum of targets are "astronomical, off the charts," Mr. Fier said.

Even before the pandemic, the United States was becoming far more aggressive in pursuing cases involved suspected Chinese efforts to steal intellectual property related to biological research. The Justice Department announced in January that it had charged Charles M. Lieber, the chairman of Harvard's department of chemistry and chemical biology, with making false statements related to his participation in ***China***'s Thousand Talents program to recruit scientific talent to the country.

But Harvard also has a joint study program underway with a Chinese institute on ***coronavirus*** treatments and ***vaccines***. And researchers have said that international cooperation will be vital if there is hope for a global ***vaccine***, putting the expected national competitions to be first in tension with the need for a cooperative effort.

At Google, security researchers identified more than a dozen nation-state hacking groups using virus-related emails to break into corporate networks, including some sent to U.S. government employees. Google did not identify the specific countries involved, but over the past eight weeks, several nation states -- some familiar, like Iran and ***China***, and others not so familiar, like Vietnam and South Korea -- have taken advantage of softer security as millions of workers have suddenly been forced to work from home.

"The nature of the vulnerabilities and attacks has altered pretty radically with shelter-in-place," said Casey Ellis, the founder of Bugcrowd, a security firm. In some cases, Mr. Ellis said, hackers were just "kicking a baby," hacking hospitals that were already overstretched and simply lacked the resources to prioritize cybersecurity.

In other cases, they were targeting the tools that workers used to remotely access internal networks and encrypted virtual private networks, or VPNs, that allow employees to tunnel into corporate networks, to gain access to proprietary information.

"Governments that might otherwise be reluctant to target international public health organizations, hospitals and commercial organizations are crossing that line because there is such a thirst for knowledge and information," said John Hultquist, the director of intelligence analysis at FireEye, a cybersecurity firm.

Even Nigerian cybercriminals are getting in on the game: They recently started targeting businesses with ***coronavirus***-themed email attacks to try to convince targets to wire them money, or to steal personal data that could fetch money on the dark web.

"These are not complex, but clever social engineering is getting them through," said Jen Miller-Osborn, the deputy director of threat intelligence at Palo Alto Networks, a cybersecurity company. Because Nigerian hackers are less skilled, they lack the so-called "op sec," or operational security, to cover their tracks.

David E. Sanger reported from Washington and Nicole Perlroth from Palo Alto, Calif.

*https://www.nytimes.com/2020/05/10/us/politics/**coronavirus-china**-cyber-hacking.html*

Graphic

PHOTO: Chad Wolf, center, the acting secretary of Homeland Security, with President Trump and members of the ***coronavirus*** task force in March. The department is preparing to issue a warning about Chinese cyberattacks. (PHOTOGRAPH BY Erin Schaff/The New York Times FOR THE NEW YORK TIMES)

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Organization: US DEPARTMENT OF HOMELAND SECURITY (91%); FEDERAL BUREAU OF INVESTIGATION (84%)

Industry: CYBERCRIME (91%); DATA THEFT (90%); COMPUTER CRIME (89%); COMPUTER NETWORK SECURITY (89%); ENERGY & UTILITIES (89%); ***vaccineS*** (89%); TEST LABORATORIES (76%); INVESTIGATION & SECURITY SERVICES (72%); MALICIOUS SOFTWARE (72%); BIOLOGICS MFG (71%); DRUG DESIGN & DISCOVERY (71%); ELECTRIC POWER PLANTS (67%); ELECTRICITY TRANSMISSION & DISTRIBUTION (60%); SECURITY GUARD SERVICES (52%)

Person: MIKE POMPEO (79%)

Geographic: MOSCOW, RUSSIAN FEDERATION (52%); ***CHINA*** (95%); UNITED STATES (95%); IRAN, ISLAMIC REPUBLIC OF (92%); ISRAEL (92%); RUSSIAN FEDERATION (92%)

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End of Document

13 ***On Politics: A Warning of 'Needless Suffering and Death'***

The New York Times

May 12, 2020 Tuesday 06:59 EST

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Section: US; politics

Length: 1538 words

Byline: Giovanni Russonello

Highlight: Fauci plans to issue a stark warning on reopening the country: This is your morning tip sheet.

Body

Good morning and welcome to On Politics, a daily political analysis of the 2020 elections based on reporting by New York Times journalists.

Sign up here to get On Politics in your inbox every weekday.

Where things stand

- Dr. Anthony Fauci, the nation's top infectious disease expert, *plans to issue a stark warning* to the Senate this morning over the dangers of reopening the country's economy too swiftly. In an email to our reporter Sheryl Gay Stolberg last night, Fauci said that in his appearance before the committee on health, education and labor, he would caution against "the danger of trying to open the country prematurely," warning that doing so could result in "needless suffering and death." Those comments run counter to President Trump's recent insistence that the nation must prioritize reopening, *even if* it causes more deaths. Fauci's testimony, alongside other top health officials, will be his first appearance before Congress since Trump declared a national emergency in March.
- The ***coronavirus*** has spread most quickly in high-density urban settings, and it has been particularly vicious among people of color, many of whom were already at an elevated risk because of pre-existing conditions and a relative lack of quality health care. It just so happens that those populations also tend to vote Democratic. All of which is fueling *a debate within the Republican Party over how much aid to send* to the predominantly blue states that have been hardest hit by the virus. So far, Trump and his Republican allies in the Senate have been reluctant to send states anywhere near the $1 trillion in "direct and flexible relief" that a group of Western governors — all Democrats — said the 50 states really need. "The Republican states are in strong shape," Trump said last month. "I don't know — is that luck or is that talent?" But House Democrats continue to push for a stimulus package that would send an infusion of cash to state and local governments, as well as bolster social-safety programs. Steny Hoyer, the majority leader, told members of his caucus yesterday that they might vote on a new stimulus bill as early as the end of this week.
- New virus safety rules *are in place at the White House*, which is still reeling from the news that two aides have been infected. More West Wing staff members will work via teleconference going forward, and most of those who come to the office will be tested for the virus frequently. And masks are now a requirement — except, apparently, in the case of Trump, *who was not wearing one* at the news conference yesterday where he acknowledged ordering the new rules. At that briefing, he stood beside a poster

proclaiming, "America leads the world in testing" — despite the fact that Germany, Russia, Spain, Canada, Switzerland and at least 20 other countries have actually issued more tests per capita than the United States. "We have met the moment and we have prevailed," he declared triumphantly.

- Joe Biden is breathing a slight sigh of relief right now: His campaign and the Democratic National Committee *raised over $60 million in April*, a good enough number to partially quell Democrats' fears over Trump's *still-daunting lead* in the money race. Still, not to be outdone, Trump and shared committees with the Republican National Committee raised nearly $63 million last month; they recently started a $10 million ad blitz taking aim at Biden. For both sides, fund-raising in April was done almost entirely virtually. As Trump steers the country's virus response, Biden is still struggling to break through on the national stage; most of his virtual campaign appearances in recent weeks have been related to fund-raising, and he has appeared on television sparingly.

Photo of the day

President Trump walked into the Rose Garden to speak about ***coronavirus*** testing on Monday.

David Sanger explains the U.S.'s latest spat with ***China*** over the search for a ***coronavirus*** ***vaccine***.

Remember back in January, when Trump was praising ***China*** for its efforts to contain the ***coronavirus***? That feels like a distant memory now, doesn't it?

Since then, he and members of his administration have accused the Chinese government of covering up information about the virus's spread, and even suggested — without evidence — that the ***coronavirus*** might have been cultivated in a Chinese government lab.

Well, things just got even more tense. As *David E. Sanger* and *Nicole Perlroth* *reported recently*, the United States is now planning to publicly accuse ***China*** of trying to steal American research aimed at finding a ***coronavirus*** ***vaccine***.

This is a complicated story with heavy geopolitical implications, so we asked David to break down what it all means. Here's a slightly edited and shortened transcript of our conversation.

Hi David. Could you give us a rundown of what's at issue here? What exactly is the United States accusing ***China*** of doing?

The F.B.I. and the Department of Homeland Security, which are responsible for investigating cybercrime and domestic cyberdefense, are expected to accuse ***China*** of trying to break into pharmaceutical companies, university laboratories and government networks to get information about research into ***coronavirus*** ***vaccines*** and therapeutics. It wouldn't be the first time that ***China***, or other countries, have used cybertheft for economic advantage. What's different now is that all that energy is going into the biggest geopolitical and technological competition of the current era: a cure for the ***coronavirus***.

When I hear that one country is blaming another for hacking into its ***coronavirus*** research, the naïve question that jumps to my mind is: What's the big deal? Shouldn't researchers all over the world be sharing information with one another, given that we're all in pursuit of the same goal — a virus ***vaccine***? What am I missing here?

It's a great question. In most endeavors, the United States and ***China*** are technological competitors. That's true in the military sphere; it's certainly true when it comes to artificial intelligence, 5G networks and high-speed trains, to name just a few. But the hope is that, in an ideal world, a breakthrough for a ***coronavirus*** ***vaccine*** or an effective therapeutic treatment would be immediately shared, and that humanitarian instincts would win out over profit-making. Unfortunately, the fact is that the country that invents a ***vaccine*** or a cure first is going to be under great political pressure to treat its own population first.

As you and Nicole describe in your article, this isn't just a U.S.-***China*** thing: Countries all over the world appear to be deploying government hackers to intercept information about other nations' virus responses. Is it just me, or is there a distinct lack of global cooperation here? What is causing that?

There is a distinct lack of cooperation, and when historians and political scientists look back at this moment they may well see a further fracturing of the post-Cold War era. In the years since 1945, it's usually the United States that has taken the lead in helping nations find a global cure for some of the world's worst diseases. It was only a few years ago that President Obama sent American troops to Africa to help mitigate the spread of Ebola. Part of that was a humanitarian effort. But part of it was a recognition that in a global economy in which people leap on and off airplanes, no disease stays out of the United States for long. So far, we have seen the United States announce that it is suspending aid to the World Health Organization; decline to join a communiqué from the G7 because it didn't like the wording; and accuse ***China*** of hampering the investigation into the origins of the virus. Don't get me wrong — ***China*** did everything it could to cover up what was happening. But there is a vacuum now in which ***China*** is acting selfishly, the United States is withdrawing, and no one is stepping in to play an organizing role in helping nations attack what they all call a common enemy.

In terms of the United States' decision to publicly accuse ***China***, how much of this is really about Chinese hacking, and how much of it is about the Trump administration's desire to portray ***China*** as the leading American adversary — and as the country most responsible for the pandemic — as we head into a presidential campaign?

Look, I have no doubt that the Chinese are attempting to pry out American medical advances. But the timing is also politically convenient, at a moment when Secretary of State Mike Pompeo has claimed there is "enormous evidence" that the virus may have begun in a government laboratory in Wuhan, a charge he had to reel back in a few days ago. Trump wants to look tough on ***China*** and portray Joe Biden as soft. But remember, it was also Trump who in January praised how Xi Jinping was handling the crisis, and thanked him for his transparency. You might have *already seen his words of praise for* ***China*** running on some Biden ads.

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Is there anything you think we're missing? Anything you want to see more of? We'd love to hear from you. Email us at *onpolitics@nytimes.com*.

PHOTO: (PHOTOGRAPH BY FOR THE NEW YORK TIMES)

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DEMOCRATIC PARTY (89%); CAUCUSES (78%); ***COVID-19*** ***CORONAVIRUS*** (78%); PUBLIC OFFICIALS (78%); WRITERS (78%); ***COVID-19*** ***CORONAVIRUS*** ASSISTANCE & STIMULUS PLANS (77%); DISEASES & DISORDERS (77%); PUBLIC HEALTH (77%); PUBLIC HEALTH ADMINISTRATION (77%); SAFETY REGULATION & POLICY (77%); SAFETY, ACCIDENTS & DISASTERS (77%); TESTIMONY (77%); AGENCY RULEMAKING (76%); ECONOMIC STIMULUS (76%); REGIONAL & LOCAL GOVERNMENTS (76%); PRESS CONFERENCES (73%); HEALTH DEPARTMENTS (72%); RACE & ETHNICITY (67%); ***Coronavirus*** (***2019-nCoV***) (%); Democratic Party (%); Republican Party (%); Trump, Donald J (%); ***Coronavirus*** Aid, Relief, and Economic Security Act (2020) (%); United States Politics and Government (%)

Industry: WRITERS (78%); HEALTH DEPARTMENTS (72%)

Person: DONALD TRUMP (91%); ANTHONY FAUCI (79%); STENY HOYER (58%); Trump, Donald J

Geographic: UNITED STATES (92%); CANADA (79%); GERMANY (79%); SPAIN (79%); SWITZERLAND (79%)

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14 *Promising vaccine by the End of This Year, Trump Pledges Global Teamwork*

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Byline: By David E. Sanger, Maggie Haberman and Noah Weiland

Body

The president named Moncef Slaoui, a former pharmaceutical executive, to lead a crash development program that if successful would shatter speed records for *vaccine* development.

President Trump doubled down on Friday on his promise to have a *coronavirus vaccine* available by the end of this year, betting that he can rally the pharmaceutical industry and the government to have one available to nearly all Americans at a speed never before accomplished.

He made his pledge after the government's senior medical leadership warned repeatedly this week that there was no assurance a safe *vaccine* would be available as fast as promised by the president, or even for years.

And the president's credibility on the issue has been clouded by months of overpromising, exaggerating and misleading about other elements of his response to the pandemic, including the availability of testing and the potential of unproven treatments.

With the nation emerging from two months of lockdown, the economy in near-Depression-level crisis and his re-election prospects at stake, Mr. Trump cast the rapid development of a *vaccine* as an important, but not essential, component of returning to normalcy.

"*vaccine* or no *vaccine*, we're back and we're starting the process," he said during an appearance in the Rose Garden.

He introduced a longtime pharmaceutical executive and a four-star general to lead a national effort that he compared in size and speed to the Manhattan Project, the race 75 years ago to build the first atomic bomb.

The new chief of what Mr. Trump calls Operation Warp Speed, Moncef Slaoui, a former chairman of *vaccines* at GlaxoSmithKline, called Mr. Trump's goal "very credible," even though the fastest a new *vaccine* has been developed and distributed is four years and most have taken considerably longer.

Dr. Slaoui, now a venture capitalist, said that he had "recently seen early data from a clinical trial with a *coronavirus vaccine*, and these data made me feel even more confident that we will be able to deliver a few hundred million doses of *vaccine*" -- enough to inoculate much of the United States -- "by the end of 2020."

He did not identify which ***vaccine*** he was referring to, but until Friday, when he resigned to take on the new job with the White House, Dr. Slaoui served on the board of Moderna, a biotechnology company that has an experimental ***coronavirus*** ***vaccine*** that just entered Phase 2 of clinical trials to determine if it is effective.

As the chairman of the Moderna board's product development committee, Dr. Slaoui might have been privy to the early indications of tests of whether the company's approach appeared promising, now that it is being injected into human subjects.

Mr. Trump said the government was already moving to ensure sufficient manufacturing capacity to produce any ***vaccine*** that is developed and to produce the hundreds of millions of glass vials and syringes needed to hold and inject it. And he said the government would call on the military's logistics skills to distribute any eventual ***vaccine*** as quickly as possible.

"That means they better come up with a good ***vaccine***, because we are ready to deliver it," he said. "This will eliminate any unnecessary delay and enable us to begin providing Americans with a proven ***vaccine*** the day our scientists say, 'We are ready, we've got it.'"

Mr. Trump, who during the 2016 campaign repeatedly questioned the use of ***vaccines***, also seemed to acknowledge for the first time that the anti**vaccine** movement could hamper the effort to fully immunize the United States against the ***coronavirus***.

"We are looking for a full ***vaccine*** for everyone that wants to get it," he said when pressed on the timing and whether it would be available by January to all Americans or only to those judged to need it on an emergency basis. "Not everybody's going to want to get it."

The president also insisted that even if the United States did not win the race for a ***vaccine*** -- Chinese and British entries are also in clinical trials -- he believed the world would set aside profits and nationalistic instincts to share the most successful approach.

"We have no ego," said Mr. Trump, who only two months ago tried to persuade a German firm to move its ***vaccine*** research to the United States. "Whoever gets it, we think it's great and we're going to work with them and they are going to work with us."

Even ***China*** would share its findings, he said with confidence -- though if ***China***'s ***vaccine*** effort advances, its Phase 2 clinical trials will almost certainly take place inside ***China***. Similarly, the United States would most likely prioritize initial distribution to its own citizens, as suggested by Mr. Trump's reference to the military's role.

President Emanuel Macron of France said this week that he would call in executives of Sanofi, a major pharmaceutical firm, after its chief executive told Bloomberg News that the United States "has the right to the largest preorder because it's invested in taking the risk" on new ***vaccines***.

In an interview, Dr. Slaoui called having a safe and effective ***vaccine*** in widespread distribution within 12 to 18 months of when work started at the beginning of the year to be "a very aggressive timeline" but said he was undaunted by Mr. Trump's goal.

"I would not have committed unless I thought it was achievable," Mr. Slaoui said on Thursday, adding that he told the president that when they met for the first time a day earlier and Mr. Trump asked if the goal was realistic.

Mr. Slaoui will serve as the chief adviser on the effort, and Gen. Gustave F. Perna, a four-star general who is in charge the Army Matériel Command, will be the chief operating officer.

Mr. Slaoui said he discussed the job with Jared Kushner, the president's son-in-law and senior adviser, who had been searching for a so-called czar for therapeutics and vaccine development, and Dr. Deborah L. Birx, the White House's coronavirus response coordinator.

General Perna, who runs the Army's complex supply chain, said that he was asked by Gen. Mark A. Milley, the chairman of the Joint Chiefs of Staff, to help run the manufacturing logistics related to the vaccine development. Beyond the vaccine itself, there are also substantial challenges in ensuring adequate capacity of the supplies needed to distribute and administer it, starting with the special glass in which vaccine doses are transported.

Mr. Slaoui and General Perna met for the first time on Wednesday, and they have been in frequent contact since then, the general said in a separate interview. They will have offices in the Department of Health and Human Services, where the secretary, Alex M. Azar II, helped develop Operation Warp Speed at the president's request.

Most questions about how the program will work remain unanswered, including its cost, whether the Defense Production Act will be used to impel companies to produce a vaccine developed by a different firm, or whether particular groups may get access to initial doses.

But public health experts said that the program was perhaps the only way to keep the United States on a brisk timeline in a health crisis as complex as the coronavirus pandemic.

"There may be no other way to do this other than through the government," said Dr. Amesh Adalja, an infectious disease physician and senior scholar at the Johns Hopkins University Center for Health Security. "vaccine development has been plagued with economic difficulties that have gotten vaccine manufacturers out of the business."

Dr. Stephen M. Hahn, the commissioner of the Food and Drug Administration, said at a Senate hearing on Tuesday that his agency would evaluate about 10 vaccine candidates in early studies, and then select four or five to progress into larger studies in humans. Dr. Slaoui said that the goal will be to get "three or four" vaccines to large, late-stage trials, called Phase 3.

Several experimental vaccines are already being tested in humans, including the one being pursued by Moderna. Dr. Anthony S. Fauci, the government's top epidemiologist, told lawmakers on Tuesday that his institute, the National Institute of Allergy and Infectious Diseases, was heavily involved in the Moderna project.

Scientists hope that several of the vaccines will be successful, and for different parts of the population. But even if a vaccine candidate shows promise this year, producing one for hundreds of millions of people in the United States alone will be daunting.

"If there's only a small amount of vaccine, a million or 100,000 doses, there will be very difficult decisions about who gets the vaccine first," said Dan H. Barouch, the director of the Center for Virology and vaccine Research at Beth Israel Deaconess Medical Center and a professor at Harvard Medical School who is also working with Johnson & Johnson on its coronavirus vaccine. "Is it high-risk people, different racial groups, different socioeconomic groups? Those discussions will be difficult."

The Pentagon will be heavily involved in the Warp Speed effort, in the hope that it will facilitate fast distribution of a vaccine if one is deemed successful.

"The Department of Defense is going to be putting resources that are unheard-of in any industry setting, in any private company setting, behind the process, development, and manufacturing and distribution of the vaccine," Dr. Slaoui said.

General Perna said he had been preparing to retire on July 1 after 37 years of active duty, but agreed to be part of the effort and echoed Mr. Trump in describing what he saw as his mission.

"I believe that we're at war with this virus, and when you're at war, then you have to win," he said.

But Dr. Adalja said that for a ***vaccine*** to be ready by January, "everything would have to go perfect."

"***vaccine*** development doesn't always go as predicted," he said. "There are a lot of hiccups in the production process. We're going faster than we ever have with a ***vaccine***, but we have to be prepared for things to slow down once we get further along."

*https://www.nytimes.com/2020/05/15/us/politics/**coronavirus**-**vaccine**-timeline.html*

Graphic

PHOTO: Moncef Slaoui, who is leading the government's ***vaccine***-development team, called President Trump's goals "very credible." (PHOTOGRAPH BY SAMUEL CORUM FOR THE NEW YORK TIMES)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: ***vaccineS*** (94%); DRUG DESIGN & DISCOVERY (91%); EXECUTIVES (90%); INTERNATIONAL ECONOMIC DEVELOPMENT (90%); US PRESIDENTIAL CANDIDATES 2020 (90%); CORONAVIRUSES (89%); INFECTIOUS DISEASE (89%); VIRUSES (89%); DRUG SAFETY (78%); EPIDEMICS (78%); EXPERIMENTAL DRUGS (78%); EXPERIMENTAL THERAPIES (78%); INTERNATIONAL ASSISTANCE (78%); NEGATIVE PERSONAL NEWS (77%); BIOTECHNOLOGY & GENETIC SCIENCE (73%); PRODUCT DEVELOPMENT (73%); MANUFACTURING OUTPUT (72%); BOMBS & EXPLOSIVE DEVICES (50%); VENTURE CAPITAL (50%)

Company: GLAXOSMITHKLINE PLC (58%)

Ticker: GSK (NYSE) (58%); GSK (LSE) (58%); BIOC (EGX) (58%)

Industry: NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (58%); SIC2834 PHARMACEUTICAL PREPARATIONS (58%); PHARMACEUTICALS & BIOTECHNOLOGY (94%); ***vaccineS*** (94%); BIOLOGICS MFG (91%); DRUG DESIGN & DISCOVERY (91%); PHARMACEUTICALS INDUSTRY (91%);

DRUG AVAILABILITY (90%); MANUFACTURING (90%); BIOTECHNOLOGY INDUSTRY (89%); PHARMACEUTICAL PREPARATION MFG (89%); PHARMACEUTICALS PRODUCT DEVELOPMENT (89%); DRUG SAFETY (78%); EXPERIMENTAL DRUGS (78%); MANUFACTURING OUTPUT (72%); VENTURE CAPITAL (50%)

Person: DONALD TRUMP (79%)

Geographic: UNITED STATES (92%)

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15 ***Labs Step Up Race to Be First, Or Even 4th, to Find a vaccine***

The New York Times

May 21, 2020 Thursday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 1

Length: 1689 words

Byline: By Carl Zimmer, Knvul Sheikh and Noah Weiland

Body

Scientists are increasingly optimistic that a ***vaccine*** can be produced in record time. But getting it manufactured and distributed will pose huge challenges.

In a medical research project nearly unrivaled in its ambition and scope, volunteers worldwide are rolling up their sleeves to receive experimental ***vaccines*** against the ***coronavirus*** -- only months after the virus was identified.

Companies like Inovio and Pfizer have begun early tests of candidates in people to determine whether their ***vaccines*** are safe. Researchers at the University of Oxford in England are testing ***vaccines*** in human subjects, too, and say they could have one ready for emergency use as soon as September.

Moderna on Monday announced encouraging results of a safety trial of its ***vaccine*** in eight volunteers. There were no published data, but the news alone kindled hopes and sent the company's stock soaring.

Animal studies have raised expectations, too. Researchers at Beth Israel Deaconess Medical Center on Wednesday published research showing that a prototype ***vaccine*** effectively protected monkeys from infection with the virus.

The findings will pave the way to development of a human ***vaccine***, said the investigators. They have already partnered with Janssen, a division of Johnson & Johnson.

In labs around the world, there is now cautious optimism that a ***coronavirus*** ***vaccine***, and perhaps more than one, will be ready sometime next year.

Scientists are exploring not just one approach to creating the ***vaccine***, but at least four. So great is the urgency that they are combining trial phases and shortening a process that usually takes years, sometimes more than a decade.

The ***coronavirus*** itself has turned out to be clumsy prey, a stable pathogen unlikely to mutate significantly and dodge a ***vaccine***.

"It's an easier target, which is terrific news," said Michael Farzan, a virologist at Scripps Research in Jupiter, Fla.

An effective ***vaccine*** will be crucial to ending the pandemic, which has sickened at least 4.7 million worldwide and killed at least 324,000. Widespread immunity would reopen the door to lives without social distancing and face masks.

"What people don't realize is that normally vaccine development takes many years, sometimes decades," said Dr. Dan Barouch, a virologist at Beth Israel Deaconess Medical Center in Boston who led the monkey trials. "And so trying to compress the whole vaccine process into 12 to 18 months is really unheard-of."

"If that happens, it will be the fastest vaccine development program ever in history."

More than 100 research teams around the world are taking aim at the virus from multiple angles.

Moderna's vaccine is based on a relatively new mRNA technology that delivers bits of the virus's genes into human cells. The goal is for cells to begin making a viral protein that the immune system recognizes as foreign. The body builds defenses against that protein, priming itself to attack if the actual coronavirus invades.

Some vaccine makers, including Inovio, are developing vaccines based on DNA variations of this approach.

But the technology used by both companies has never produced a vaccine approved for clinical use, let alone one that can be made in industrial quantities. Moderna was criticized for making rosy predictions, based on a handful of patients, without providing any scientific data.

Other research teams have turned to more traditional strategies.

Some scientists are using harmless viruses to deliver coronavirus genes into cells, forcing them to produce proteins that may teach the immune system to watch out for the coronavirus. CanSino Biologics, a company in China, has begun human testing of a coronavirus vaccine that relies on this approach, as has the University of Oxford team.

Other traditional approaches rely on fragments of a coronavirus protein to make a vaccine, while some use killed, or inactivated, versions of the whole coronavirus. In China, such vaccines have already entered human trials.

Florian Krammer, a virologist at Icahn School of Medicine at Mount Sinai in New York, predicted that at least 20 additional vaccine candidates will make their way into clinical trials in the weeks to come.

"I'm not worried at all about it," he said of the prospects for a new vaccine.

Many of these vaccines will stumble as the trials progress. As more people are inoculated, some candidates will fail to protect against the virus, and side effects will become more apparent.

But from what scientists are learning about the coronavirus, it ought to be a relatively easy target.

The coronavirus sports tempting targets on its surface, unique "spike" proteins the pathogen needs to enter human cells. The immune system readily learns to recognize these proteins, it appears, and to attack them, killing the virus.

Viruses can challenge vaccine makers by mutating rapidly, changing shape so that antibodies that work on one viral strain fail on another. Thankfully, the new coronavirus seems to be a slow mutator, and a vaccine that proves effective in trials should work anywhere in the world.

When work on a coronavirus vaccine started, some researchers worried that antibodies actually might worsen Covid-19, the illness caused by the coronavirus. But in early studies, no serious risks have emerged.

"That doesn't mean that there won't be, but so far there hasn't been any indication, so I'm cautiously optimistic on that point," said Dr. Alyson Kelvin, a researcher at the Canadian Center for Vaccinology and Dalhousie University.

Scaling Up

Ensuring that vaccines are safe and effective demands large trials that require careful planning and execution. If successful vaccines emerge from those trials, someone's going to have to make an awful lot of them.

Almost everyone on the planet is vulnerable to the new coronavirus. Each person may need two doses of a new vaccine to receive protective immunity. That's 16 billion doses.

"When companies promise of delivering a vaccine in a year or less, I am not sure what stage they are talking about," said Akiko Iwasaki, an immunobiologist at Yale University. "I doubt they are talking about global distributions in billions of doses."

Manufacturing vaccines is profoundly more complex than manufacturing, say, shoes or bicycles. vaccines typically require large vats in which their ingredients are grown, and these have to be maintained in sterile conditions. Also, no factories have ever churned out millions of doses of approved vaccines made with the cutting-edge technology being tested by companies like Inovio and Moderna.

Facilities have sprung up in recent years to make viral-vector vaccines, including a Johnson & Johnson plant in the Netherlands. But meeting pandemic demand would be an enormous challenge. Manufacturers have the most experience mass-producing inactivated vaccines, made with killed viruses, so this type may be the easiest to produce in large quantities.

But there cannot be just one vaccine. If that were to happen, the company that made it would have no chance of meeting the world's demand.

"The hope is that they will all, at some level, be effective, and certainly that's important because we need more than just one," said Emilio Emini, a director of the vaccine program at the Bill and Melinda Gates Foundation, which is providing financial support to many competing vaccine efforts.

As part of a public-private partnership the White House calls Operation Warp Speed, the Trump administration has promised to design a kind of parallel manufacturing track to run alongside the clinical trials, building up capacity well before trials are concluded, in hopes that one or more vaccines could be distributed immediately upon approval.

President Trump said on Friday that the goal of the project was to distribute a vaccine "prior to the end of the year." To do that, Mr. Trump is relying on the Defense Department to manage the manufacturing logistics related to vaccine development.

But in an interview on Thursday, Gen. Gustave F. Perna, who will manage the manufacturing logistics, said discussions about the equipment and facilities needed for production were just beginning.

He described his work as a "math problem": how to get 300 million doses of a vaccine that doesn't yet exist to Americans -- by January.

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Finding the supplies and planning their distribution would occur at the same time, he said. "I need to have syringes," General Perna said. "I need to have wipes, right? I need to have Band-Aids. I need to have the vaccine."

He added: "Now, how am I going to distribute it? What is it going to be distributed in? What do I need to order now to make sure I have the distribution capability? The small bottles, the trucks."

Dr. Amesh Adalja, an infectious disease physician and senior scholar at the Johns Hopkins University Center for Health Security, said that seemingly minor aspects of production and distribution could complicate progress later on.

"This is on a scale we've never seen since the polio ***vaccine***," he said. "It's the little things like the syringes, the needles, the glass vials. All of that has to be thought about. You don't want something that seems so simple to be the bottleneck in your ***vaccination*** program."

A ***coronavirus*** ***vaccine*** doesn't yet exist, but already there are questions about who will be able to afford it.

At the World Health Assembly meeting this week, a proposal from the European Union was adopted recommending a voluntary patent pool, which would put pressure on companies to give up their monopolies on ***vaccines*** they've developed.

Oxfam, an international charity, has published an open letter from 140 world leaders and experts calling for a "people's ***vaccine***," which would be "made available for all people, in all countries, free of charge."

"These ***vaccines*** have to be a public good," said Helen Clark, a former prime minister of New Zealand, who signed the letter. "We're not safe till everyone is safe."

Sui-Lee Wee contributed reporting from Singapore.

*https://www.nytimes.com/2020/05/20/health/**coronavirus**-**vaccines**.html*

Graphic

PHOTO: The Clinical Biomanufacturing Facility in Britain. Some scientists now say a ***coronavirus*** ***vaccine*** may be ready next year. (PHOTOGRAPH BY SEAN ELIAS, VIA REUTERS) (A11)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: ***vaccineS*** (93%); CORONAVIRUSES (90%); HERBAL MEDICINE (90%); INFECTIOUS DISEASE (90%); MEDICAL DEVICES (90%); MEDICAL DIAGNOSTICS, SCREENING & TESTING (90%); MEDICAL RESEARCH (90%); MEDICINE & HEALTH (90%); RESEARCH & DEVELOPMENT (90%); SCIENCE & TECHNOLOGY (90%); VIRUSES (90%); DISEASE AGENTS & VECTORS (89%); DRUG DESIGN & DISCOVERY (89%); GENETIC SCREENING (89%); MICROBIOLOGY (89%); VIROLOGY (89%); ANIMAL EXPERIMENTS (79%); GENES & CHROMOSOMES (79%); MAMMALOGY (79%); DISEASE IMMUNITY (78%); EPIDEMICS (78%); EXPERIMENTAL DRUGS (78%); INVESTIGATIONS (78%); PUBLIC HEALTH (78%); DIAGNOSTIC IMAGING (77%); PROSTHETICS & ORTHOTICS (77%); SOCIAL DISTANCING (77%); ORTHOPEDICS (76%); RESEARCH REPORTS (74%); COLLEGES & UNIVERSITIES (71%); INTERNATIONAL ASSISTANCE (70%)

Company: PFIZER INC (90%); JOHNSON & JOHNSON (68%)

Ticker: PFZ (LSE) (90%); PFE (NYSE) (90%); JNJ (NYSE) (68%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (90%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (90%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (90%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (90%); SIC2834 PHARMACEUTICAL PREPARATIONS (90%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (90%); NAICS339115 OPHTHALMIC GOODS MANUFACTURING (68%); NAICS339113 SURGICAL APPLIANCE & SUPPLIES MANUFACTURING (68%); NAICS339112 SURGICAL & MEDICAL INSTRUMENT MANUFACTURING (68%); NAICS334510 ELECTROMEDICAL & ELECTROTHERAPEUTIC APPARATUS MANUFACTURING (68%); NAICS325620 TOILET PREPARATION MANUFACTURING (68%); NAICS325611 SOAP & OTHER DETERGENT MANUFACTURING (68%); NAICS325413 IN-VITRO DIAGNOSTIC SUBSTANCE MANUFACTURING (68%); SIC3851 OPHTHALMIC GOODS (68%); SIC3842 ORTHOPEDIC, PROSTHETIC, & SURGICAL APPLIANCES & SUPPLIES (68%); SIC3841 SURGICAL & MEDICAL INSTRUMENTS & APPARATUS (68%); SIC3829 MEASURING & CONTROLLING DEVICES, NEC (68%); SIC3089 PLASTICS PRODUCTS, NEC (68%); SIC3069 FABRICATED RUBBER PRODUCTS, NEC (68%); SIC2844 PERFUMES, COSMETICS, & OTHER TOILET PREPARATIONS (68%); SIC2841 SOAPS & OTHER DETERGENTS, EXCEPT SPECIALTY CLEANERS (68%); SIC2835 IN VITRO & IN VIVO DIAGNOSTIC SUBSTANCES (68%); SIC2499 WOOD PRODUCTS, NEC (68%); ***vaccineS*** (93%); COSMETICS & TOILETRIES (91%); MANUFACTURING (91%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); SOAPS & DETERGENTS MFG (91%); TOILETRIES MFG (91%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); IN VITRO DIAGNOSTICS MFG (90%); MEDICAL DEVICES (90%); OPHTHALMIC GOODS (90%); OPHTHALMIC GOODS MFG (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); SURGICAL & MEDICAL INSTRUMENT MFG (90%); ACADEMIC MEDICAL CENTERS (89%); BIOLOGICS MFG (89%); DRUG DESIGN & DISCOVERY (89%); MISC PLASTIC PRODUCTS MFG (89%); VIROLOGY (89%); EXPERIMENTAL DRUGS (78%); DIAGNOSTIC IMAGING (77%); PROSTHETICS & ORTHOTICS (77%); COSMETICS (76%); ORTHOPEDICS (76%); RUBBER & SILICONE PRODUCTS (76%); SOAPS & DETERGENTS (74%); COLLEGES & UNIVERSITIES (71%); PLASTICS (67%)

Geographic: BOSTON, MA, USA (79%); FLORIDA, USA (79%); ENGLAND (72%)

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16 ***Coronavirus vaccine Shows Promising Early Results in China***

The New York Times

May 22, 2020 Friday 09:47 EST

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Section: HEALTH

Length: 812 words

Byline: Apoorva Mandavilli

Highlight: A trial with 108 participants suggests the ***vaccine*** is safe and may be moderately effective. But experts noted that the approach has failed in the past.

Body

A trial with 108 participants suggests the ***vaccine*** is safe and may be moderately effective. But experts noted that the approach has failed in the past.

A ***vaccine*** developed in ***China*** appears to be safe and may protect people from the new ***coronavirus***, researchers reported on Friday.

The early-stage trial, *published in the Lancet*, was conducted by researchers at several laboratories and included 108 participants aged 18 to 60. Those who received a single dose of the ***vaccine*** produced certain immune cells, called T cells, within two weeks. Antibodies needed for immunity peaked at 28 days after the inoculation.

“This is promising data, but it’s early data,” said Dr. Dan Barouch, director of ***vaccine*** research at Beth Israel Deaconess Medical Center in Boston, who was not involved in the work. “Over all, I would say this is good news.”

The trial is the first step in testing the ***vaccine*** and was intended mainly to verify its safety. Proof of its effectiveness will require trials in thousands, perhaps hundreds of thousands, more people.

A ***vaccine*** *for the new* ***coronavirus*** is considered to be the best long-term solution for allowing countries to reopen their economies and return to normalcy. Multiple teams worldwide are racing to test various candidates.

On Monday, *Moderna announced* that its ***vaccine*** *appeared to be safe and effective*, based on results from eight people in its trial. And on Wednesday, Dr. Barouch and his colleagues published a study showing their prototype ***vaccine*** *protected monkeys* from ***coronavirus*** infection.

Results of just one other human ***vaccine*** trial have been published in a scientific journal. That ***vaccine*** has now *entered mid-stage human trials*, the manufacturer, Sinovac Biotech Ltd., said on Friday.

The ***vaccine*** reported today was made with a virus, called Ad5, modified to carry genetic instructions into a human cell. The cell begins making a ***coronavirus*** protein; the immune system learns to recognize the protein and attack it, in theory preventing the ***coronavirus*** from ever gaining a foothold.

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But Ad5 is a cold virus that many people probably have already been exposed to. About half of the participants in the trial had powerful antibodies to Ad5 before they got the ***vaccine***.

In these people, “their immune systems will essentially rear up and blunt the effect of the ***vaccine***,” said Dr. Kirsten Lyke, a vaccinologist at the University of Maryland who is leading another ***coronavirus vaccine*** trial.

The researchers in ***China*** did find that people who had Ad5 antibodies were less likely to develop a strong immune response to the ***vaccine***.

“That may limit the use of this ***vaccine***,” said Dr. Peter Hotez, dean of the National School of Tropical Medicine at Baylor College of Medicine. “If you’re comparing ***vaccines***, the adenovirus ones so far seem to be on the lower end of the spectrum.”

Other teams have turned to adenoviruses to develop ***coronavirus vaccines***, but they are using less common strains, or even animal strains, to circumvent this problem. Dr. Barouch, who is working on an Ad26 ***vaccine***, said his team has data from Africa and Southeast Asia showing that people generally do not have high levels of antibodies to that strain.

Only a subset of people in the new trial produced neutralizing antibodies to the ***coronavirus***, the kinds of molecules needed for immunity. Other ***vaccine*** candidates have reported better results in the levels of neutralizing antibodies.

People between 45 and 60 years of age also produced weaker immune responses following ***vaccination*** than younger participants. Dr. Lyke said the responses may turn out to be even weaker among people older than 60.

“That’s a very important target population that they would have to examine,” she said. Dr. Lyke suggested that this ***vaccine*** might be best suited to younger populations and children.

The results are based on data from a short period, and it is unclear how long the ***vaccine***’s protection might last.

The researchers tested three doses and said the highest dose seemed to be the most effective. This dose response is encouraging, experts said. But people who got the highest dose also experienced the most side effects.

About 80 percent of the participants reported at least one side effect, all expected with a viral ***vaccine***, experts said. Apart from pain at the injection site, close to half of the participants reported fever, fatigue and headaches, and about one in five had muscle pain.

Experts praised the researchers for publishing all of their data for others to review, and said the results were promising over all.

“What we hope is that there will be not one ***vaccine*** but several ***vaccines*** that will be approved,” Dr. Barouch said. “The world needs multiple ***vaccines***.”

Lab research at CanSino Biologics in Tianjin, ***China***, in 2018. Multiple teams worldwide are racing to test ***vaccine*** candidates. ***CHINA*** STRINGER NETWORK/REUTERS

Classification

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Company: SINOVAC BIOTECH LTD (65%)

Ticker: SVA (NASDAQ) (65%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (65%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (65%); ***vaccineS*** (97%); ***COVID-19 CORONAVIRUS vaccine*** (90%); DRUG SAFETY (90%); IMMUNOLOGIC FACTORS (90%); MANUFACTURING (90%); PHARMACEUTICALS & BIOTECHNOLOGY (90%); PHARMACEUTICALS PRODUCT DEVELOPMENT (90%); ***VACCINATION*** & IMMUNIZATION (90%); ACADEMIC MEDICAL CENTERS (78%); BIOLOGICS MFG (78%); IMMUNOLOGY (78%); TROPICAL MEDICINE (72%)

Person: Hotez, Peter J

Geographic: BOSTON, MA, USA (79%); ***CHINA*** (90%)

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17 ***Coronavirus Update***

The New York Times

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Section: Section A; Column 0; Foreign Desk; Pg. 4

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Byline: By James Barron

Body

Two studies published in a medical journal on Friday dealt with drugs and the ***coronavirus***. One of the studies suggested that a drug championed by President Trump could be harmful. The other study said that a ***vaccine*** developed in ***China*** appeared to be safe and might offer protection against the virus.

Both studies were published in The Lancet. The first study said that people taking hydroxychloroquine, a malaria drug the president said he requested in hopes of warding off the virus, were more likely to have abnormal heart rhythms. Such patients were also more likely to die.

The study also looked at patients who had been given another malaria drug, chloroquine. In all, the study reviewed the records of nearly 15,000 patients who received the drugs and 81,000 who did not. But the study was observational, meaning that was not a rigorous test with patients chosen at random to receive the drugs. Last month the federal Food and Drug Administration issued a safety warning that said the drugs should be taken only in clinical trials or in hospitals where heart monitoring could be arranged.

The Chinese ***vaccine*** in the other study was created with another virus, an adenovirus called Ad5 that easily enters human cells. It was the subject of an early-stage trial with 108 participants and researchers from several laboratories. Those who were given the ***vaccine*** showed a moderate immune response to the virus, which peaked 28 days after inoculation.

Ups and Downs

As much of the world moves past pandemic lockdown measures, Britain announced plans to quarantine everyone flying into the country, including its own citizens, for 14 days beginning June 8. The chief executive of the budget airline Ryanair, Michael O'Leary, has described the plan as "hopelessly defective," "idiotic" and "unimplementable." Airlines UK, a trade group, has said the measure "would effectively kill" international travel for Britain.

The caseload has accelerated in two nations -- Mexico and Brazil -- whose leaders have repeatedly played down the severity of the virus. Both countries set new highs for new cases and deaths almost daily this week.

In Mexico, where President Andrés Manuel López Obrador continued to travel around the country after the first cases were confirmed, officials had nearly 3,000 new cases on Thursday, roughly a third more than on Wednesday. The increases came as mining, construction and businesses that fed into the North American automotive supply chain resumed operations.

Brazil, which trails only the United States and Russia in its caseload, recorded almost 20,000 new cases on Wednesday and another 18,500 on Thursday. The death toll climbed past 6,500 in Mexico and 20,000 in Brazil.

In the United States, some epidemiologists see warning signs of a resurgence in the South. Georgia reported 948 new cases on Wednesday, a 63 percent jump from Tuesday, and 807 more on Thursday. South Carolina had 204 new cases on Thursday, a 71 percent jump from Wednesday. In Alabama, 676 new cases were posted on Thursday, 86 percent more than on Wednesday, and Mayor Steven L. Reed of Montgomery raised alarms going into the Memorial Day weekend. ''We are in a very dangerous predicament,'' he said on MSNBC.

A Democrat whose position is officially nonpartisan, Mr. Reed attributed an increase in cases to changes in people's behavior after Gov. Kay Ivey, a Republican, relaxed restrictions across the state at the end of April. She issued orders allowing restaurants to seat customers, but at 50 percent of capacity, and permitting gyms, barbershops and hair salons to reopen. She also lifted a 10-person limit on nonwork gatherings, including at beaches.

''It has sent a message that the battle with ***Covid-19*** is over and it has been won,'' Mr. Reed said. ''We are still in this battle. We can't afford to relax now.''

Mia Mothershed, a spokeswoman for Jackson Hospital in Montgomery, said on Friday that the hospital had reached capacity in its 30 intensive-care beds from a combination of ***coronavirus*** patients and people with other illnesses. ''We have absolutely no beds available here,'' she said.

Progress in New York

How soon can areas closest to New York City, once the center of the pandemic in the United States, reopen? The suburbs -- on Long Island and in several counties north of the city -- could start to reopen next week, leaving the city as the only section of New York State still officially shut down. Gov. Andrew M. Cuomo said that the two counties on Long Island as well as the Mid-Hudson region, which includes Westchester and Rockland Counties, could move into the first phase of reopening if virus-related deaths continued to decline and contact-tracing programs were ready to go. In anticipation of reopening, construction staging can begin next week, Mr. Cuomo said.

Mr. Cuomo and Mayor Bill de Blasio have indicated that New York City was unlikely to begin reopening until June. The city has already met four of Mr. Cuomo's criteria, tracked on an online dashboard. Two that it did not satisfy as of Friday involved the capacity of the health care system to handle a surge in cases. The city still needed to have at least 30 percent of its hospital beds and at least 30 percent of its intensive-care-unit beds available. The city fell three percentage points short on conventional beds and two percentage points short on intensive-care beds.

Mr. de Blasio has pegged the city's reopening to three metrics: the number of new hospital admissions, the number of patients in critical care and the percentage of positive ***coronavirus*** tests. He said on Friday that the city would not reopen until it had a 10-to-14-day period with under 200 daily hospitalizations of suspected ***Covid-19*** patients, fewer than 15 percent of the population testing positive and fewer than 375 patients in the intensive-care units of the city's public hospital system.

The city has met the first two requirements. But he said the number of intensive-care patients was too high, at 451.

Complicating Disaster Relief

With the hurricane season beginning in 10 days, officials are warning that disaster relief efforts will be complicated by the pandemic. People who volunteer for disaster relief tend to be older, which means they are at higher risk of contracting the ***coronavirus***. That, in turn, means that they are less likely to volunteer this year. More than five million volunteers typically work in disaster relief annually, said Greg Forrester, president of National Voluntary Organizations Active in Disasters, an association of nonprofit groups. He expects the number to decline by 50 percent this year.

Asked how disaster relief efforts could meet the usual demand with half as many people, Mr. Forrester said: "You won't."***Coronavirus*** Update wraps up the day's developments with information from across the virus report.

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Company: RYANAIR HOLDINGS PLC (53%)

Organization: FOOD & DRUG ADMINISTRATION (56%)

Ticker: RYAAY (NASDAQ) (53%); RYA (LSE) (53%)

Industry: NAICS481111 SCHEDULED PASSENGER AIR TRANSPORTATION (53%); SIC4512 AIR TRANSPORTATION, SCHEDULED (53%); ANTI-INFECTIVES (90%); CLINICAL TRIALS (90%); PHARMACEUTICALS PRODUCT DEVELOPMENT (90%); ***vaccineS*** (90%); AIRLINES (89%); EPIDEMIOLOGY (89%); CARDIOVASCULAR DEVICES (78%); HOSPITALS (78%); ***VACCINATION*** & IMMUNIZATION (78%); BIOLOGICS MFG (72%); INTERNATIONAL TOURISM (61%)

Person: ANDRES MANUEL LOPEZ OBRADOR (79%); DONALD TRUMP (72%)

Geographic: BRAZIL (93%); UNITED STATES (92%); ***CHINA*** (79%); NORTH AMERICA (79%); UNITED KINGDOM (79%); RUSSIAN FEDERATION (71%)

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18 *The Rush for a vaccine*

The New York Times

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Byline: By Chelsea Leu

Body

OUR BEST HOPE for ending the ***coronavirus*** pandemic is a ***vaccine***. By protecting people from getting the disease, it would finally make it safe for schools, restaurants and businesses to fully reopen. But making a ***vaccine*** for a completely new virus isn't easy. We texted with Sarah Stanley, an infectiousdiseases researcher at the University of California, Berkeley, to find out what's happening in scientific laboratories worldwide. An edited and condensed version of our conversation follows.

Can you tell me how scientists are developing a ***vaccine*** for ***coronavirus***, using only emoji?

That makes sense! I think Can you break it down for me?

Sure! The key to a ***vaccine*** is to make something that looks like the virus but doesn't make you sick. This tricks your body into making an immune response that will fight the real virus and stop it from infecting you.

To make a ***vaccine***, scientists grow the virus in a lab and kill it or weaken it to make it safe. For many diseases, they will test experimental ***vaccines*** in monkeys. If they are safe, the ***vaccine*** will be tested in a small group of people. If the ***vaccine*** works in this test group, it will then be used to protect people all over the world.

Who's working on a ***coronavirus*** ***vaccine*** right now, and what step are they on?

There are efforts here in the United States , but people are also working on it in Japan, ***China***, Australia and Germany.

One group far along is from the University of Oxford in England. They have already started testing their ***vaccine*** in people. In ***China***, another company just showed that their ***vaccine*** successfully protected monkeys from infection.

How long does it normally take to develop a ***vaccine*** for a totally new ? And how have scientists been speeding up the process?

Normally this process might take many years. One thing that helped is that scientists at Oxford were already working on ***vaccines*** for other coronaviruses. But mostly this is a great example of how quickly things can happen when the whole world works together toward the same goal!

What are the challenges in developing a ***coronavirus*** so quickly?

Every step is challenging! Making ***vaccines*** is usually a process of trial and error. Another major challenge is finding a way to make millions (billions?) of doses of the ***vaccine*** as quickly as possible. Then you have to figure out how to get the ***vaccine*** to people all over the world. This will take a lot of money and many experts and governments working together.

That sounds like a huge amount of work! How long do you think it might be before we get a for the ***coronavirus***?

Some groups are saying they can have ***vaccines*** widely available next year. I hope they are right! A ***vaccine*** is our best bet for ending the ongoing global pandemic. That said, there are other strategies that scientists are working on, including identifying drugs that can help people recover when they are sick.

Thanks, Sarah!

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Organization: UNIVERSITY OF CALIFORNIA BERKELEY (58%)

Industry: ***vaccineS*** (92%); DRUG DESIGN & DISCOVERY (89%); EXPERIMENTAL DRUGS (78%); BIOLOGICS MFG (73%)

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19 ***White House Narrows vaccine Candidates to 5 Companies***

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Body

The White House is eager to project progress, but the public-private partnership it has created still faces scientific hurdles, internal tensions and questions from Congress.

WASHINGTON -- The Trump administration has selected five companies as the most likely candidates to produce a ***vaccine*** for the ***coronavirus***, senior officials said, a critical step in the White House's effort to deliver on its promise of being able to start widespread inoculation of Americans by the end of the year.

By winnowing the field in a matter of weeks from a pool of around a dozen companies, the federal government is betting that it can identify the most promising ***vaccine*** projects at an early stage, speed along the process of determining which will work and ensure that the winner or winners can be quickly manufactured in huge quantities and distributed across the country.

The announcement of the decision will be made at the White House in the next few weeks, government officials said. Dr. Anthony S. Fauci, the federal government's top epidemiologist and director of the National Institute of Allergy and Infectious Diseases, hinted at the coming action on Tuesday when he told a medical seminar that "by the beginning of 2021 we hope to have a couple of hundred million doses."

The five companies are Moderna, a Massachusetts-based biotechnology firm, which Dr. Fauci said he expected would enter into the final phase of clinical trials next month; the combination of Oxford University and AstraZeneca, on a similar schedule; and three large pharmaceutical companies: Johnson & Johnson, Merck and Pfizer. Each is taking a somewhat different approach.

President Trump has been eager to show rapid progress as the nation slowly emerges from lockdown, and as he faces the growing challenge of winning re-election in the midst of national upheaval: more than 106,000 Americans dead from the virus, unemployment at record levels and now discord and violence in the streets.

Despite promising early results and the administration's strong interest in nurturing a government-industry partnership, substantial hurdles remain, and many scientists consider Mr. Trump's goal of having a ***vaccine*** widely available by early next year to be optimistic, if not unrealistic. ***vaccine*** development is notoriously difficult and time-consuming; the record is four years, and a decade is not unusual.

Moderna, Johnson & Johnson and the Oxford-AstraZeneca group have already received a total of $2.2 billion in federal funding to support their ***vaccine*** programs. Their selection as finalists, along with Merck and Pfizer, will give all five companies access to additional government money, help in running clinical trials and financial and logistical

support for a manufacturing base that is being built even before it is clear which if any of the vaccines in development will work.

More funding is likely to be announced soon, officials said. This week, the Department of Health and Human Services added $628 million to a contract with Emergent BioSolutions, a Maryland firm, to expand development of vaccine manufacturing capacity.

Dr. Fauci, who had been sounding cautionary notes, now sounds more optimistic: Among his concerns, he said during the session run by The Journal of the American Medical Association, is how long immunity triggered by a vaccine might last.

"vaccines are coming along really well," Mr. Trump wrote on Twitter on Tuesday, hours before he was scheduled to meet with Alex M. Azar II, the health and human services secretary. "Moving faster than anticipated. Good news ahead."

The project -- called Operation Warp Speed -- amounts to a sprawling, on-the-fly experiment in industrial policy by a Republican administration that has been otherwise dedicated to giving private industry a free hand.

Democrats in Congress are already seeking details about the contracts with the companies, many of which are still wrapped in secrecy. They are asking how much Americans will have to pay to be vaccinated and whether the firms, or American taxpayers, will retain the profits and intellectual property.

Other countries, including China, are also rushing their own efforts to produce a vaccine, raising concerns that nationalism rather than need could drive decisions about who first gets inoculated.

Two of the vaccine candidates selected by the Trump administration -- developed by Moderna and scientists at Oxford -- are already in Phase II trials, meaning their effectiveness is being tested on scores of human subjects.

They will likely shift to large-scale human trials, called Phase III, as early as July, two senior administration officials said.

While Johnson & Johnson has said it would begin Phase I trials by September at the latest, that now appears likely to be sped up considerably, officials said. Phase I focuses on testing for safety, a particularly important factor for vaccines since they are administered widely to healthy people.

Several of the companies said that they did not want to speak ahead of any announcement by the White House, and the others did not respond to requests for a comment. Along with Moderna, Merck, Pfizer and Johnson & Johnson are based in the United States. AstraZeneca is based in Britain.

Under the administration plan, according to officials, around 30,000 people will take part in Phase III trials for each vaccine when they reach that stage. If all five companies reach Phase III trials, around 150,000 people, mostly Americans, would ultimately become the test subjects for a vaccine.

All age groups will be covered, including older people and those with underlying health conditions.

It is possible, officials and corporate executives in several of the firms said, that some of the Phase III trials will be conducted outside the United States, and may be focused on coronavirus hot spots, where a greater possibility of infection could speed the process of determining the effectiveness of a potential vaccine. The other alternative -- deliberately exposing inoculated volunteers to the disease -- is fraught with ethical issues and officials seem reluctant to take that route, even if it might speed results.

The plans are being assembled in an office suite on the seventh floor of the Department of Health and Human Services's headquarters, where two newly appointed leaders of the project, Dr. Moncef Slaoui and Gen. Gustave F. Perna, have set up temporary offices.

Dr. Slaoui comes from the pharmaceutical and venture capital worlds. General Perna heads the Army Matériel Command and is an expert in complex logistics but not medicine.

Their work is monitored by Mr. Azar, Defense Secretary Mark T. Esper and Jared Kushner, the president's son-in-law and senior adviser. They are coordinating with the senior infectious disease experts on the White House's ***coronavirus*** task force, Dr. Fauci and Dr. Deborah L. Birx, who is overseeing the task force's day-to-day operations.

Weeks ago, Mr. Trump compared the Warp Speed effort to the Manhattan Project, the government-led program during World War II to develop the atomic bomb. There are superficial similarities: Lives at stake, crushing deadlines, and a combination of civilian and military leadership. (The Manhattan Project was headed by J. Robert Oppenheimer, a theoretical physicist, and Gen. Leslie R. Groves, who oversaw the project to deliver the bomb to its targets in Japan.)

But even some of the president's top aides say the analogy goes only so far: This effort is an amalgamation of private-industry ***vaccine*** projects, with an overlay of military coordination.

One senior administration official said the more appropriate comparison would be Lockheed Martin's "Skunk Works" program in California, where the company's most sensitive aircraft projects have been developed and built. Many never left the design stage.

Much of the work at the Warp Speed project involves making sure no surprises slow development.

But Dr. Amesh Adalja, an infectious disease physician and senior scholar at the Johns Hopkins University Center for Health Security, said that the administration should "be prepared for things to slow down once we get further along."

"All of the timelines are optimistic," he said. "***vaccine*** development doesn't always go as predicted. There are a lot of hiccups in the production process."

Democratic lawmakers on Tuesday wrote to Mr. Azar with concerns about how his department was awarding contracts to the pharmaceutical companies.

Representative James E. Clyburn, Democrat of South Carolina and the chairman of the House's select committee on the ***coronavirus***, and Representative Carolyn B. Maloney, Democrat of New York and the chairwoman of the Committee on Oversight and Reform, said that they were "seeking to determine whether these contracts include provisions to ensure affordability and prevent profiteering."

Agreements have included promises from pharmaceutical companies related to intellectual property, the number of doses that will be produced if a candidate is successful and the price of a ***vaccine***, one senior administration official said. But few details have been made public.

Contracts are being awarded through the department's Biomedical Advanced Research and Development Authority. Congress allocated billions of dollars for ***vaccine*** development in various components of the $2 trillion ***coronavirus*** relief package.

Senior administration officials said that between new congressional funds and money that can be drawn from appropriations for the federal health agencies, the project will have plenty of funding.

Behind the scenes, the project has undergone upheaval in its leadership.

Dr. Peter Marks, the federal scientist who devised and initially oversaw the project at the Food and Drug Administration, stepped aside from his role as its lead ***vaccine*** specialist, in part because he believed Dr. Slaoui had potential conflicts of interest, according to senior administration officials.

Dr. Slaoui, a venture capitalist and a former executive at the pharmaceutical firm GlaxoSmithKline, sat on the board of Moderna before accepting his current role last month. The value of his stock holdings in Moderna jumped significantly when the company released preliminary data from an early phase of its candidate vaccine trial. He sold his $12 million in shares afterward, and the administration said he would donate the increased value to cancer research.

Dr. Slaoui also joined the project on a contract rather than as a government employee, leaving him exempt from federal disclosure rules that would require him to list his outside positions, stock holdings and other potential conflicts. The arrangement is not subject to the same conflict-of-interest laws and regulations that executive branch employees must follow.

In a May 20 meeting, according to one official, Dr. Marks, the director of the F.D.A.'s Center for Biologics Evaluation and Research, informed Dr. Stephen M. Hahn, the agency's commissioner, that he wanted to exit the vaccine program.

He also left the White House's coronavirus task force, a group he had been named to five days earlier.

Two senior officials said that Col. Matthew Hepburn, who is also a physician, has stepped in for Dr. Marks on the vaccine program.

https://www.nytimes.com/2020/06/03/us/politics/coronavirus-vaccine-trump-moderna.html

Graphic

PHOTO: A scientist at Moderna's lab in Cambridge, Mass., in February. Moderna was one of the companies tapped by the White House. (PHOTOGRAPH BY DAVID L. RYAN/THE BOSTON GLOBE, VIA GETTY IMAGES)

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(73%); PROSTHETICS & ORTHOTICS (70%); EPIDEMIOLOGY (67%)

Company: ASTRAZENECA PLC (83%); JOHNSON & JOHNSON (67%); PFIZER INC (58%)

Organization: NATIONAL INSTITUTE OF ALLERGY & INFECTIOUS DISEASES (55%)

Ticker: AZN (STO) (83%); AZN (NYSE) (83%); AZN (LSE) (83%); JNJ (NYSE) (67%); PFZ (LSE) (58%); PFE (NYSE) (58%)

Industry: NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (83%); SIC2834 PHARMACEUTICAL PREPARATIONS (83%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (67%); NAICS339115 OPHTHALMIC GOODS MANUFACTURING (67%); NAICS339113 SURGICAL APPLIANCE & SUPPLIES MANUFACTURING (67%); NAICS339112 SURGICAL & MEDICAL INSTRUMENT MANUFACTURING (67%); NAICS334510 ELECTROMEDICAL & ELECTROTHERAPEUTIC APPARATUS MANUFACTURING (67%); NAICS325620 TOILET PREPARATION MANUFACTURING (67%); NAICS325611 SOAP & OTHER DETERGENT MANUFACTURING (67%); NAICS325413 IN-VITRO DIAGNOSTIC SUBSTANCE MANUFACTURING (67%); SIC3851 OPHTHALMIC GOODS (67%); SIC3842 ORTHOPEDIC, PROSTHETIC, & SURGICAL APPLIANCES & SUPPLIES (67%); SIC3841 SURGICAL & MEDICAL INSTRUMENTS & APPARATUS (67%); SIC3829 MEASURING & CONTROLLING DEVICES, NEC (67%); SIC3089 PLASTICS PRODUCTS, NEC (67%); SIC3069 FABRICATED RUBBER PRODUCTS, NEC (67%); SIC2844 PERFUMES, COSMETICS, & OTHER TOILET PREPARATIONS (67%); SIC2841 SOAPS & OTHER DETERGENTS, EXCEPT SPECIALTY CLEANERS (67%); SIC2835 IN VITRO & IN VIVO DIAGNOSTIC SUBSTANCES (67%); SIC2499 WOOD PRODUCTS, NEC (67%); NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (58%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (58%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (58%); PHARMACEUTICALS INDUSTRY (93%); PHARMACEUTICALS & BIOTECHNOLOGY (92%); COSMETICS & TOILETRIES (91%); MANUFACTURING (91%); SOAPS & DETERGENTS MFG (91%); TOILETRIES MFG (91%); ***vaccineS*** (91%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); IN VITRO DIAGNOSTICS MFG (90%); MEDICAL DEVICES (90%); OPHTHALMIC GOODS (90%); OPHTHALMIC GOODS MFG (90%); PHARMACEUTICAL PREPARATION MFG (90%); SURGICAL & MEDICAL INSTRUMENT MFG (90%); BIOLOGICS MFG (89%); BIOTECHNOLOGY INDUSTRY (89%); CLINICAL TRIALS (89%); HEALTH DEPARTMENTS (89%); INDUSTRIAL RUBBER PRODUCTS (89%); PHARMACEUTICALS PRODUCT DEVELOPMENT (89%); ***VACCINATION*** & IMMUNIZATION (89%); DRUG AVAILABILITY (78%); DRUG DESIGN & DISCOVERY (78%); COSMETICS (77%); DIAGNOSTIC IMAGING (77%); ORTHOPEDICS (77%); RUBBER & SILICONE PRODUCTS (77%); SOAPS & DETERGENTS (75%); PROSTHETICS & ORTHOTICS (70%); PLASTICS (69%); EPIDEMIOLOGY (67%)

Person: DONALD TRUMP (89%); ANTHONY FAUCI (79%)

Geographic: OXFORD, ENGLAND (54%); MASSACHUSETTS, USA (79%); UNITED STATES (93%)

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20 ***Moon Shot***

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Length: 7221 words

Byline: By Siddhartha Mukherjee

Body

Siddhartha Mukherjee is an associate professor of medicine at Columbia University and a cancer physician and researcher. He is the author of "The Emperor of All Maladies: A Biography of Cancer," which was the winner of the 2011 Pulitzer Prize in general nonfiction, and "The Gene: An Intimate History." He was recently appointed to Gov. Andrew Cuomo's blue-ribbon commission to reimagine New York.

Dan Barouch is the director of the Center for Virology and ***vaccine*** Research at Beth Israel Deaconess Medical Center in Boston and a professor of medicine at Harvard Medical School.

Margaret (peggy) Hamburg is the foreign secretary of the National Academy of Medicine. She was commissioner of the Food and Drug Administration from 2009 to 2015.

Susan r. Weiss is a professor and vice-chairwoman of the Department of Microbiology at the University of Pennsylvania and a co-director of the Penn Center for Research on Coronaviruses and Other Emerging Pathogens.

George Yancopoulos is co-founder, president and chief scientific officer of Regeneron.

In the history of medicine, rarely has a ***vaccine*** been developed in less than five years. Among the fastest to be developed was the current mumps ***vaccine***, which was isolated from the throat washings of a child named Jeryl Lynn in 1963. Over the next months, the virus was systematically "weakened" in the lab by her father, a biomedical scientist named Maurice Hilleman. Such a weakened or attenuated virus stimulates an immune response but does not cause the disease; the immune response protects against future infections with the actual virus. Human trials were carried out over the next two years, and the ***vaccine*** was licensed by Merck in December 1967.

Antiviral drugs, too, have generally taken decades to develop; effective combinations of them take even longer. The first cases of AIDS were described in the early 1980s; it took more than a decade to develop and validate the highly effective triple drug cocktails that are now the mainstay of therapy. We are still continuing to develop new classes of medicines against H.I.V., and notably, there is no ***vaccine*** for that disease. And yet the oft-cited target for creating a ***vaccine*** against SARS-CoV-2, the virus that causes ***Covid-19***, is 12 months, 18 at the outside.

Pulling that off is arguably the most important scientific undertaking in generations. The Times assembled (virtually, of course) a round table to help us understand the maddening complexity of the challenge and the extraordinary collaboration it has already inspired. The group included a virologist; a ***vaccine*** scientist; an immunologist and oncologist; a biotech scientist and inventor; and a former head of the Food and Drug Administration.

WHAT IT TAKES TO FIND A ***vaccine***

GEORGE YANCOPOULOS: Most people don't realize that successfully inventing and developing any new drug or ***vaccine*** is quantifiably among the hardest things that human beings try to do. This is reflected in the numbers. Although there are thousands of major medical institutions and thousands of biotech and biopharma companies that collectively involve millions of researchers and hundreds of billions of dollars invested per year -- and all are working on new ***vaccines*** and medicines -- the vast majority of efforts fail, with the F.D.A. only approving 20 to 50 new medicines a year. And each of the rare success stories usually occurs over many years, often a decade or two.

PEGGY HAMBURG: So with ***Covid-19***, we are moving at record speed, in terms of the history of ***vaccine*** development.

SIDDHARTHA MUKHERJEE: Can you put a number down for how quickly we can get an effective ***vaccine*** developed? Is the 12-to-18-month time frame we've been hearing realistic?

DAN BAROUCH: The hope is that it will be within a year, but that is not in any way guaranteed. That projection will be refined as time goes on -- and a year assumes that everything goes smoothly from this point forward. That's never been done before. And safety cannot be compromised.

HAMBURG: Realistically, the 12 to 18 months that most people have been saying would be a pretty good marker but still optimistic.

SUSAN R. WEISS: I'd agree.

MUKHERJEE: To think about whether there's any way to make this process go faster, let's start by talking about how the search for a ***vaccine*** usually happens. Dan, what is the general principle of what a ***vaccine*** is and how it works?

BAROUCH: The goal of a ***vaccine*** is to raise an immune response against a virus or a bacterium. Later, when a vaccinated person is exposed to the actual virus or bacterium, the immune system will then block or rapidly control the pathogen so that the person doesn't get sick. The immune cells that make antibodies are called B cells. Once they've been triggered by a ***vaccine*** to raise an immune response, some of these B cells can last for years and are always standing ready to make antibodies against the pathogen when it is encountered, thereby protecting against the disease for a prolonged period of time.

HAMBURG: Under normal conditions, drug-and-***vaccine*** development begins with "preclinical" work -- basic science -- to identify the nature of the disease in question.

WEISS: In virology labs like mine, we try to identify the viral proteins that a ***vaccine*** might target, usually the protein that recognizes and attaches to the host-cell receptor. All coronaviruses have a so-called spike protein, which is what gives the virus its corona-like morphology, the "crownlike shape," as can be visualized in an electron microscope. To invade a cell, the spike protein attaches to a receptor -- another protein, usually -- on the cell's outer membrane. This eventually results in the genetic material of the virus, in this case, an RNA protein complex, being internalized in the cell. And once that happens, replication can begin and a person can get sick. If you can identify the viral protein that interacts with the cellular receptor, then you can try to create a ***vaccine***. This spike protein represents a particularly attractive candidate for a ***vaccine***, because it is a protein that most prominently sticks outside of the surface of the virus, and so it's the part of the virus that is most visible to the immune system.

MUKHERJEE: So what are the different approaches that you can take to finding ***vaccines***?

BAROUCH: A tried-and-true ***vaccine*** approach is a whole inactivated virus ***vaccine*** -- that's when you grow up the actual virus in the laboratory, for example in cells or in eggs, and then "inactivate" it with chemicals or another method to make it unable to infect cells but still able to elicit an immune response. A company in ***China***, Sinovac

Biotech, currently has an inactivated SARS-CoV-2 ***vaccine*** in clinical trials. The pros are that there's a long clinical history of multiple ***vaccines*** that have been successful in that regard, such as the inactivated polio ***vaccine*** and the inactivated flu ***vaccine***. The cons are that there are always some safety considerations around proving that the virus has been fully inactivated. If the virus is not fully inactivated, the danger is that it might actually cause the disease.

Because of those issues, many groups are working on approaches that are called gene-based ***vaccines***. Gene-based ***vaccines***, such as DNA ***vaccines*** and RNA ***vaccines***, do not consist of the entire virus particle. Rather, these ***vaccines*** use just a small fraction -- sometimes even just one gene -- from the virus.

That still leaves the question of how to get that gene into human cells. A vector-based ***vaccine*** uses a delivery vehicle -- one example would be a recombinant adenovirus, a "harmless virus" carrier, like a common-cold virus -- to deliver the protein into a person's cells. For instance, you can take the spike-protein DNA from SARS-CoV-2 and "stitch" it into the DNA of the harmless cold virus using genetic-engineering techniques. The virus delivers the spike-protein DNA into cells, but it cannot replicate in cells, so it's a safe delivery system. Still other approaches use purified proteins, such as the spike protein itself, as ***vaccines***.

YANCOPOULOS: This gene-based approach was used in the case of Ebola. Scientists figured out that the protein the virus used to invade human cells is one that's called the GP protein. They were able to make a very successful ***vaccine***. They actually stitched in the GP protein, using genetic-engineering techniques, into a benign virus. When this virus infected cells, it made the GP protein, and the body recognized that protein as "foreign" and made antibodies against it.

MUKHERJEE: There is also the idea of ditching the "harmless" virus altogether and just using a snippet of a viral gene, by itself, as an inoculum. As soon as the sequence of the SARS-CoV-2 genome became available in January, it became possible to design such a viral-gene snippet. Through reasons that we still don't fully understand, the body's own cells take up that viral gene, even without a carrier, and produce viral protein from it. Why and how cells take up this so-called naked DNA or RNA is still being worked out, but the viral protein is recognized as "foreign" because it has never been seen by the body, and the host raises antibodies against it. And because it is not carried by any virus, this kind of ***vaccine*** can be easier to manufacture initially, although scaling up the manufacture may be tough. This is the approach that Moderna is taking to try and make a ***vaccine***. In Moderna's case, it involves using RNA as the inoculum.

But what is the track record so far of a real human ***vaccine*** for a real human disease using these genetic techniques?

BAROUCH: Currently there are no approved DNA ***vaccines*** or RNA ***vaccines***. Some of them have been tested in small, early-phase clinical trials, for safety and ability to induce an immune response. However, they have not previously been tested in large-scale efficacy trials or mass produced or approved for clinical use.

MUKHERJEE: Yes, so we have to be very careful with these ***vaccines***. The data discussed by Moderna in May would suggest that their ***vaccine*** can elicit antibodies in humans. It did so in eight patients. But whether that is protective against SARS-CoV-2, and how long the protection lasts, is an open question. More so, because elderly people need particular protection, and we need to understand how much of this ***vaccine***, or ones like it, are eliciting long-term immunity in the elderly, where the immune system might be already somewhat attenuated in its response.

Once you have a ***vaccine*** that you want to test, then you begin animal studies. What animals are ***coronavirus vaccines*** and drugs being tested on? And how do scientists know which ones to use?

WEISS: An ideal animal model is one that reproduces the human disease as closely as possible -- in which, for example, clinical signs resembling symptoms in humans are observed, virus replication is observed in similar organs, immune response mirrors that in humans and so on. In addition, an animal model is often used to demonstrate whether a virus can be transmitted from an infected to an uninfected animal. Scientists use animal

models to understand how the virus causes disease. They are also useful to determine whether a ***vaccine*** will be successful to prevent infection or a drug will be able to reduce or eliminate the disease. With ***Covid-19***, there's currently a hamster model that looks like it works pretty well to mimic the disease and also some promising research with mice, ferrets and also nonhuman primates. None of these models are perfect, but each one of them tells us something about the immune response and may be useful for testing of ***vaccine*** efficacy as well as for antiviral therapies.

MUKHERJEE: Dan, you have been working with the monkey model and a genetically engineered ***vaccine***. Can you tell us more about it?

BAROUCH: We're collaborating with Johnson & Johnson in the development of a SARS-CoV-2 ***vaccine***. This ***vaccine*** involves a recombinant adenovirus vector -- a common-cold virus that's been altered to make it harmless -- to shuttle the spike protein into cells. That is an efficient way of inducing potent immune responses to a pathogen and elicits durable immune responses as well.

There are two key scientific questions related to ***vaccine*** development that are crucial. First, is there evidence that natural immunity induced by infection protects against a subsequent encounter with the virus? And then, of course, there is the question of which ***vaccines*** to test and how effective any of these will be. We have just published some preliminary answers to these questions in the animal model in monkeys.

In the first experiment, we infected nine monkeys with SARS-CoV-2 in the nose and in the lungs. All the animals developed a viral pneumonia, which was similar to human disease, except the monkey disease was mild and all animals recovered. Thirty-five days later, we re-exposed the animals a second time to the virus -- and found that all the animals were protected. There was no virus or very low levels of the virus in the lungs. This is an important question because, historically, it has proved much easier to develop ***vaccines*** when there is natural protective immunity against the virus. For H.I.V., for instance, there is no natural protective immunity, and that's part of the reason that H.I.V. ***vaccines*** have been so hard to develop.

In the second study, we developed a series of prototype ***vaccines***. These were "naked DNA" ***vaccines*** -- ones without any delivery vehicles. These are not the ***vaccines*** that we are planning to take into the clinic, but rather these prototype DNA ***vaccines*** can teach us a lot about the immune responses needed to protect against this virus. We used six different versions of the spike-protein gene -- some encoding the full protein, some with smaller pieces. Twenty-five monkeys received these ***vaccines*** and 10 received just saline as a control. Each monkey received two ***vaccine*** shots. Six weeks after the first shot, they were exposed to the virus, and we found that vaccinated animals were protected from SARS-CoV-2. Eight of the 25 animals had no virus detected after exposure, and the remaining animals showed low levels of the virus. Most important, the level of antibodies induced by the ***vaccine*** correlated with the level of protection, and this biomarker may therefore be useful for monitoring ***vaccine*** studies moving forward. The full-length spike protein appeared to work the best.

The implications of these two studies are that both natural immunity and ***vaccine***-induced immunity can exist in primates and that the amount of antibody may serve as a useful marker for ***vaccine*** effectiveness. But of course, these are animal studies, and we will need to study these questions in humans.

MUKHERJEE: So what happens next in terms of making a real ***vaccine*** out of these data?

BAROUCH: DNA encoding the full-length spike protein has been stitched into the common-cold virus vector as a more efficient way of transporting the spike-protein DNA into cells. That's the basis of the ***vaccine*** we are developing with J.& J.

MUKHERJEE: In addition to the J.& J. and Moderna ***vaccines***, there are several other programs. One is the Oxford program. What do we know about that one?

BAROUCH: The Oxford ***vaccine*** is based on a chimpanzee common-cold virus, and it also encodes the spike protein. Early data shows that in monkeys, the ***vaccine*** was able to reduce the amount of virus in the lung but not in the nose, following exposure to SARS-CoV-2. This ***vaccine*** has already started early human testing, but we are still waiting for definitive data. Several ***vaccines*** are also in clinical trials in ***China***, including Sinovac's inactivated-virus ***vaccine*** and another ***vaccine*** based on a human common-cold virus.

GETTING FROM A DISCOVERY TO A CURE

MUKHERJEE: Once you know the ***vaccine*** you want to test, what happens next?

BAROUCH: ***vaccine*** development for a new pathogen traditionally takes many years or even decades. The process includes small-scale manufacturing; Phase 1, Phase 2 and Phase 3 clinical trials; and then regulatory approval and large-scale manufacturing. For SARS-CoV-2, the goal is to compress these timelines considerably without compromising safety, which is absolutely critical for any ***vaccine*** that will be given to large numbers of individuals.

HAMBURG: And there are a lot of hurdles that come up along the way. Sometimes developers have a good idea but can't translate it into a viable ***vaccine***. Or you wind up with unexpected side effects in early human studies. Worse, you can find safety or efficacy problems further along, or you find that you can't reliably scale up manufacturing or you run into problems with regulatory authorities.

MUKHERJEE: Walk us through what happens with human testing.

YANCOPOULOS: The first human trials are called Phase 1 trials and consist of small "safety trials" exploring increasing doses of the drug, to prove you can get into an effective level of the drug without obvious harm. This usually takes from a few months to a year or two. If you are satisfied that the Phase 1 trial has established that an effective level of the drug does not cause obvious harm (albeit in the small number of patients in Phase 1), you then proceed in the next stage of trials, Phase 2, that further establish safety in larger patient numbers while also demonstrating that your drug has some beneficial effect.

For example, Phase 2 might show that a drug lowers "bad cholesterol." But it doesn't necessarily mean that it prevents heart attacks. Only when you do very large, well-controlled Phase 3 studies can you prove that lowering the "bad cholesterol" also can prevent heart attacks and save lives. For example, for the heart-disease drug Praluent that my company developed, we could show that it effectively lowered "bad cholesterol" in Phase 2 trials of a couple hundred patients, but the Phase 3 trial that was required to show it prevented heart attacks and improved survival involved about 20,000 patients and about five years.

MUKHERJEE: In what you just described, the Phase 1 alone can be up to two years. How could we accelerate the whole process?

HAMBURG: Well, we can't abandon the rigor of the science. And we certainly can't abandon the ethics of how we do studies either. But what we can do is, frankly, ask developers to take more risks themselves. ***vaccine*** development can be costly and success uncertain. As compared to a drug that someone may take every day, the return on investment versus risk of failed development is pretty high for ***vaccines***. Because ***vaccines*** are often viewed as a public good, protecting both people and communities, there can be considerable pressure on companies to restrict price on ***vaccines***, so a company rarely has a "blockbuster" ***vaccine*** the way that a cancer treatment, ulcer drug or cholesterol-lowering drug can be. Also, there are liability issues because you are giving a ***vaccine*** to a healthy person to protect them from disease rather than treating an existing problem. So the trade-off of development risk and benefit often does not favor ***vaccines***. In order to manage those risks, trials of different ***vaccine*** candidates tend to be done one step at a time.

BAROUCH: For ***Covid-19***, developers are talking about performing as many steps in parallel as possible, as opposed to sequentially. For example, multiple ***vaccine*** manufacturers are willing to take enormous financial risks -- planning for large-scale manufacturing up front, even before knowing whether the ***vaccine*** works or not.

There might be a half dozen ***vaccines*** that will get to the Phase 3 stage. How do we select which ones go forward? Do we prioritize ***vaccines*** that are similar to ones that have been tested previously in humans and that have shown safety and potency? Or do we turn to ***vaccines*** that can be mass produced quickly and safely? Ultimately, the prioritization is a complicated process that involves many decisions. The F.D.A. has to be involved, as well as governments and regulatory agencies and stakeholders around the world. There are questions about safety, efficacy, manufacturability and scalability that must be tackled.

HAMBURG: Obviously we're looking for ones that work in the early trials. But we don't just need a ***vaccine*** that works; we need one that can be reliably scaled up to manufacture in very large volumes. Ideally, it would be one that doesn't require multiple doses to be effective, certainly not beyond, say, a two-dose regimen. And ideally it wouldn't require refrigerated storage, so it can be made more available in resource-poor settings. So, there are characteristics of a ***vaccine*** in addition to safety and efficacy that are going to matter.

MUKHERJEE: Are there other ways to speed up the process? Typically in Phase 3 trials, you'd go out into the field and give, say, 15,000 people the ***vaccine*** you're testing and 15,000 people a placebo. And then you wait and see how many of those with the ***vaccine*** came down with the disease versus the numbers who were given the placebo. But of course, that takes a long time. You'd need to wait months or years to watch this natural experiment. One ethically fraught possibility that some experts have floated is the use of so-called "challenge" trials, in which young, healthy people are given a ***vaccine*** and then deliberately exposed to the virus. This would only happen once the safety of the ***vaccine*** was established and there was some hint that there is an immune response. But what are the ethical concerns about accelerating a ***vaccine*** process?

BAROUCH: For certain pathogens, it has been considered ethical to perform human-challenge studies but typically only for pathogens for which there is a highly effective treatment. For example, for malaria there is a very widely and effectively used human-challenge model in which ***vaccines*** or other interventions can be tested. Human volunteers can be inoculated with malaria and then, if they develop the disease, can be treated rapidly so that they don't actually get sick.

MUKHERJEE: Why can't we do this for ***Covid-19***?

BAROUCH: The dilemma for ***Covid-19*** is that there currently is no curative therapy. So, if a volunteer in a potential human-challenge study gets severely ill, there may not be a way to cure that person. In fact, far from it: The drugs in our armamentarium are not perfect, and so we would have no guarantee that we could "rescue" a person who got severely ill.

WEISS: I'm not an ethicist, but my gut feeling is that challenge trials are too dangerous. Young people can get quite sick and die from ***Covid-19***.

MUKHERJEE: If we could develop a drug or an antibody that would be able to mitigate the disease, we would still need to think about the ethical concerns of a human challenge. There's also the question of who "volunteers" for such a challenge. There's been a whole history -- extremely fraught -- where minorities were used as experimental subjects without their understanding or consent. How do we ensure that the volunteers understand the consent? How do we ensure that they are not given perverse incentives? A young person might believe that if they get vaccinated and challenged, then they have an "immunity passport" against the disease. But what if, in fact, they fall sick and we have no effective therapy. The question of a challenge experiment therefore requires both deep ethical thinking -- who, what, how many -- and scientific thinking: Is there a strategy to "rescue" a patient if the challenge resulted in a real disease.

HAMBURG: There's also the question of how much a challenge trial on young healthy patients will even tell us what we need to know. If we do a study using these lowest-risk patients, will that give us adequate information about the value of the ***vaccine*** in the elderly populations, who in many ways are the most important target for this ***vaccine***?

BAROUCH: Absolutely. The problem for human-challenge studies, beyond the ethical questions, is that a controlled human-challenge experiment doesn't necessarily translate to showing how a ***vaccine*** would actually perform in the real world. Participants in any such challenge studies would likely be young, healthy individuals at lowest risk, and so the data generated may not be applicable to elderly and vulnerable populations that need to be protected with a ***vaccine***. There may also be different doses and different viral variants.

MUKHERJEE: Peggy, is there something we should be doing while we're waiting for all these trials?

HAMBURG: Well, I think we definitely need to be thinking about the scale-up and manufacturing issues, as we said already. Another issue that we need to be thinking about is working with the communities where these large-scale Phase 3 studies will be done. Some will be done in the U.S., but others will be done in other places around the world -- lower-resourced places that may not have the kind of clinical-research infrastructure that we have here, whether it's having enough trained researchers or the sophisticated health care services they need, like lab and diagnostic tools and basic things like refrigeration and cold storage.

MUKHERJEE: So in speeding up the ***vaccine***-development process, we have three things going for us: We have cleaner and likely safer technologies to create ***vaccine**s*; we know the viral proteins that are likely to raise a good immune response; and we know how to measure that immune response with much greater accuracy in humans that have been given a test dose of the ***vaccine***. All of these we hope will accelerate the Phase 1 safety trials -- some of which have already started, between March and May -- so that they can be done in four to six months. After that, we're still looking at a roughly 12-month period to test the ***vaccine*** in real human populations, so it seems we're pushing toward the 18-month marker. Dan, what's your sense of the time that it will take to actually deploy the ***vaccine*** across the population of the world once we have it?

BAROUCH: There are two timelines that matter. One is the infrastructure and timeline needed to manufacture massive numbers of doses of the ***vaccine***, and a separate, potentially different timeline to actually deploy the ***vaccine***.

HAMBURG: On the manufacturing front, you've probably heard about Bill Gates's decision to begin to invest in a range of different types of manufacturing capabilities, to capture the different categories of ***vaccine**s*, not knowing which of the different types of ***vaccine*** candidates are actually going to make it over the finish line.

MUKHERJEE: Right, so that once the "winner" is identified, that winner can go forward without having to wait for capacity.

BAROUCH: The reason to build out this capacity in advance is that different ***vaccine**s* are made very differently. For example, the manufacturing process for an RNA ***vaccine*** is entirely different than for an adenovirus vector-based ***vaccine***. For rapid deployment of a ***vaccine*** after clinical efficacy is shown, large-scale manufacturing of multiple ***vaccine*** candidates has to begin before there is demonstration of ***vaccine*** efficacy.

HAMBURG: But even if this initiative moves forward, I think there may be a misunderstanding in the public at large about the challenges of scale-up and manufacturing. Once a ***vaccine*** is approved, it is not going be available the next day for whoever wants it.

MUKHERJEE: Tell us about that. That's important.

HAMBURG: Manufacturing has to be done in a high-quality and consistent way. There are materials that are needed that can be in limited supply, like the vials and the stoppers that you need for packaging. And then there are

chains for distribution, and sometimes ***vaccines*** have to be kept frozen at very low temperatures. So you have to have all of those important systems for manufacturing, packaging and delivery and distribution up and running and the supply chains flowing in order to actually get what might now be an approved ***vaccine*** actually into the bodies of the individuals who need it.

MUKHERJEE: And then this returns to the distribution and inoculation of the ***vaccine***, and epidemiological studies that follow it.

HAMBURG: Yes, I think we need to create systems for assuring fair and equitable and public-health-driven distribution of the ***vaccine*** as well. One concern that many have is that there's going to be a huge nationalistic push for countries to try to get hold of as much ***vaccine*** as they can for use within their own borders, yet ultimately the safety of any country or community depends on addressing and protecting against this virus all over the world.

WHAT WILL WE HAVE IN THE MEANTIME?

YANCOPOULOS: As we've been saying, with all the challenges regarding developing, testing, manufacturing and distributing a safe and effective ***vaccine*** -- no matter how much effort so many scientists and companies put on the problem -- it could still take years or even longer. This is why it's so important to have additional efforts ongoing in parallel to try to fight back against this pandemic. If we don't have a safe and effective ***vaccine*** for one to two years, or even longer, we need to develop other treatments as a bridge to a ***vaccine*** -- to allow society to have a path toward reopening and functioning, while we await a ***vaccine***.

MUKHERJEE: So let's work backward as we work frantically toward the ***vaccine***. What can we do now that will help? How can we move from where we are -- isolate, quarantine, mask, distance -- toward a therapy that will bridge us to the ***vaccine***?

YANCOPOULOS: The world has gotten interested in the drug remdesivir, which inhibits the process of RNA replication and has been shown to be active in a lot of viruses that use these mechanisms to replicate themselves.

MUKHERJEE: An initial study from ***China***, published in the Lancet, showed a rather disappointing effect from remdesivir. There was a hint of clinical improvement in treated patients versus controls, but it was not statistically significant. But there were several problems with that trial. That trial enrolled patients who had the onset of symptoms from one day to 12 days, so the spectrum of disease severity was very broad. And although the study had a placebo control, it did not have a lot of patients: 236 in total, 158 in the treatment and 78 in placebo. In late May there was a study from the National Institutes of Health published in The New England Journal of Medicine that showed remdesivir might have an effect -- albeit, again, a modest one -- on hospitalized patients. The number of days that patients spent in hospital was reduced, and the study again hinted that there was a reduction in mortality from 11.9 percent in the placebo group to 7.1 percent in the treated group, though this was not shown to be statistically significant. But again, this was a study that involved a very broad range of patients -- some with moderate lung damage and some on ventilators.

HAMBURG: Until there's a ***vaccine***, I don't think there's going to be one magic bullet for treating this thing, and we're certainly not going to find that magic-bullet drug treatment in a repurposed drug pulled off the shelf.

YANCOPOULOS: History has told us that. Repurposed drugs are usually not panaceas.

HAMBURG: And meanwhile, every day we are learning more about this virus, its life cycle and the complexity of how it causes disease. We initially thought of ***Covid-19*** as a lung disease, and then realized that many of the people who became seriously ill had their disease course worsened by a hyperactive immune response. Now we realize that many other vital organs can be seriously compromised, including the kidneys, the gut and the brain, and that something about this virus is triggering a very dangerous hypercoagulability syndrome, where the blood starts clotting in dangerous ways. And there's an apparent association of this novel ***coronavirus*** with a very serious hyperimmune syndrome in children, the so-called Kawasaki-like syndrome.

I think we need to draw on our best scientific understanding and the work of virologists like Susan to identify where are the targets for intervention, for what will likely be a combination therapy that addresses different points in the life cycle of the virus and the human immune response.

MUKHERJEE: What about using antibodies to tide us through this period? As we've discussed, the entire purpose of ***vaccines*** is to induce the body to make its own "protective antibodies" that bind and kill the virus. George, you have pioneered ways of making these same type of "anti-viral antibodies" outside the body, manufacturing them and purifying them and then giving them back to individuals -- so these people now have antibodies against the virus. It's like they have already been vaccinated: They now have antibodies but without needing to go through the actual ***vaccine*** step.

YANCOPOULOS: Right. Earlier I mentioned Ebola. Over the past 10 to 20 years, we have developed a series of technologies that are designed to make antibodies against many disease targets, including viruses. These technologies were used by our scientists to develop a cocktail of three antibodies to bind and block the GP protein of Ebola -- the GP protein is the Ebola equivalent of the spike protein -- our so-called REGN-EB3 cocktail, and this treatment was very effective in patients already infected with Ebola, as shown by the World Health Organization in a clinical trial. And now we have used these same technologies to rapidly make an antibody cocktail -- REGN-COV2 -- that binds and blocks the spike protein of ***Covid-19***.

MUKHERJEE: Explain what that means.

YANCOPOULOS: You can almost think of it as a temporary ***vaccine***. Instead of waiting for a ***vaccine*** that will make the body make its own antibodies against the virus, we can make exactly those kinds of antibodies and inject them into people.

MUKHERJEE: And how long would that take?

YANCOPOULOS: For Ebola, we went from starting the project to being in clinical trials in just nine months. With ***Covid-19***, we've cut that in almost half: We have already made thousands and thousands of these antibodies and started to grow them up and tested them for blocking the virus. And we plan to start human trials in June. We will conduct three types of trials. First, prophylaxis, in which we give REGN-COV2 to patients not yet infected but at high-risk and hopefully show we can prevent infection -- much like a ***vaccine*** would hope to do but not inducing the "permanent immunity" that a ***vaccine*** can confer. Then, we will give REGN-COV2 to patients recently infected, who are asymptomatic and/or who don't have severe disease, and see if we can rapidly "cure" them and eliminate the virus and prevent them from progressing to the severe-and-critical stage that would require hospitalization and ventilation. Then, finally, we would give the REGN-COV2 to severe-and-critical-stage patients, who are in the hospital, many on ventilators, with poor prognosis, and hopefully show we can rescue them, get them off ventilators and save their lives.

MUKHERJEE: And how long would the antibodies last in terms of protection?

YANCOPOULOS: We hope each injection should last at least a month, if not several months. Beyond this antibody cocktail, there are quite a few drugs that are being repurposed to see if they have potential in ***Covid-19***. One particularly promising story that came out of ***China*** was that blocking the inflammation that seems to be causing the lung problems in ***Covid-19*** -- in particular by blocking an inflammatory factor called interleukin-6, or IL-6, that is an important driver of the inflammation in rheumatoid arthritis -- might help patients with lung problems due to ***Covid-19***. This promise was based on a small, uncontrolled but positive experience in ***China***. We are now doing large Phase 3 trials to definitively test whether our IL-6 blocking drug -- which as I said is already approved for treating the inflammation in rheumatoid arthritis -- may help with the lung inflammation in ***Covid-19*** patients who are critically ill. But if you look at either repurposed drugs like remdesivir or even the IL-6 blocking approach, those are not the sort of drugs that I think would make Dan happy, because they are just incremental.

HAMBURG: Or me.

YANCOPOULOS: Or anybody. But they could provide a benefit. Every life that's saved or every disease course that's shortened is important.

MUKHERJEE: But the incremental effects that you are describing may be because the trials are still being run on patients with moderate to severe disease and in particular on hospitalized patients. In virtually every infectious disease, the use of antibacterials or antivirals or even antibodies against a virus early in the course of disease is better. In terms of remdesivir, it's possible that the drug is much more likely to be efficacious when used early than late, and in fact, the published trial from the N.I.H. has a hint of that. As we just said, thus far, the trials have generally involved a broad spectrum of patients -- hospitalized patients and some of the sickest -- and the benefits have been modest. But experts such as Francisco Marty, an infectious-disease doctor at Brigham and Women's Hospital, have argued that this was precisely the wrong population to use the drug. By the time you have lung inflammation and tissue injury, killing the virus is not enough. It's too late; the body has turned on itself, and an antiviral drug cannot tackle the inflammation. And so a second fleet of trials is being designed to evaluate whether the drug might be more successful if given as early as possible -- for instance, as soon as you have detected the virus and the oxygen level has begun to drop, particularly in high-risk patients. It would invert the paradigm: Rather than quarantine and sit at home, you would get the drug sooner rather than later. Infectious-disease doctors, such as Marty, have early evidence that this strategy works: Patients given early remdesivir recover and do not progress to the fulminant lung disease. A group of us, including Marty, are in conversations with the Gates Foundation and others to launch trials of such a strategy.

And then there's the question of combining drugs: Perhaps an antiviral drug would work even better if used in combination with antibodies. But all of this is logistically complex. All these drugs have to be given intravenously, so you have to go to an infusion center to get them. But I cannot emphasize enough the urgency of doing these early-treatment trials. It would be really a shame to give up a valuable drug in our very limited armamentarium because we couldn't study the right patients. And the drug itself is in short supply, so every time it's used on a patient that it would not benefit, we are losing ground. We need political support, financial support and support from Gilead, the manufacturer, to get this urgent early treatment trial done as soon as possible.

Susan, what is your sense of combining two targets? Maybe a replication inhibitor along with an antibody. And I know you've been involved with other laboratories, testing new drugs. What is your sense of the development of these drugs?

WEISS: That might turn out to be useful, but right now drugs are still being evaluated. Quite a few people are testing all kinds of F.D.A.-approved drugs and unapproved drugs against the virus. There are a lot of potential drug targets in the viral-replication cycle -- that is, the enzymes that are needed to replicate the virus as well as the cellular factors needed for the virus to enter the cell. And I guess I feel like a lot of compounds may inhibit replication of the virus, especially in combination and aimed at multiple targets. But I don't know how many of them will actually become drugs. In addition, replication inhibitors may not be enough to stop the virus after the early stages of infection, when the individual may be asymptomatic. We may need a combination of an antiviral drug to be effective early in the disease and an anti-inflammatory drug for the later "cytokine storm" phase of the disease.

Mukherjee: Yes, just because a compound inhibits the virus in a petri dish, doesn't mean that it can immediately become an antiviral drug for human use. The compound might be toxic to humans. It might be degraded into an inactive substance by the body. Its dose might be so high that it's impossible to administer. But I do think while we're waiting for the antibodies and the ***vaccines***, it seems reasonable to proceed with testing thousands of drugs against the virus -- called "drug screening" -- so that if something does come up, we might find a drug to combine with remdesivir or with antibodies, making an anti-viral cocktail.

From what I've been able to see, there is unusual urgency and cooperation among scientists in this effort.

Hamburg: It's remarkable, in terms of the collaboration across disciplines and research institutions and sectors and borders. There's been more openness and sharing than I've seen in past crises like Ebola or Zika or H1N1.

Regulatory authorities around the world are coming together in ways that are very, very important to reduce barriers and to make sure that they're bringing the best possible science to bear on decision making, trying to identify what are the critical questions that have to be asked and answered, what kind of study designs and preclinical work is going to be necessary, so that you don't have companies facing different regulatory authorities with different standards and requests and approaches, so that the hard questions can be more effectively addressed through bringing together the best minds, wherever they are.

Weiss: I've never seen this before, either. Our C.D.C. permit to receive the virus, which is classified as a biosafety Level 3 agent, was approved in less than two days. We received at least two material-transfer agreements, which have to be signed by a number of institutional officials and sometimes lawyers, in a matter of hours. Both of those processes have taken much longer, sometimes weeks, in the past. This is just one sign of administrators and scientists collaborating with each other and acting extra efficiently to facilitate the science.

Barouch: I'll just echo that. From a research perspective, I have never seen such collaborative spirit, such open sharing of materials, data, protocols, thoughts and ideas among academic groups, industry groups, government groups and the clinicians on the front lines.

Yancopoulos: I've seen unprecedented collaboration from all forces. I can get on the phone and call my counterpart, Mikael Dolsten, at Pfizer, and his first question is, "Well, what can we do to help?" Whether it's scientists in academia, whether it's people at biotech and pharma companies, whether it's the doctors and health care workers who are at the epicenter at hospitals like Mount Sinai or Columbia in New York City, whether it's the F.D.A. -- we are all coming together, and things are happening at unprecedented rates because we realize that we have a common enemy.

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https://www.nytimes.com/2020/06/05/magazine/moon-shot-a-discussion-moderated-by-siddhartha-mukherjee.html

Graphic

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PHOTOS (PHOTOGRAPHS BY GUIDO MIETH/GETTY IMAGES

HANNAH A. BULLOCK AND AZAIBI TAMIN/C.D.C.) (MM43)

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Person: ANDREW CUOMO (73%)

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21 Tracking Progress Toward a vaccine

The New York Times

June 16, 2020 Tuesday

Late Edition - Final

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Section: Section D; Column 0; Science Desk; Pg. 8

Length: 1551 words

Byline: By Jonathan Corum and Carl Zimmer

Body

Researchers around the world are developing more than 135 vaccines against the coronavirus. vaccines typically require years of research and testing before reaching the clinic, but scientists are racing to produce a safe and effective vaccine by next year.

Work began in January with the deciphering of the SARS-CoV-2 genome. The first vaccine safety trials in humans started in March, but the road ahead remains uncertain. Some trials will fail, and others may end without a clear result. But a few may succeed in stimulating the immune system to produce effective antibodies against the virus.

Here is the status of all the vaccines that have reached trials in humans, along with a selection of promising vaccines still being tested in cells or animals.

The vaccine Testing Process

The development cycle of a vaccine, from lab to clinic.

PRECLINICAL TESTING: Scientists give the vaccine to animals such as mice or monkeys to see if it produces an immune response.

PHASE I SAFETY TRIALS: Scientists give the vaccine to a small number of people to test safety and dosage as well as to confirm that it stimulates the immune system.

PHASE II EXPANDED TRIALS: Scientists give the vaccine to hundreds of people split into groups, such as children and the elderly, to see if the vaccine acts differently in them. These trials further test the vaccine's safety and ability to stimulate the immune system.

PHASE III EFFICACY TRIALS: Scientists give the vaccine to thousands of people and wait to see how many become infected, compared with volunteers who received a placebo. These trials can determine if the vaccine protects against the coronavirus.

APPROVAL: Regulators in each country review the trial results and decide whether to approve the vaccine or not. During a pandemic, a vaccine may receive emergency use authorization before getting formal approval.

WARP SPEED: The U.S. government's Operation Warp Speed program has selected five vaccine projects to receive billions of dollars in federal funding and support before there's proof that the vaccines work.

COMBINED PHASES: Another way to accelerate ***vaccine*** development is to combine phases. Some ***coronavirus vaccines*** are now in Phase I/II trials, for example, in which they are tested for the first time on hundreds of people.

Genetic ***vaccines***

vaccines that use one or more of the ***coronavirus***'s own genes to provoke an immune response.

DNA

RNA

PHASE II WARP SPEED

Moderna's mRNA ***vaccine*** dazzled the stock market in May with Phase I data on just eight people, only to see its stock price drop when experts had a lukewarm reaction to the results. Part of Operation Warp Speed, the American company is eyeing Phase III trials in July and hopes to have ***vaccines*** ready by early 2021.

PHASE I PHASE II WARP SPEED

The German company BioNTech has entered into collaborations with Pfizer, based in New York, and the Chinese drug maker Fosun Pharma to develop their mRNA ***vaccine***. In May, Pfizer announced human trials for the ***vaccine***. Another beneficiary of Operation Warp Speed, Pfizer hopes to have a few million doses for emergency use in the fall if all goes well in the trials.

PHASE I PHASE II

Imperial College London researchers have developed a "self-amplifying" RNA ***vaccine***, which boosts production of a viral protein to stimulate the immune system. They began Phase I/II trials on June 15 and have partnered with Morningside Ventures to manufacture and distribute the ***vaccine*** through a new company called VacEquity Global Health.

PHASE I

In May, the American company Inovio published a study showing that their DNA-based ***vaccine*** produced antibodies in mice. Phase I trials are underway in the United States and will start in South Korea at the end of June.

PRECLINICAL

In March, the Trump administration tried to entice CureVac to move its research from Germany to the United States. The company has not yet started human trials for ***Covid-19***, but a rabies ***vaccine*** based on the same RNA design passed Phase I safety trials in January. The company said its German facility can make hundreds of millions of ***vaccines*** a year.

Viral Vector ***vaccines***

vaccines that use a virus to deliver ***coronavirus*** genes into cells and provoke an immune response.

PHASE II PHASE III WARP SPEED

A ***vaccine*** in development by the British-Swedish company AstraZeneca and the University of Oxford is based on a chimpanzee adenovirus called ChAdOx1. The ***vaccine*** is beginning Phase II/III testing in England and Brazil. Supported by Operation Warp Speed, the project may deliver emergency ***vaccines*** by October. In June, AstraZeneca said their total manufacturing capacity stands at two billion doses.

PHASE II

The Chinese company CanSino Biologics is testing a ***vaccine*** based on an adenovirus called Ad5, in partnership with the Institute of Biology at the country's Academy of Military Medical Sciences. In May they published a paper in the Lancet, the first time Phase I trial data from any ***Covid-19*** ***vaccine*** appeared in a scientific journal.

PRECLINICAL WARP SPEED

Researchers at Beth Israel Deaconess Medical Center in Boston are testing an adenovirus called Ad26 in monkeys. Johnson & Johnson, picked by Operation Warp Speed, announced in June that they would start Phase I/II trials in late July.

PRECLINICAL

The Swiss company Novartis will manufacture a ***vaccine*** based on a gene therapy treatment developed by the Massachusetts Eye and Ear Hospital. A virus called an adeno-associated virus delivers ***coronavirus*** gene fragments into cells. Phase I trials are set to begin in late 2020.

PRECLINICAL WARP SPEED

The American company Merck announced in May it would develop a ***vaccine*** from vesicular stomatitis viruses, the same approach it successfully used to produce the only approved ***vaccine*** for Ebola. The company is partnering with IAVI.

Protein-Based ***vaccines***

vaccines that use a ***coronavirus*** protein or a protein fragment to provoke an immune response.

PHASE I PHASE II

In May, the Maryland-based Novavax started a Phase I/II trial on a ***vaccine*** made up of microscopic particles carrying fragments of ***coronavirus*** proteins. The Coalition for Epidemic Preparedness Innovations is investing $384 million in the project.

PHASE I

Clover Biopharmaceuticals has developed a ***vaccine*** containing a protein from coronaviruses. The ***vaccine*** would be taken in conjunction with a so-called adjuvant, made by British drugmaker GSK, to further stimulate the immune system.

PRECLINICAL

After the SARS epidemic in 2002, Baylor College of Medicine researchers began developing a ***vaccine*** that could prevent a new outbreak. Despite promising early results, support for the research disappeared. Because the coronaviruses that cause SARS and ***Covid-19*** are very similar, the researchers are reviving the project in partnership with the Texas Children's Hospital.

PRECLINICAL

A ***vaccine*** in development by the University of Pittsburgh, called PittCoVacc, is a skin patch tipped with 400 tiny needles made of sugar. When placed on the skin, the needles dissolve and deliver virus proteins into the body.

PRECLINICAL

A ***vaccine*** from Australia's University of Queensland delivers viral proteins altered to draw a stronger immune response. In June, the university and the company CSL announced a partnership to start Phase I trials, which could

lead to millions of doses a year starting in 2021. GSK is providing an adjuvant to further stimulate the immune system.

PRECLINICAL

The French company Sanofi will produce viral proteins using engineered viruses that grow inside insect cells. GSK will supplement these proteins with adjuvants that stimulate the immune system. Sanofi has said it could produce at least 600 million doses a year if the ***vaccine*** succeeds in trials.

PRECLINICAL

Vaxart's ***vaccine*** is an oral tablet containing different virus proteins. In June, the American company announced it was preparing for Phase I trials in summer 2020.

Whole-Virus ***vaccines***

vaccines that use a weakened or inactivated version of the ***coronavirus*** to provoke an immune response.

Inactivated

virus

PHASE I PHASE II

The private Chinese company Sinovac Biotech is testing an inactivated ***vaccine*** called CoronaVac. On June 13 the company announced that Phase I/II trials on 743 volunteers found no severe adverse effects and produced an immune response. Sinovac is preparing Phase III trials in ***China*** and Brazil and is building a facility to manufacture up to 100 million doses annually.

PHASE I PHASE II

The state-owned Chinese company Sinopharm has started Phase I/II trials on two inactivated ***vaccine*** viruses. The company has announced it has built a facility in Beijing to make up to 200 million ***vaccines*** per year.

PHASE I

Researchers at the Institute of Medical Biology at the Chinese Academy of Medical Sciences, which has invented ***vaccines*** for polio and hepatitis A, are running a Phase I trial of an inactivated virus ***vaccine*** for ***Covid-19***.

Repurposed ***vaccines***

vaccines already in use for other diseases that may also protect against ***Covid-19***.

PHASE III

The Bacillus Calmette-Guerin ***vaccine*** was developed in the early 1900s as a protection against tuberculosis. The Murdoch Children's Research Institute in Australia is conducting a Phase III trial, and several other trials are underway to see if the ***vaccine*** partly protects against the ***coronavirus***.

https://www.nytimes.com/2020/06/16/pageoneplus/16rex4.html

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22 ***Coronavirus Update***

The New York Times

June 30, 2020 Tuesday

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Byline: By James Barron

Body

June is ending with the worldwide toll from the ***coronavirus*** continuing to rise and officials in some places backpedaling on reopening. In the United States, the number of new cases tallied on Monday -- more than 38,700 -- was down from the one-day record set on Friday. But it was still higher than the daily counts for all of May and most of June.

Even Hawaii, the state with the fewest deaths linked to the virus and a reputation for imposing some of the toughest restrictions on visitors, has had a resurgence of infections. Over the weekend, Mayor Kirk Caldwell of Honolulu reported a jump in cases on the state's most populous island, Oahu. He called the increase alarming but said that everyone who tested positive had been isolated.

Masks -- to wear one, or not to wear one -- remained a topic both in states that are hot spots now and in states like New York that were hot spots earlier in the pandemic. Vice President Mike Pence pushed mask-wearing over the weekend, despite President Trump's refusal to wear one in public. The vice president made a point of wearing a mask from the moment he stepped off Air Force Two at Love Field in Dallas on Sunday. And on Monday, Jacksonville, Fla., which will host the Republican National Convention in August, issued a mask-wearing order.

It was a reversal for Mayor Lenny Curry, a Republican; last week, Mr. Curry said that he did not consider requiring face coverings "prudent." But the number of new ***coronavirus*** cases in Duval County, which includes Jacksonville, has doubled since then. The order says masks must be worn indoors in public spaces as well as outdoors where social distancing is not possible.

Senator Mitch McConnell, a Republican from Kentucky and the majority leader, was pictured on Capitol Hill wearing a mask last week. "We must have no stigma, none, about wearing masks," he said on Monday.

Echoing Speaker Nancy Pelosi, who on Sunday said a federal mask mandate was "long overdue," Gov. Andrew M. Cuomo mocked the president. Mr. Cuomo showed a photograph of Mr. Trump and, with the click of a remote control, made a blue mask appear over the president's mouth and nose.

"The president doesn't have to pass a piece of legislation, doesn't have to call the Congress," Mr. Cuomo, a Democrat, said. "Just sign an executive order saying, 'Wear a mask.'" He noted that he issued a such an order for New York State in April. Five other states -- California, Delaware, Maine, Maryland and Michigan -- also have mask mandates.

XXX

Around the world, places that had largely squelched the ***coronavirus*** tried to keep small outbreaks from exploding. In the Australian state of Victoria, the health minister, Jenny Mikakos, reported 75 new ***coronavirus*** cases on Monday. Brett Sutton, Victoria's chief health officer, said the outbreak was controllable. "I think we're right at the edge in terms of being able to manage it," he said.

Japan's economic revitalization minister sounded less confident after Tokyo reported 58 new cases on Monday, two fewer than on Sunday, which had the highest daily total since early May. "Frankly, this gives me a rather bad feeling," the minister, Yasutoshi Nishimura, said. News agencies reported that the governor of Tokyo, Yuriko Koike, would announce new infection monitoring plans on Tuesday.

China, which had declared victory over the virus, imposed a lockdown near Beijing, the government's latest move to stop a stubborn burst of infections in and around the capital. Before the recent outbreak, Beijing had not recorded any new locally acquired cases for 56 days. Beijing quickly announced an ambitious testing campaign. State media reported that, as of Sunday, more than seven million people had been tested. ***China*** reported 12 new cases of the virus on Monday, seven of them in Beijing.

Officials said they had discovered a cluster of 13 infections in Anxin County, about 90 miles south of Beijing. Most were traced to a wholesale market in Beijing that is thought to have been the source of an outbreak that has sickened more than 300 people in the past few weeks. Officials imposed a restriction similar to one put in place earlier in the outbreak in Wuhan, where the virus originated -- only one person from each family in Anxin County is allowed to leave home to buy essential items like food or medicine.

Separately, the Chinese government approved a candidate for a ***coronavirus*** ***vaccine*** for the country's military, a drug developed by the Chinese pharmaceutical maker CanSino Biologics and the Beijing Institute of Biotechnology in the Academy of Military Medical Sciences. Additional approvals will be necessary for it to be made available to civilians.

XXX

Prime Minister Boris Johnson, who was hospitalized with the ***coronavirus*** in April, acknowledged that the pandemic had been a "disaster" and an "absolute nightmare" for Britain. He said he wanted a plan to "bounce forward" in the same way that the New Deal lifted the United States out of the Depression. But the virus is not done with Britain yet. He said in a radio interview that "whack-a-mole strategies" -- local lockdowns intended to stamp out outbreaks -- would be imposed as needed.

One apparent candidate for such an approach was the city of Leicester, where there has been a flare-up. The mayor of Leicester, Sir Peter Soulsby, said London was considering telling Leicester it could not join the rest of Britain in lifting restrictions on pubs, restaurants, barbershops and salons on Saturday. "It seems they're suggesting we continue the present level of restriction for a further two weeks," he said.

"Frankly," he added, "if the virus is out of control and spreading in Leicester with the restrictions, I can't understand how extending them for a further two weeks would make any difference."

Of Leicester's 2,987 ***coronavirus*** cases, 866, or 29 percent, have been reported in the past two weeks, according to figures from Public Health England.***Coronavirus*** Update wraps up the day's developments with information from across the virus report.

https://www.nytimes.com/2020/06/29/nyregion/29virus-print.html

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Person: DONALD TRUMP (79%); MIKE PENCE (79%); ANDREW CUOMO (78%); MITCH MCCONNELL (58%); NANCY PELOSI (50%)

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23 *A New Entry in the Race for a Coronavirus vaccine: Hope*

The New York Times

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Byline: Carl Zimmer, Knvul Sheikh and Noah Weiland

Highlight: Scientists are increasingly optimistic that a ***vaccine*** can be produced in record time. But getting it manufactured and distributed will pose huge challenges.

Body

Scientists are increasingly optimistic that a ***vaccine*** can be produced in record time. But getting it manufactured and distributed will pose huge challenges.

In a medical research project nearly unrivaled in its ambition and scope, volunteers worldwide are rolling up their sleeves to receive experimental ***vaccines*** against the ***coronavirus*** — only months after the virus was identified.

Companies like Inovio and Pfizer have begun early tests of candidates in people to determine whether their ***vaccines*** are safe. Researchers at the University of Oxford in England are testing ***vaccines*** in human subjects, too, and say they could have one ready for emergency use as soon as September.

Moderna on Monday announced encouraging results of a safety trial of its ***vaccine*** in eight volunteers. There were no published data, but the news alone kindled hopes and sent the company's stock soaring.

Animal studies have raised expectations, too. Researchers at Beth Israel Deaconess Medical Center on Wednesday published research showing that a prototype ***vaccine*** *effectively protected monkeys from infection with the virus*.

The findings will pave the way to development of a human ***vaccine***, said the investigators. They have already partnered with Janssen, a division of Johnson & Johnson.

In labs around the world, there is now cautious optimism that a ***coronavirus vaccine***, and perhaps more than one, will be ready sometime next year.

[*Follow our Live* ***Coronavirus vaccine*** *Tracker*.]

Scientists are exploring not just one approach to creating the ***vaccine***, but at least four. So great is the urgency that they are combining trial phases and shortening a process that usually takes years, sometimes more than a decade.

The ***coronavirus*** itself has turned out to be clumsy prey, a stable pathogen *unlikely to mutate significantly and dodge a* ***vaccine***.

“It’s an easier target, which is terrific news,” said Michael Farzan, a virologist at Scripps Research in Jupiter, Fla.

An effective ***vaccine*** will be crucial to ending the pandemic, which has sickened *at least 4.7 million worldwide and killed at least 324,000*. Widespread immunity would reopen the door to lives without social distancing and face masks.

“What people don’t realize is that normally ***vaccine*** development takes many years, sometimes decades,” said Dr. Dan Barouch, a virologist at Beth Israel Deaconess Medical Center in Boston who led the monkey trials. “And so trying to compress the whole ***vaccine*** process into 12 to 18 months is really unheard-of.”

“If that happens, it will be the fastest ***vaccine*** development program ever in history.”

More than 100 research teams around the world are taking aim at the virus from multiple angles.

Moderna’s ***vaccine*** is based on a relatively new mRNA technology that delivers bits of the virus’s genes into human cells. The goal is for cells to begin making a viral protein that the immune system recognizes as foreign. The body builds defenses against that protein, priming itself to attack if the actual ***coronavirus*** invades.

Some ***vaccine*** makers, including Inovio, are developing ***vaccines*** based on DNA variations of this approach.

But the technology used by both companies has never produced a ***vaccine*** approved for clinical use, let alone one that can be made in industrial quantities. Moderna was criticized for making rosy predictions, based on a handful of patients, without providing any scientific data.

Other research teams have turned to more traditional strategies.

Some scientists are using harmless viruses to deliver ***coronavirus*** genes into cells, forcing them to produce proteins that may teach the immune system to watch out for the ***coronavirus***. CanSino Biologics, a company in ***China***, has begun human testing of a ***coronavirus*** ***vaccine*** that relies on this approach, as has the University of Oxford team.

Other traditional approaches rely on fragments of a ***coronavirus*** protein to make a ***vaccine***, while some use killed, or inactivated, versions of the whole ***coronavirus***. In ***China***, such ***vaccines*** have already entered human trials.

Florian Krammer, a virologist at Icahn School of Medicine at Mount Sinai in New York, predicted that at least 20 additional ***vaccine*** candidates will make their way into clinical trials in the weeks to come.

“I’m not worried at all about it,” he said of the prospects for a new ***vaccine***.

Many of these ***vaccines*** will stumble as the trials progress. As more people are inoculated, some candidates will fail to protect against the virus, and side effects will become more apparent.

But from what scientists are learning about the ***coronavirus***, it ought to be a relatively easy target.

The ***coronavirus*** sports tempting targets on its surface, unique “spike” proteins the pathogen needs to enter human cells. The immune system readily learns to recognize these proteins, it appears, and to attack them, killing the virus.

Viruses can challenge ***vaccine*** makers by mutating rapidly, changing shape so that antibodies that work on one viral strain fail on another. Thankfully, *the new **coronavirus** seems to be a slow mutator*, and a ***vaccine*** that proves effective in trials should work anywhere in the world.

When work on a ***coronavirus*** ***vaccine*** started, some researchers worried that antibodies actually might worsen ***Covid-19***, the illness caused by the ***coronavirus***. But in early studies, no serious risks have emerged.

“That doesn’t mean that there won’t be, but so far there hasn’t been any indication, so I’m cautiously optimistic on that point,” said Dr. Alyson Kelvin, a researcher at the Canadian Center for Vaccinology and Dalhousie University.

Scaling Up

Ensuring that vaccines are safe and effective demands large trials that require careful planning and execution. If successful vaccines emerge from those trials, someone’s going to have to make an awful lot of them.

Almost everyone on the planet is vulnerable to the new coronavirus. Each person may need two doses of a new vaccine to receive protective immunity. That’s 16 billion doses.

“When companies promise of delivering a vaccine in a year or less, I am not sure what stage they are talking about,” said Akiko Iwasaki, an immunobiologist at Yale University. “I doubt they are talking about global distributions in billions of doses.”

Manufacturing vaccines is profoundly more complex than manufacturing, say, shoes or bicycles. vaccines typically require large vats in which their ingredients are grown, and these have to be maintained in sterile conditions. Also, no factories have ever churned out millions of doses of approved vaccines made with the cutting-edge technology being tested by companies like Inovio and Moderna.

Facilities have sprung up in recent years to make viral-vector vaccines, including a Johnson & Johnson plant in the Netherlands. But meeting pandemic demand would be an enormous challenge. Manufacturers have the most experience mass-producing inactivated vaccines, made with killed viruses, so this type may be the easiest to produce in large quantities.

But there cannot be just one vaccine. If that were to happen, the company that made it would have no chance of meeting the world’s demand.

“The hope is that they will all, at some level, be effective, and certainly that’s important because we need more than just one,” said Emilio Emini, a director of the vaccine program at the Bill and Melinda Gates Foundation, which is providing financial support to many competing vaccine efforts.

As part of a public-private partnership the White House calls Operation Warp Speed, the Trump administration has promised to design a kind of parallel manufacturing track to run alongside the clinical trials, building up capacity well before trials are concluded, in hopes that one or more vaccines could be distributed immediately upon approval.

President Trump said on Friday that the goal of the project was to distribute a vaccine “prior to the end of the year.” To do that, Mr. Trump is relying on the Defense Department to manage the manufacturing logistics related to vaccine development.

But in an interview on Thursday, Gen. Gustave F. Perna, who will manage the manufacturing logistics, said discussions about the equipment and facilities needed for production were just beginning.

He described his work as a “math problem”: how to get 300 million doses of a vaccine that doesn’t yet exist to Americans — by January.

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Finding the supplies and planning their distribution would occur at the same time, he said. “I need to have syringes,” General Perna said. “I need to have wipes, right? I need to have Band-Aids. I need to have the vaccine.”

He added: “Now, how am I going to distribute it? What is it going to be distributed in? What do I need to order now to make sure I have the distribution capability? The small bottles, the trucks.”

Dr. Amesh Adalja, an infectious disease physician and senior scholar at the Johns Hopkins University Center for Health Security, said that seemingly minor aspects of production and distribution could complicate progress later on.

“This is on a scale we’ve never seen since the polio ***vaccine***,” he said. “It’s the little things like the syringes, the needles, the glass vials. All of that has to be thought about. You don’t want something that seems so simple to be the bottleneck in your ***vaccination*** program.”

A ***coronavirus*** ***vaccine*** doesn’t yet exist, but already there are questions about who will be able to afford it.

At the World Health Assembly meeting this week, a proposal from the European Union *was adopted recommending a voluntary patent pool*, which would put pressure on companies to give up their monopolies on ***vaccines*** they’ve developed.

Oxfam, an international charity, has published an open letter from 140 world leaders and experts calling for a “people’s ***vaccine***,” which would be “made available for all people, in all countries, free of charge.”

“These ***vaccines*** have to be a public good,” said Helen Clark, a former prime minister of New Zealand, who signed the letter. “We’re not safe till everyone is safe.”

Sui-Lee Wee contributed reporting from Singapore.

PHOTO: The Clinical Biomanufacturing Facility in Britain. Some scientists now say a ***coronavirus*** ***vaccine*** may be ready next year. (PHOTOGRAPH BY SEAN ELIAS, VIA REUTERS) (A11)

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Subject: ***vaccineS*** (97%); VIRUSES (96%); CORONAVIRUSES (94%); INFECTIOUS DISEASE (90%); MEDICAL RESEARCH (90%); RESEARCH & DEVELOPMENT (90%); ***VACCINATION*** & IMMUNIZATION (90%); DISEASE AGENTS & VECTORS (89%); DISEASE IMMUNITY (89%); DRUG DESIGN & DISCOVERY (89%); MEDICINE & HEALTH (89%); MICROBIOLOGY (89%); SCIENCE & TECHNOLOGY (89%); VIROLOGY (89%); ANIMAL EXPERIMENTS (79%); DNA (79%); GENES & CHROMOSOMES (79%); MAMMALOGY (79%); ***COVID-19 CORONAVIRUS*** (78%); DRUG SAFETY (78%); EPIDEMICS (78%); EXPERIMENTAL DRUGS (78%); INVESTIGATIONS (78%); MANUFACTURING FACILITIES (78%); PUBLIC HEALTH (78%); SOCIAL DISTANCING (77%); RESEARCH REPORTS (74%); POLITICS (72%); COLLEGES & UNIVERSITIES (71%); INTERNATIONAL ASSISTANCE (70%); ***Coronavirus*** (***2019-nCoV***) (%); ***Vaccination*** and Immunization (%); Clinical Trials (%); Factories and Manufacturing (%); United States Politics and Government (%); Immune System (%); Inovio Pharmaceuticals (%); Moderna Inc (%); Beth Israel Deaconess Medical Center (%); Research (%); your-feed-science (%)

Industry: ***vaccineS*** (97%); ACADEMIC MEDICAL CENTERS (90%); PHARMACEUTICALS INDUSTRY (90%); ***VACCINATION*** & IMMUNIZATION (90%); BIOLOGICS MFG (89%); DRUG DESIGN & DISCOVERY (89%); VIROLOGY (89%); DRUG SAFETY (78%); EXPERIMENTAL DRUGS (78%); MANUFACTURING (78%); MANUFACTURING FACILITIES (78%); PHARMACEUTICALS & BIOTECHNOLOGY (78%); PHARMACEUTICALS PRODUCT DEVELOPMENT (78%); COLLEGES & UNIVERSITIES (71%)

Geographic: BOSTON, MA, USA (79%); FLORIDA, USA (79%); ENGLAND (78%)

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End of Document

24 China Skirts Convention For vaccines

The New York Times

July 17, 2020 Friday

Late Edition - Final

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Section: Section B; Column 0; Business/Financial Desk; Pg. 1

Length: 1421 words

Byline: By Sui-Lee Wee and Mariana Simões

Body

Beijing is offering several ***vaccine*** candidates to employees of state-owned companies and the armed forces, while also conducting clinical trials in other countries.

The offer to employees at the state-owned oil giant was compelling: Be among the first in ***China*** to take a ***coronavirus*** ***vaccine***.

The employees at PetroChina could use one of two ***vaccines*** "for emergency use" to protect themselves when working overseas as part of ***China***'s ambitious infrastructure program, according to a copy of the notice, which was reviewed by The New York Times. They would effectively be guinea pigs for testing the unproven ***vaccines*** outside the official clinical trials.

The offer was backed by the government. It stressed that data from clinical trials showed that the products, both made by Sinopharm, were safe. It did not mention the possible side effects, or warn against the false sense of security from taking a ***vaccine*** that regulators hadn't approved.

"I don't think this is right ethically," said Joan Shen, the Shanghai-based chief executive officer of the pharmaceutical firm I-Mab Biopharma.

The unorthodox move, to test people separately from the normal regulatory approval process, reflects the formidable challenge facing ***China*** as it races to develop the world's first ***coronavirus*** ***vaccine***.

Eager to find a long-term solution to the outbreak and burnish their scientific credentials, Chinese companies are rushing to get as much data as possible on their ***vaccines*** to prove they are safe and effective. In ***China***, they are selectively testing their ***vaccines*** on small pools of people like the PetroChina employees -- an approach that does not count toward the regulatory process but could bolster their own confidence in the ***vaccines***. In Brazil and other countries, they are conducting clinical trials, going through the normal regulatory channels.

The dual strategy, though, is risking scientific setbacks and political backlash, potentially undercutting ***China***'s efforts.

Such "emergency use" is rare, and the taking of unapproved ***vaccines*** is typically reserved for health care professionals. Although the government has stressed that taking the ***vaccine*** is voluntary, the state-owned workers and soldiers could feel pressure to participate.

As Chinese companies also look beyond their borders to test the ***vaccine***, they are running into mistrust and skepticism. Health experts have questioned why the Canadian government is allowing CanSino Biologics, which has teamed up with the People's Liberation Army, to run human trials in the country. Rumors have spread about the authenticity of a Chinese-made ***vaccine*** that is being tested in Brazil, as supporters of President Jair Bolsonaro cast doubt.

The strategy is born out of necessity.

Chinese companies cannot find enough candidates at home to conclusively determine whether their ***vaccines*** would prevent infections, a problem faced by research institutes and pharmaceutical makers in countries that have largely tamed the ***coronavirus***. Phase 3 trials, the final stage before approval, require ***vaccines*** to be tested in roughly tens of thousands of volunteers in places with large, active outbreaks.

Along with the testing at the oil company, Sinopharm, which has completed Phase 2 trials for two products, has injected the ***vaccine*** into its chairman and other senior officials, according to the State-owned Assets Supervision and Administration Commission, or SASAC, the government agency managing all employees at state-backed companies. The Chinese government has allowed the CanSino-military ***vaccine*** to be given to its armed forces, a first for the military of any country.

Yang Zhanqiu, a virologist at Wuhan University, was skeptical about the decision to give ***vaccines*** to state-owned employees for business travel.

"It does not make much sense at all because the length of time that the employees take to travel is not the same, the locations may be different, and it is not easy to do tracking and monitoring," Dr. Yang said. "It may just be a psychological comfort for employees."

A PetroChina employee based overseas confirmed that his colleagues in ***China*** had been invited to take the ***vaccines***. PetroChina, SASAC and Sinopharm did not respond to requests for comment.

Such testing does not help the companies clear any regulatory hurdles, since it is not part of the official clinical trials. Mainly, Chinese companies could use it to give themselves extra reassurance that the ***vaccines*** are safe, presuming they do not discover any problems.

"If you are a regulatory body, if you play by the rules, if you are hard-nosed about it, you say this is very wrong," said Ray Yip, the former head of the Gates Foundation in ***China***.

Dr. Yip added that it would be useful for company executives to know that they had given the dose to "a couple of thousand people, but no one has dropped dead, so that's pretty good."

Dr. Yip said the people taking the ***vaccines*** should read up on reports of the safety data and make an informed decision. He said he would be willing to take it.

"If you offer that to me saying it's safe and there's an 85 percent chance that it works, would I take it today?" he said. "You know what, I probably will. Because then I don't have to worry."

In a post on its official WeChat account, a government agency reported that the "***vaccine*** pretest" on Sinopharm employees showed that antibody levels were high enough in subjects to combat the ***coronavirus***, indicating that it was safe and effective. The agency did not make clear what ***vaccine*** the employees had taken. The Paper, a newspaper owned by the Shanghai government, separately said 180 employees had taken the ***vaccine***.

Last month, the Beijing Institute of Biological Products, which is developing one of Sinopharm's ***vaccines***, published its preclinical data in a peer-reviewed journal, Cell, saying the ***vaccine*** induced high levels of antibodies in macaques and protected against Sars-CoV-2, the virus that causes ***Covid-19***.

The Wuhan Institute, which Sinopharm owns, said its ***vaccine*** had caused no adverse reactions among volunteers, according to Xinhua, ***China***'s official news agency. Volunteers achieved full antibodies after two doses in a 28-day program.

While the early results in those small groups are promising, Chinese companies must strike deals in other countries to ultimately pass regulatory muster in ***China*** and the rest the world.

In June, Sinopharm began the third phase of clinical trials in Beijing, Wuhan and Abu Dhabi, becoming the first company to enter the final regulatory stage. ***China***'s Sinovac Biotech is teaming up with Instituto Butantan in Brazil, which has the world's second-highest case count after the United States.

The process has been politically fraught in Brazil, where Mr. Bolsonaro has downplayed the threat, even as he later contracted ***Covid-19***. His son blamed ***China*** for the pandemic.

Shortly after the ***vaccine*** deal, a fake meme started spreading that said the ***vaccine*** had been tested only on monkeys and never on humans. "If this ***vaccine*** is so promising, then why not test it in ***China***, where this damned virus appeared, instead of testing it on the citizens of São Paulo?" it said.

Dimas Tadeu Covas, the director of Butantan, said that he was impressed with Sinovac's preliminary results and that the ***vaccine*** "has the greatest potential for success." He cited results from Sinovac's Phase 1 trials that showed no adverse effects and Phase 2 trials that showed 90 percent protection against Sars-Cov2.

"I know ***vaccines***, and I am betting a lot on this one," Dr. Covas said.

Despite the political backlash, about 600,000 people signed up for the trials just 24 hours after the recruiting process went live this week.

João Doria, the governor of São Paulo, the state where testing is being conducted, said his priority was to "find tools which can help save lives." "In the middle of a pandemic, you can't prioritize ideology or political factors over life," he said in an interview.

Ralcyon Teixeira, an infectious-disease specialist and director of the medical division at the hospital Emílio Ribas in São Paulo, said he was worried that the "politicization" of the Sinovac ***vaccine*** could hinder the introduction of what he believed could be an effective treatment.

"It's been four months of just Covid," he said. "We are tired of seeing so many deaths, so many bad and tragic situations, so I think that we are seeking out hope that this ***vaccine*** will work."

Amber Wang and Liu Yi contributed research.

*https://www.nytimes.com/2020/07/16/business/**china**-**vaccine**-**coronavirus**.html*

Graphic

PHOTO: Experts have questioned why Canada is letting CanSino Biologics run human trials in ***China***. (PHOTOGRAPH BY REUTERS) (B6)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: vaccineS (94%); CLINICAL TRIALS (92%); COMPANY ACTIVITIES & MANAGEMENT (90%); COMPANY STRUCTURES & OWNERSHIP (90%); STATE OWNED BUSINESSES (90%); ARMED FORCES (89%); CORONAVIRUSES (89%); INFECTIOUS DISEASE (89%); VIRUSES (89%); COVID-19 CORONAVIRUS (78%); DRUG SAFETY (78%); MEDICAL RESEARCH (78%); GOVERNMENT PROCEDURE & LAWMAKING (74%); APPROVALS (73%); POLITICS (73%); ETHICS (72%); HEALTH CARE PROFESSIONALS (71%); RESEARCH INSTITUTES (70%); EXECUTIVES (67%); GOSSIP & RUMORS (60%); PROFESSIONAL WORKERS (50%)

Company: PETROCHINA CO LTD (58%); CHINA NATIONAL PHARMACEUTICAL GROUP CORP (56%)

Ticker: PTR (NYSE) (58%); K3OD (SGX) (58%); 0857 (HKSE) (58%)

Industry: NAICS325110 PETROCHEMICAL MANUFACTURING (58%); NAICS324110 PETROLEUM REFINERIES (58%); NAICS221210 NATURAL GAS DISTRIBUTION (58%); NAICS211130 NATURAL GAS EXTRACTION (58%); NAICS211120 CRUDE PETROLEUM EXTRACTION (58%); NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (56%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (56%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (56%); vaccineS (94%); PHARMACEUTICALS & BIOTECHNOLOGY (93%); CLINICAL TRIALS (92%); PHARMACEUTICAL PREPARATION MFG (92%); NATURAL GAS PRODUCTS (91%); OIL & GAS INDUSTRY (91%); PHARMACEUTICALS INDUSTRY (91%); MANUFACTURING (90%); NATURAL GAS (90%); NATURAL GAS EXTRACTION (90%); OIL EXTRACTION (90%); PETROLEUM PRODUCTS (90%); PETROLEUM REFINERIES (90%); ARMED FORCES (89%); PHARMACEUTICALS PRODUCT DEVELOPMENT (89%); BIOTECHNOLOGY INDUSTRY (78%); DRUG SAFETY (78%); PETROCHEMICAL MFG (78%); NATURAL GAS DISTRIBUTION (77%); OIL & GAS FACILITIES (77%); PETROCHEMICALS (77%); HEALTH CARE PROFESSIONALS (71%)

Person: JAIR BOLSONARO (79%)

Geographic: SHANGHAI, CHINA (79%); BEIJING, CHINA (74%); EAST CHINA (79%); NORTH CENTRAL CHINA (79%); CHINA (99%); BRAZIL (92%); CANADA (79%)

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25 *Three vaccine Developers Report Promising Results*

The New York Times

July 21, 2020 Tuesday

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Length: 928 words

Byline: By David D. Kirkpatrick

Body

Early trials showed a good immune response in vaccinated subjects, but one researcher sounded a note of caution: "There is still a long way to go."

LONDON -- The race for a ***vaccine*** against the ***coronavirus*** intensified on Monday as three competing laboratories released promising results from early trials in humans.

Now comes the hard part: proving that any of the ***vaccines*** protects against the virus, and establishing how much immunity they provide -- and for how long.

"What this means is that each of these ***vaccines*** is worth taking all the way through to a Phase III study," said Dr. Peter Jay Hotez, a ***vaccine*** researcher at the Baylor College of Medicine. "That is it. All it means is 'worth pursuing.'" Phase III trials test how well a drug works.

Two of the ***vaccine*** developers -- the first, a partnership between Oxford University and the British-Swedish drug maker AstraZeneca; the second, the Chinese company CanSino Biologics -- published their early results as peer-reviewed studies in The Lancet, a British medical journal.

A joint venture between the drug giant Pfizer and the German company BioNTech shared results online before peer review, and invited comparisons to the biotech company Moderna, which uses a similar technology and released early results last week.

All the developers that released results on Monday said their ***vaccines*** had produced strong immune responses with only minor side effects.

"They all look really good," said Prof. Stacey Schultz-Cherry of the St. Jude Children's Research Hospital, arguing that more than one ***vaccine*** would be necessary to address the needs of varying demographic groups.

All of the developers asserted that their ***vaccines*** elicited antibody levels similar to those seen in patients who have recovered from ***Covid-19***.

But scientists cautioned that the antibody responses in convalescing patients varied widely, and that even matching those responses did not necessarily guarantee any degree of immunity.

"It does not really tell you whether the ***vaccine*** is going to protect," said Prof. John P. Moore of Weill Cornell Medical College.

The developers who announced their early results Monday all indicated that any immunity was likely to require a second, booster dose of its vaccine.

The partnership between Oxford and AstraZeneca may be the most closely watched vaccine effort.

The United States, Britain and several other governments and nonprofit groups have already agreed to pay hundreds of millions of dollars for a total of two billion doses even before the vaccine's efficacy has been proven. And British and American officials believe Russia sought to spy on the Oxford research.

It was also the first vaccine to enter Phase III trials.

More than 10,000 participants in Britain, Brazil and South Africa have already received doses. Another Phase III test involving 30,000 participants in the United States is set to begin next week, along with a parallel test of the Moderna vaccine.

The Oxford study released on Monday analyzed a few hundred participants who had received the vaccine in an earlier safety trial. Of those, only 10 received a booster shot, and they showed the most promising immune response.

"There is still a long way to go," said Prof. Sarah Gilbert of Oxford, who is leading development of the vaccine.

The CanSino vaccine, tested in a trial of about 500 participants in China, appeared least likely to be effective, based on the early results released so far, scientists said. "Pretty weak compared to other vaccine candidates (to the extent that comparisons are possible)," Professor Moore noted in a summary of the results.

Both the Oxford and CanSino vaccines work by altering the genes of another common virus -- the adenovirus -- so that it harmlessly mimics the coronavirus and induces an immune response.

The Oxford vaccine exploits an adenovirus found in chimps; humans do not already have antibodies against it. The CanSino vaccine, on the other hand, travels on the back of a widespread adenovirus that causes the common cold in humans, and so pre-existing defenses against that adenovirus in many people appear to thwart the vaccine, scientists said.

The preliminary results released Monday by the Pfizer-BioNTech partnership, based on a trial with 60 participants in Germany at various dosage levels, appeared able to produce a strong immune response. The vaccine uses the same kind of specially engineered genetic material, mRNA, as the Moderna vaccine, and the early results from Pfizer-BioNTech may suggest an even stronger immune response, scientists said.

But the scientists cautioned that no response in a lab test guarantees that a vaccine will prevent a disease. And comparing the immune responses ascribed to the various vaccines is almost impossible because the reports are not standardized.

"It's like judging a beautiful baby photo contest when every mom uses a different Instagram filter," Professor Moore said.

What's more, none of the trials has been able to measure results over more than a few weeks, raising questions about the longer term effects of the vaccines.

Professor Hotez argued that the eagerness of vaccine developers to promote such inconclusive results may actually undermine more immediate public health efforts to control the virus, like wearing masks and social distancing.

"All the hype makes it seem like a miracle is around the corner," he said, "and that is just not the case. This is not going to be a quick fix. This is going to take years to sort out."

Carl Zimmer contributed reporting.

https://www.nytimes.com/2020/07/20/world/covid-coronavirus-vaccine.html

Graphic

PHOTO: A scientist at Oxford University in England working with blood samples for the vaccine trials. (PHOTOGRAPH BY JOHN CAIRNS/JOHN CAIRNS, VIA ASSOCIATED PRESS)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: vaccineS (97%); DRUG DESIGN & DISCOVERY (90%); HERBAL MEDICINE (90%); IMMUNOLOGY (90%); INFECTIOUS DISEASE (89%); COVID-19 CORONAVIRUS (78%); IMMUNODIAGNOSTICS (78%); VIRUSES (78%); ALLIANCES & PARTNERSHIPS (77%); CORONAVIRUSES (77%); COLLEGE & UNIVERSITY PROFESSORS (74%); VOLUNTARY HEALTH ORGANIZATIONS (73%); DEMOGRAPHIC GROUPS (72%); GRADUATE & PROFESSIONAL SCHOOLS (69%); JOINT VENTURES (67%); NONPROFIT ORGANIZATIONS (63%)

Company: PFIZER INC (91%); ASTRAZENECA PLC (84%)

Ticker: PFZ (LSE) (91%); PFE (NYSE) (91%); AZN (STO) (84%); AZN (NYSE) (84%); AZN (LSE) (84%)

Industry: NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (91%); SIC2834 PHARMACEUTICAL PREPARATIONS (91%); NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (91%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (91%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (91%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (91%); vaccineS (97%); PHARMACEUTICAL PREPARATION MFG (92%); PHARMACEUTICALS & BIOTECHNOLOGY (92%); PHARMACEUTICALS INDUSTRY (92%); CHEMICALS (90%); CHEMICALS MFG (90%); DRUG DESIGN & DISCOVERY (90%); HERBAL MEDICINE (90%); IMMUNOLOGY (90%); MANUFACTURING (90%); IMMUNOLOGIC FACTORS (89%); DRUG EFFICACY (78%); IMMUNODIAGNOSTICS (78%); COLLEGE & UNIVERSITY PROFESSORS (74%); BIOTECHNOLOGY

INDUSTRY (73%); GRADUATE & PROFESSIONAL SCHOOLS (69%); CHILDREN'S HOSPITALS (50%)

Geographic: OXFORD, ENGLAND (92%); LONDON, ENGLAND (73%); UNITED STATES (91%); UNITED KINGDOM (90%); BRAZIL (75%)

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End of Document

26 U.S. Says 2 Hackers Tried to Steal Coronavirus vaccine Data for China

The New York Times

July 22, 2020 Wednesday

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Section: Section A; Column 0; Foreign Desk; Pg. 12

Length: 1541 words

Byline: By Julian E. Barnes

Body

Two suspects in ***China*** targeted companies working on ***vaccines*** as part of a broader cybertheft campaign to enrich themselves and aid the Chinese government, officials said.

WASHINGTON -- The Justice Department accused a pair of Chinese hackers on Tuesday of targeting ***vaccine*** development on behalf of the country's intelligence service as part of a broader yearslong campaign of global cybertheft aimed at industries such as defense contractors, high-end manufacturing and solar energy companies.

Justice Department officials labeled the suspects, Li Xiaoyu and Dong Jiazhi, as a blended threat who sometimes worked on behalf of ***China***'s spy services and sometimes to enrich themselves. The officials said that an indictment secured against them this month and unsealed on Tuesday was the first to target such a threat.

United States government officials said that the suspects had previously stolen information about other Chinese intelligence targets like human rights activists and, at the behest of the Ministry of State Security spy service, shifted focus this year to trying to acquire ***coronavirus*** ***vaccine*** research.

The indictment comes as the Trump administration has stepped up its criticism of Beijing, both for its theft of secrets and its failure to contain the spread of the ***coronavirus***, and is a significant escalation of that campaign to denounce Beijing. The Justice Department said that ***China***'s covert activity could potentially set back ***vaccine*** research efforts.

The accusations also came days after the United States and allied countries accused Russia of trying to steal information on ***vaccine*** development.

The indictment also suggests that ***China*** did far less to curb its spying than it had vowed to as part of a nonaggression pact signed with the United States in late 2015 that was aimed at curbing ***China***'s efforts to steal American technological know-how.

The agreement was thought to have slowed ***China***'s hacking for about 18 months, reducing the industrial espionage work done by the Chinese military. But Mr. Li and Mr. Dong, guided by the Chinese intelligence agency, tried to steal secrets in 2016 and 2017, even as the agreement was purportedly being honored.

Asked for comment on the accusations, a press officer for the Chinese Embassy pointed on Tuesday to earlier comments by a foreign ministry spokeswoman, Hua Chunying, who said that the government opposed all forms of cyberattacks and threats.

The suspects are unlikely to be brought to trial because ***China*** does not have an extradition treaty with the United States. The charges were the latest in a continuing effort by the Justice Department to secure indictments against private groups and intelligence officials involved in hacking campaigns as a deterrent and to raise awareness of the threat that such groups pose.

On Tuesday, David L. Bowdich, the F.B.I. deputy director, called the hacks part of a campaign of economic coercion akin to "what we expect from an organized criminal syndicate."

The suspects targeted hundreds of computer networks around the world and caused unnamed companies to lose hundreds of millions of dollars of intellectual property, according to the indictment. For example, they stole research on radio and laser technology from a California defense firm and engineering drawings for a gas turbine from a company working in the United States and Japan, court papers showed.

Justice Department and F.B.I. officials said the hackers were pursuing information and research about the ***coronavirus*** ***vaccine*** from American biotech firms but described it as an attempt to steal the data. The indictment, which was filed in the Eastern District of Washington, did not say that the hackers successfully stole information or research on the ***vaccine***.

The pair did try to hack a Massachusetts biotech firm researching a ***vaccine*** as early as Jan. 27, according to the indictment. On Feb. 1, the pair tried to find vulnerabilities on the networks of a California biotech firm that had announced it was researching ***coronavirus*** antiviral drugs. Then, in May, Mr. Li investigated a California diagnostic firm developing virus testing kits.

While the indictment named only the two suspects, unlike the larger group of Russian hackers accused of seeking ***vaccine*** data, the Justice Department portrayed their work as far-reaching and long-running, going back to at least 2009.

American officials first detected the suspects five years ago, when they stole a gigabyte of information including personnel and administrator accounts from the Hanford Site, an Energy Department facility in Washington State where plutonium was produced during World War II, according to the indictment.

In some cases, the suspects tried to extort money from companies, according to the indictment. In 2017, Mr. Li threatened to publish the source code of a Massachusetts software company if it did not give him $15,000 in cryptocurrency.

Like the Russian group, the Chinese hackers operated with the assistance of their country's intelligence agencies. Their interests were broad, covering manufacturing firms, defense contractors, government agencies, game developers and medical device makers; they recently grew to include information about ***coronavirus*** ***vaccine*** development and other virus-related data.

The suspects also tried to steal other information on Chinese activists for the Ministry of State Security, Beijing's civilian spy agency, said John C. Demers, the assistant attorney general for national security. The suspects handed over account information and passwords belonging to a Hong Kong community organizer, a former Tiananmen Square protester and a pastor of a Christian church in ***China***.

"You can see by the variety of the hacks that they did how they were being directed by the government," Mr. Demers said at a news conference at the Justice Department. "Extorting someone for cryptocurrency is not something that the government is usually interested in, nor are criminal hackers usually interested in human rights activists and clergymen."

The hackers broke into computer networks by researching personal identifying information about employees and customers, which helped them gain unauthorized access, according to law enforcement officials. Once inside, they

stole information from pharmaceutical companies about drugs under development and source code from software companies, the indictment said.

Although the Chinese intelligence service in some cases provided them with hacking tools, much of their work was done using more common methods to breach publicly known software vulnerabilities.

The hackers also worked to cover their tracks, sometimes in ways that could damage the data they were stealing, like by changing the file names of information they downloaded, according to court papers. To further avoid detection, the two hackers worked inside computers' "recycle bins," where files are hidden by default and harder for system administrators to see.

Mr. Demers said an attempted breach could slow down research because it must be secured, but researchers also must make sure their data has not been corrupted or altered by the intruders. The government officials did not say they had evidence that such manipulation had occurred, however.

"Once someone is in your system, they cannot only take the data, they can manipulate the data," Mr. Demers said. "So what you have to focus on is making sure through backup or other systems that nothing has changed about your data."

The indictment contained 11 criminal charges against Mr. Li and Mr. Dong, including conspiracies to commit computer fraud and theft as well as multiple counts of aggravated identity theft.

Trump administration officials, both in public speeches and classified briefings to Congress, have stepped up warnings in recent weeks about Chinese intelligence services and their campaign to steal information and influence American politics.

Lawmakers have been wrestling with how to better deter ***China***, Russia and other nations from trying to hack into pharmaceutical companies, technology firms and other organizations.

"We need a comprehensive strategy to deter the serial theft of strategic U.S. secrets," Senator Chris Van Hollen, Democrat of Maryland, said in an interview. "It is not enough to have these one-off indictments. We need to make it clear upfront that there will be a very high price to pay for foreign actors that attempt to steal important trade secrets, whether it relates to the ***coronavirus*** or semiconductors or 5G networks."

Mr. Van Hollen and Senator Ben Sasse, Republican of Nebraska and a member of the Senate Intelligence Committee, have pushed a bill that would impose sanctions on foreigners and foreign companies that try to steal American intellectual property. The two are hoping the measure could be considered as part of congressional debate this week over a defense policy bill, though there is no guarantee of a vote on the proposal.

"This indictment reveals yet again that Chairman Xi leads an army of hackers that steal and attempt to steal -- every single day, in almost every country and industry," Mr. Sasse said, referring to President Xi Jinping of ***China***.

David E. Sanger contributed reporting.

*https://www.nytimes.com/2020/07/21/us/politics/**china**-hacking-**coronavirus**-**vaccine**.html*

Graphic

PHOTO: A lab developing a ***coronavirus*** ***vaccine*** in Shenyang, ***China***. The White House says that Beijing has resorted to stealing secrets. (PHOTOGRAPH BY NOEL CELIS/AGENCE FRANCE-PRESSE -- GETTY IMAGES)

Classification

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Subject: ***vaccineS*** (93%); CYBERCRIME (91%); JUSTICE DEPARTMENTS (91%); CORONAVIRUSES (90%); ESPIONAGE (90%); GOVERNMENT & PUBLIC ADMINISTRATION (90%); INFECTIOUS DISEASE (90%); LAW ENFORCEMENT (90%); NEGATIVE PERSONAL NEWS (90%); PUBLIC OFFICIALS (90%); AGREEMENTS (89%); COMPUTER CRIME (89%); DATA THEFT (89%); INDICTMENTS (89%); INTELLIGENCE SERVICES (89%); LARCENY & THEFT (89%); VIRUSES (89%); COMMUNICABLE DISEASE CONTROL (78%); CRIME, LAW ENFORCEMENT & CORRECTIONS (78%); DRUG DESIGN & DISCOVERY (78%); EXTRADITION (78%); INTERNATIONAL RELATIONS & NATIONAL SECURITY (78%); INDUSTRIAL ESPIONAGE (77%); STATE DEPARTMENTS & FOREIGN SERVICES (76%); EMBASSIES & CONSULATES (72%); FOREIGN RELATIONS (72%); ORGANIZED CRIME (72%); SOLAR POWER INDUSTRY (72%); SPECIAL INVESTIGATIVE FORCES (72%); DEFENSE CONTRACTING (71%); TREATIES & AGREEMENTS (63%); HUMAN RIGHTS (53%)

Organization: US DEPARTMENT OF JUSTICE (92%)

Industry: ***vaccineS*** (93%); CYBERCRIME (91%); BIOLOGICS MFG (89%); COMPUTER CRIME (89%); COMPUTER NETWORK SECURITY (89%); DATA THEFT (89%); DRUG DESIGN & DISCOVERY (78%); MANUFACTURING (78%); DEFENSE INDUSTRY (76%); COMPUTER NETWORKS (72%); ENERGY & UTILITIES (72%); SOLAR POWER INDUSTRY (72%); DEFENSE CONTRACTING (71%); SOLAR ENERGY (56%)

Geographic: BEIJING, ***CHINA*** (73%); NORTH CENTRAL ***CHINA*** (92%); ***CHINA*** (97%); UNITED STATES (95%)

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End of Document

27 ***How the Cold War Between China and U.S. Is Intensifying***

The New York Times

July 22, 2020 Wednesday 10:08 EST

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Section: WORLD; asia

Length: 1378 words

Byline: Rick Gladstone

Highlight: In defense, trade, technology, media and diplomacy, among other areas, the rancor between the Trump administration and ***China***'s ruling Communist Party is worsening.

Body

In defense, trade, technology, media and diplomacy, among other areas, the rancor between the Trump administration and ***China***'s ruling Communist Party is worsening.

Tensions between ***China*** *and the United States* have reached the most acute levels since the countries normalized diplomatic relations more than four decades ago, with the American government's ordering that ***China*** *close its Houston consulate* being just the latest example.

In defense, trade, technology, human rights and other categories, actions and reprisals by one side or the other have escalated sharply under President Trump's administration, despite his repeated expressions of admiration for President Xi Jinping of ***China***.

The administration is even weighing a *blanket ban* on travel to the United States by the 92 million members of ***China***'s ruling Communist Party and the possible expulsion of any members currently in the country, an action that would likely invite retaliation against American travel and residency in ***China***.

"I think we're in a dangerous and precipitous spiral downward, not without cause, but without the proper diplomatic skills to arrest it," said *Orville Schell*, director of the Center on U.S.-***China*** Relations at the Asia Society. The severity of the confrontation, he said, "has jumped the wall from specific and solvable challenges to a clash of systems and values."

Craig Allen, president of the U.S.-***China*** Business Council, said he was alarmed by the increasing invective from two superpowers that together represent 40 percent of global economic output. "If we are yelling at each other and slamming doors, then the world is a very unstable place, and businesses are not able to plan," he said.

Here is a look at what has happened in the past few years to exacerbate the tensions:

The ***Coronavirus*** and anti-Chinese Racism

Mr. Trump and his subordinates have blamed ***China*** for spreading the ***coronavirus***, which first emerged in the central Chinese city of Wuhan late last year. They have repeatedly described the virus in racist and stigmatizing terms, calling it the Wuhan virus, ***China*** virus and Kung Flu.

On July 4, Mr. Trump said ***China*** "*must be held fully accountable*." The administration also has defunded and *ordered a severing of ties* with the World Health Organization, accusing it of having abetted shortcomings in ***China***'s initial response to the outbreak. On Tuesday, the Justice Department *accused Chinese hackers* of attempting to steal information about American research on a virus ***vaccine***.

For its part, ***China*** has rejected the administration's attacks over the virus and has criticized the poor American government response to the outbreak. Chinese propagandists also have promoted the countertheory, with no evidence, *that American soldiers may have been the original source of the virus* during a visit to Wuhan last October.

A severe test on trade ties

Mr. Trump won office in 2016 partly on his accusations that ***China*** was exploiting the country's trade relationship with the United States by selling the country far more than it purchased. In office, he decreed a series of punitive tariffs on Chinese goods, and ***China*** retaliated, in a trade war that has now lasted more than two years. While a truce was effectively declared in January with the *signing of what the administration called a 'Phase 1' trade deal*, most tariffs were not eased.

Showdown in the South ***China*** Sea

The Trump administration has increasingly challenged ***China***'s assertions of sovereignty and control over much of the South ***China*** Sea, including vital maritime shipping lanes. Just last week, Secretary of State Mike Pompeo, who has described ***China*** as a major security threat, decreed that most of ***China***'s claims in the South ***China*** Sea are "*completely unlawful*," setting up potential military confrontations between Chinese and U.S. naval forces in the Pacific.

A widening battle over technology

China has long been accused by successive U.S. administrations of stealing American technology. The Trump White House has escalated the accusations further by seeking an international blacklisting of Huawei, ***China***'s largest technology company, calling it a front for ***China***'s efforts to infiltrate the telecommunications infrastructure of other nations for strategic advantage.

The company's chief financial officer, *Meng Wanzhou*, has been detained in Canada since December 2018 on an extradition warrant to the United States on fraud charges. Last week Britain declared it was siding with the United States in*barring Huawei products from its high-speed wireless network.*

Expulsions of journalists and other media workers

Accusing ***China***'s state-run media outlets of fomenting propaganda, the Trump administration *sharply limited* the number of Chinese citizens who could work for Chinese news organizations in the United States. ***China*** *retaliated* by ordering the expulsions of journalists from The New York Times, The Washington Post and The Wall Street Journal, and took other steps that suggested further impediments to American press access in ***China*** were looming. The New York Times, concerned about the possibility of further limitations on journalists working in ***China***, *announced last week* that it was relocating much of its major news hub in Hong Kong to Seoul, South Korea.

Expulsions of students

The Trump administration has taken steps to cancel the visas of thousands of *Chinese graduate students* and researchers in the United States who have direct ties to universities affiliated with the People's Liberation Army, *according to American officials knowledgeable about the planning*. Such expulsions portend possible further educational restrictions, and the Chinese government could retaliate by imposing its own visa bans on Americans.

Suppression of democratic freedoms in Hong Kong

Last November, Mr. Trump, with bipartisan support, *signed legislation* that could penalize Chinese and Hong Kong officials who suppress dissent by democracy advocates in Hong Kong, the former British colony and Asian financial center that was guaranteed some measure of autonomy by ***China***.

In May Mr. Trump said he was *taking steps to end Hong Kong's preferential trading status* with the United States after ***China*** passed *a sweeping new security law* that could be used to stifle any form of expression deemed seditious by ***China***. The Chinese authorities have denounced the measures and vowed to retaliate.

Repression of Uighur Muslims in Xinjiang

This month the Trump administration *imposed sanctions* on a number of Chinese officials, including a senior member of the Communist Party, over *human rights abuses* by ***China*** in the Xinjiang region against the country's largely Muslim Uighur minority.

Beijing promised retaliation against American institutions and individuals it deemed guilty of "egregious" conduct in issues concerning Xinjiang, a vast Western expanse in ***China*** where the authorities have placed a million people in *labor camps* and imposed *intrusive surveillance* on others.

Other longstanding grievances: Taiwan and Tibet

For the Chinese government, American actions taken in the name of defending people living anywhere in ***China*** constitute blatant interference in its internal politics — a grievance with deep-seated roots going back to its struggles with imperialist powers in the 19th century.

In May the Trump administration *approved a $180 million arms sale* to Taiwan, part of a *far bigger arms deal* that has angered the Chinese authorities, who regard the self-governing island as part of ***China***. Another longstanding source of Chinese anger is the American deference to the Dalai Lama, the spiritual leader-in-exile of Tibet, the former Himalayan kingdom in ***China***'s far west.

In 2018 Mr. Trump *signed a bill* that penalizes Chinese officials who restrict American officials, journalists and other citizens from going freely to Tibetan areas. Last November the State Department's ambassador at large for international religious freedom, Samuel D. Brownback, *warned that only Tibetans could choose the successor to the Dalai Lama*, who turned 85 this month, setting up a new clash with Beijing, which contends it will choose his successor.

PHOTO: President Donald Trump and President Xi Jinping of ***China*** at the Group of 20 summit in Osaka, Japan, last year. (PHOTOGRAPH BY Erin Schaff/The New York Times FOR THE NEW YORK TIMES)

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Organization: THE ASIA SOCIETY (55%); US-***CHINA*** BUSINESS COUNCIL (54%)

Industry: DEFENSE INDUSTRY (90%); HEALTH DEPARTMENTS (77%); VIROLOGY (67%); ***vaccineS*** (66%); ANTIVIRALS (61%)

Person: XI JINPING (93%); DONALD TRUMP (90%); MIKE POMPEO (90%); Pompeo, Mike; Trump, Donald J; Xi Jinping

Geographic: WUHAN, HUBEI, ***CHINA*** (93%); CENTRAL ***CHINA*** (79%); SOUTHWEST ***CHINA*** (79%); ***CHINA*** (99%); UNITED STATES (97%); HONG KONG (79%); TAIWAN (79%); TIBET (79%)

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28 U.S. Places a $2 Billion Wager In the Global Race for a vaccine

The New York Times

July 23, 2020 Thursday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 1

Length: 1456 words

Byline: By Noah Weiland, Denise Grady and David E. Sanger

Body

Two pharmaceutical companies announced a nearly $2 billion contract for 600 million doses of a vaccine, with the first 100 million promised before the end of the year.

WASHINGTON -- As nations around the world race to lock up coronavirus vaccines even before they are ready, the Trump administration on Wednesday made one of the largest investments yet, announcing a nearly $2 billion contract with Pfizer and a German biotechnology company for 100 million doses by December.

The contract is part of what the White House calls the Warp Speed project, an effort to drastically shorten the time it would take to manufacture and distribute a working vaccine. So far, the United States has put money into more than a half dozen efforts, hoping to build manufacturing ability for an eventual breakthrough.

Europe has a parallel effort underway. Germany recently took a 23 percent stake in a German firm, CureVac, that President Trump once tried to lure to American shores in hopes that its vaccine, if successful, would be distributed in the United States first. A European-led fund-raising effort in May brought $8 billion in pledges from the world's governments, philanthropists and leaders for coronavirus vaccine research, even with the United States sitting out the conference.

China, meantime, has militarized the effort: Researchers associated with the Academy of Military Medical Sciences have developed one of China's leading vaccine candidates, and another Chinese firm, Sinopharm Group, announced in June that it was beginning Phase 3 trials in the United Arab Emirates.

The Pfizer contract, an agreement to ensure the pharmaceutical giant has a market for its work, is the biggest splash yet by the Americans. No vaccine has yet been developed, and it is not clear whether the Pfizer version will work. But if the vaccine being produced by Pfizer and BioNTech, the German firm, proves to be safe and effective in clinical trials, the companies say they could manufacture those first 100 million doses by the end of the year.

Under the arrangement, the federal government would obtain that first batch for $1.95 billion, or about $20 a dose, with the rights to acquire up to 500 million more, or 600 million total. Americans would receive the vaccine for free. Before it could be distributed, it would need emergency approval by the Food and Drug Administration. But the U.S. government does not pay the nearly $2 billion until the drug is approved and the first 100 million doses are delivered.

Pfizer said that large-scale safety and efficacy trials were to begin this month, with regulatory review set for as early as October, although nothing was guaranteed.

"Depending on success in clinical trials, today's agreement will enable the delivery of approximately 100 million doses of ***vaccine*** being developed by Pfizer and BioNTech," Alex M. Azar II, the health secretary, said in a statement announcing the deal.

On Monday, Pfizer and AstraZeneca, a British-Swedish drug company developing a potential ***vaccine*** with Oxford University, released data suggesting that their ***vaccines*** could stimulate strong immune responses with only minor side effects.

But unlike AstraZeneca, which has also obtained funding from the U.S. government, Pfizer did not receive a contract for its earlier research and development efforts -- only for the doses and their distribution.

By refusing funding up until now, Pfizer was able to avoid drawn-out contractual negotiations and get its ***vaccine*** to trials, company officials say.

"We didn't accept the federal government funding solely for the reason that we wanted to be able to move as quickly as possible with our ***vaccine*** candidate into the clinic," John Young, Pfizer's chief business officer, said on Tuesday at a congressional hearing with executives from five ***vaccine*** manufacturers.

Pfizer and BioNTech are developing a ***vaccine*** candidate that uses genetic material from the virus, known as messenger RNA, to stimulate the immune system without making the recipient sick. The technology can create a ***vaccine*** quickly, but has not yet produced one that has been approved and marketed.

Moderna, a Massachusetts biotech company, received $483 million from the U.S. government for its ***vaccine*** development and is also using mRNA technology. By putting the might of an industry giant behind it, Pfizer is making the technology mainstream.

The lack of a track record has prompted some skepticism about this approach, but Dr. Kathrin Jansen, a senior vice president and the head of ***vaccine*** research and development at Pfizer, dismissed the criticism.

"That's not a scientific mind-set -- that just because it's new, it will fail," she said in an interview.

Earlier in her career, Dr. Jansen worked for Merck, where she led its development of a ***vaccine*** to prevent cervical cancer, which is caused by a virus. The ***vaccine***, Gardasil, has been successful. It, too, used a technology that was new at the time and faced considerable skepticism.

Dr. Jansen said Pfizer had placed its bet on messenger RNA not just because the technology could produce a ***vaccine*** quickly, but also because its review of previous work by BioNTech on experimental cancer ***vaccines*** suggested the approach could cause a powerful immune response. Before the ***coronavirus*** pandemic, the two companies had been collaborating on flu ***vaccines***.

vaccines using mRNA consist of genetic material from part of the virus, encased in tiny particles made of fat that help it get into human cells. The messenger RNA then prompts the cells to churn out a tiny piece of the virus, causing the immune system to attack the real virus if the person is exposed. In essence, the patient's cells become factories for a harmless fragment of the virus.

These ***vaccines*** set off several different kinds of immune responses, Dr. Jansen said, which is important because scientists do not know yet which type will be most potent against the ***coronavirus***.

Dr. Jansen described making such a ***vaccine*** as a clean, fast process that required a relatively small footprint to produce many doses.

She added that it "has the potential to be fast to produce a product that is very well defined and very pure."

Several other companies are also making such vaccines, and each has its own formulation of the genetic material and types of fat used to encase it.

The large vaccine studies set to begin this month will each include 30,000 people, with some getting placebo shots. The Food and Drug Administration has said that to be considered effective, a coronavirus vaccine should protect 50 percent of the people who receive it.

Companies hope to show proof of effectiveness by the fall, but that will depend on enrolling enough volunteers in areas where the infection rate is high enough to see a significant difference between the vaccinated people and the placebo group.

"We think we will see the end points, given that the infection rates are going up, up, up," Dr. Jansen said. "If the stars are aligned, it could be next fall. But everything has to be right."

Dr. Amesh Adalja, an infectious disease physician and senior scholar at the Johns Hopkins University Center for Health Security, said that Pfizer, unlike some smaller pharmaceutical companies that the government had contracted with, did not need research money because it was likely to have the infrastructure and early data it needed to speed its vaccine to trials without federal assistance.

"Pfizer is a company that has a lot of expertise in making vaccines," he said. "They knew that any negotiation with the government could have delayed the start" of trials, which he said the company knew how to set up rapidly.

He added that the $1.95 billion agreement was a way to guarantee a market for the vaccine at the end of production, since prominent drugmakers have historically been hesitant to spend on infectious disease outbreaks.

"Advance purchase agreements have been one way we've been able to acquire vaccines and countermeasures against certain threats that pharmaceutical companies have traditionally stayed away from," he said.

The agreement with Pfizer, which the company and the Department of Health and Human Services announced Wednesday morning, is the largest one yet for Operation Warp Speed. The federal government announced this month that it would pay the Maryland-based company Novavax $1.6 billion to expedite the development of a coronavirus vaccine.

"We've been committed to making the impossible possible by working tirelessly to develop and produce in record time a safe and effective vaccine to help bring an end to this global health crisis," Dr. Albert Bourla, Pfizer's chairman and chief executive officer, said in a news release.

https://www.nytimes.com/2020/07/22/us/politics/pfizer-coronavirus-vaccine.html

Graphic

PHOTO: The first patient enrolled in Pfizer's Covid-19 vaccine trial receiving an injection at the University of Maryland School of Medicine in Baltimore in May. (PHOTOGRAPH BY University of Maryland School of Medicine, via Associated Press FOR THE NEW YORK TIMES)

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Company: PFIZER INC (92%); ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (58%); ASTRAZENECA PLC (58%)

Organization: UNIVERSITY OF MARYLAND (84%)

Ticker: PFZ (LSE) (92%); PFE (NYSE) (92%); AZN (STO) (58%); AZN (NYSE) (58%); AZN (LSE) (58%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (92%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (92%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (92%); SIC2834 PHARMACEUTICAL PREPARATIONS (92%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (92%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (92%); PHARMACEUTICALS INDUSTRY (95%); PHARMACEUTICAL PREPARATION MFG (94%); PHARMACEUTICALS & BIOTECHNOLOGY (94%); ***vaccineS*** (92%); CHEMICALS (90%); CHEMICALS MFG (90%); DEFENSE CONTRACTING (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); BIOTECHNOLOGY INDUSTRY (89%); CLINICAL TRIALS (89%); DRUG SAFETY (89%); PHARMACEUTICALS PRODUCT DEVELOPMENT (89%); DRUG & MEDICAL DEVICES APPROVAL (78%); DRUG DESIGN & DISCOVERY (78%); DRUG EFFICACY (78%); HEALTH DEPARTMENTS (77%); US FDA APPROVALS (63%)

Person: DONALD TRUMP (89%); ALEX AZAR (58%)

Geographic: UNITED STATES (96%); GERMANY (91%); EUROPE (79%); UNITED ARAB EMIRATES (79%)

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29 China Is Told To Close Down Houston Office

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Byline: By Edward Wong, Lara Jakes and Steven Lee Myers

Body

The Trump administration accused Chinese citizens of stealing scientific research and told the country's diplomats in Texas to leave. Beijing warned it would retaliate.

WASHINGTON -- The United States has abruptly ordered ***China*** to close its consulate in Houston, accusing diplomats of aiding economic espionage and the attempted theft of scientific research as the Trump administration sharply escalates its moves against ***China***.

China vowed to retaliate, calling the action illegal. Hours after the administration issued its order on Tuesday, consulate employees burned papers in open metal barrels in a courtyard of the Houston building, prompting police officers and firefighters to rush to the area.

The move comes as President Trump's campaign strategists, anxious about his failures on the pandemic, are pushing a comprehensive anti-***China*** message in an appeal to Mr. Trump's supporters.

It was unclear what had immediately prompted the crackdown on the consulate, which must close by Friday, although the State Department said ***China*** was directing "massive illegal spying and influence operations."

David R. Stilwell, who oversees policy for East Asia and the Pacific at the State Department, said in an interview that the Houston consulate had a history of engaging in "subversive behavior" and was the epicenter of research theft in the United States. He gave few details to support that assertion, though other American officials released a document with more information on Wednesday night.

He cited one example: He said the consul general, Cai Wei, the top Chinese official there, and two other diplomats were caught using false identification to escort Chinese travelers on May 31 to the gate area of a charter flight from George Bush Intercontinental Airport.

Mr. Stilwell said that some of ***China***'s attempted scientific thefts in the United States had accelerated over the last six months, and could be related to efforts to develop a ***vaccine*** for the ***coronavirus***, although he presented no evidence.

A seven-page document compiled by American law enforcement officials and obtained by The New York Times broadly outlined several F.B.I. investigations linked to the Houston consulate. Those included attempts to illegally transfer medical research and other sensitive information from institutions in the area; talent recruitment plans to persuade more than 50 researchers, professors and academics in the area to turn over tightly held research or

information to Chinese institutions; and the coercion of Chinese citizens in the United States whom the Chinese government has deemed as wanted fugitives to return to their homeland.

Secretary of State Mike Pompeo, who has been a leader in aggressively pushing hard-line policies on ***China***, said Wednesday at a news conference in Copenhagen that the Trump administration was "setting out clear expectations as to how the Chinese Communist Party is going to behave." He warned that the United States would "take actions" to protect its interests.

Mr. Trump said during a news conference on Wednesday evening that "it's always possible" his administration would close more Chinese missions.

The Chinese Embassy in Washington said in a statement, "The U.S. accusations are groundless fabrications." In Beijing, a spokesman for ***China***'s Ministry of Foreign Affairs urged the United States to immediately reverse the decision.

"Otherwise ***China*** will certainly make legitimate and necessary reactions," said the spokesman, Wang Wenbin. His remarks suggested that ***China*** would, at a minimum, close an American consulate in ***China***.

The consulate in Houston has about 60 employees. There are six other Chinese diplomatic missions in the United States: the embassy in Washington, an office at the United Nations and consulates in New York, Los Angeles, San Francisco and Chicago.

The F.B.I. has issued an arrest warrant for a Chinese student or researcher, Tang Juan, who sought refuge in the San Francisco consulate after American investigators discovered she had not disclosed her affiliation with the Chinese military and executed a search warrant to seize her electronic devices, according to the seven-page document. Chinese diplomats across the United States have helped military officers hide their identities, said John C. Demers, the assistant attorney general for national security. (Axios first reported on Ms. Tang on Wednesday.)

The closing of the consulate in Houston may be less detrimental to the United States' relations with Beijing than shutting down a different one would be. It is the "sister" diplomatic mission to the American consulate in the Chinese city of Wuhan, where the ***coronavirus*** outbreak first emerged. The State Department evacuated its consulate in Wuhan after the initial outbreak; it is not clear when it might fully reopen.

Mr. Wang called the move illegal under international law, and described it as the latest in a series of aggressions.

"For some time, the United States government has been shifting the blame to ***China*** with stigmatization and unwarranted attacks against ***China***'s social system, harassing Chinese diplomatic and consular staff in America, intimidating and interrogating Chinese students and confiscating their personal electrical devices, even detaining them without cause," he said.

Cheng Xiaohe, an associate professor at the School of International Studies at Renmin University in Beijing, said the United States had never taken such a step against ***China*** since the two countries established diplomatic relations on Jan. 1, 1979.

"If the relationship between ***China*** and the United States continues to deteriorate unchecked," he said in a telephone interview in Beijing, "the next result will be the severing of diplomatic relations."

The Trump administration's decision was a significant escalation of its effort to tighten the reins on Chinese diplomats, researchers, scholars, journalists and others in the United States.

It comes during rising tensions that have been inflamed by the pandemic and Beijing's repressive moves in Hong Kong, and that now touch on virtually all aspects of the relationship, even though Mr. Trump himself has vacillated wildly on ***China***. He has regularly praised Xi Jinping, the Chinese leader, and pleaded with Mr. Xi for help with re-

election, while failing to denounce, and at some points explicitly endorsing, ***China***'s repression in Hong Kong and the Xinjiang region.

The administration's restrictions have included issuing travel rules for diplomats and requiring several Chinese state news organizations to register as diplomatic entities while limiting their visas. The administration is also considering a travel ban on members of the Communist Party and their families. Such a move, if enacted, could affect an estimated 270 million people, and it has been widely criticized as too sweeping to be practical.

In May, the Trump administration announced a travel ban on students and researchers of graduate-level and higher who have ties to Chinese military institutions. Some officials estimated that would result in the expulsion of thousands of Chinese citizens from the United States.

The Trump administration has repeatedly accused ***China*** of attempts to steal commercial and military secrets, allegations that Beijing has rejected. Some critics say the administration's approach could encourage prejudice against Chinese and Chinese-American researchers.

Christopher A. Wray, the F.B.I. director, said in a speech this month that the agency was opening a new ***China***-related counterintelligence investigation every 10 hours. Of the examples he cited, four involved researchers in states under the jurisdiction of the Houston consulate.

On Monday, the Justice Department announced visa fraud charges against Song Chen, a visiting Stanford University researcher accused of concealing her active membership in the Chinese military. In January, the F.B.I. announced it was seeking a Boston University student, Yanqing Ye, who had hidden her affiliation with the People's Liberation Army when applying for a visa. American officials believe Ms. Ye is in ***China***.

In December, the U.S. authorities arrested a Chinese cancer-cell researcher, Zaosong Zheng, at Boston Logan International Airport and charged him with trying to smuggle 21 vials of stolen biological research back to ***China***.

In April 2019, officials at the University of Texas MD Anderson Cancer Center in Houston said they were investigating several scientists for improper disclosures. The officials did not identify the scientists, two of whom had resigned. But redacted investigative reports referred to ties to ***China*** or Chinese residents or institutions.

And on Tuesday, the Justice Department said it had indicted two Chinese hackers accused of trying to steal information about ***coronavirus*** ***vaccine*** research.

There have been other clashes over suspected espionage by employees at Chinese missions. In September, the State Department secretly expelled two employees of the Chinese Embassy in Washington who were accused of driving with their wives onto a sensitive military base in Virginia. That was believed to be the first such expulsions in more than three decades. Beijing demanded a reversal of the action.

Some former officials voiced skepticism over the Trump administration's latest move.

Daniel Russel, who served in Mr. Stilwell's job during the Obama administration, said closing the Houston consulate "further reduces the few remaining diplomatic channels between the two sides and is a step that will prove difficult to reverse."

"The ***China*** accusation that this move has more to do with presidential politics than with intellectual property is hard to argue with," said Mr. Russel, now a vice president at the Asia Society Policy Institute.

In 2017, the Trump administration ordered Russia to close its consulate in San Francisco, along with two annexes near New York and Washington, in retaliation for Russian restrictions on the number of American diplomats in Moscow. Those moves stemmed from the furor over Russia's interference in the 2016 presidential election, the fallout from which is still felt, despite Mr. Trump's outreach to the Russian president, Vladimir V. Putin.

The effect of the Houston closure on relations -- and travel -- would in the short term be minimal compared with the diplomatic furor it has already incited. Consulates mainly process visas for travelers visiting ***China***; the one in Houston handled those for southern American states, like Texas and Florida. Travel between the two countries has been severely limited in any case because of the pandemic.

"The consulate was not chosen at random, once the decision was made to try to take action to disrupt more strongly both political influence activities by the government of ***China*** and theft of intellectual property," Mr. Demers said.

The State Department began evacuating its American staff from the Wuhan consulate in late January during the ***coronavirus*** outbreak there -- a move that ***China*** at the time criticized as stoking panic. It has also significantly reduced operations at the embassy in Beijing and its other consulates, with many diplomats returning to the United States.

In recent weeks, the department has begun to slowly return diplomats and their families -- only to face rigorous health screening and quarantine rules that the Americans had complained were onerous and even in violation of the Vienna Conventions on diplomatic and consular relations. The Houston consulate closure could add another obstacle to efforts by the American diplomats to return.

Keith Bradsher contributed reporting from Beijing, and Megan Specia from London. Claire Fu contributed research from Beijing.

*https://www.nytimes.com/2020/07/22/world/asia/us-**china**-houston-consulate.html*

Graphic

PHOTOS: The Chinese Consulate in Houston. At left, President Trump with the Chinese leader, Xi Jinping. Mr. Trump's administration has accused ***China*** of trying to steal secrets. (PHOTOGRAPHS BY DAVID J. PHILLIP/ASSOCIATED PRESS

ERIN SCHAFF/THE NEW YORK TIMES) (A11)

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SPECIAL INVESTIGATIVE FORCES (75%); DISEASES & DISORDERS (73%); MEDICAL RESEARCH (73%); CORONAVIRUSES (69%); GOVERNMENT ADVISORS & MINISTERS (69%); INFECTIOUS DISEASE (69%); POLITICAL PARTIES (69%); ***vaccineS*** (65%); PRESS CONFERENCES (60%); DRUG DESIGN & DISCOVERY (50%); MEDICINE & HEALTH (50%)

Industry: AIR CHARTER SERVICES (72%); ***vaccineS*** (65%); DRUG DESIGN & DISCOVERY (50%)

Person: MIKE POMPEO (78%); GEORGE W BUSH (58%)

Geographic: HOUSTON, TX, USA (94%); BEIJING, ***CHINA*** (78%); NORTH CENTRAL ***CHINA*** (79%); TEXAS, USA (79%); ***CHINA*** (99%); UNITED STATES (97%); EASTERN ASIA (79%); ASIA (78%)

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30 ***Little Evidence That Evictions Deter Rival Countries' Cyberattacks***

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Byline: By David E. Sanger

Body

So far, there is scant evidence that these punishments have limited the cyberattacks and other bad behavior from America's two greatest rivals for influence and power around the world.

As smoke poured from the Chinese Consulate in Houston on Wednesday, the product of an old-fashioned ritual in which evicted diplomats touch off a bonfire of classified documents after being ordered to leave the country, Trump administration officials boasted that they were hitting Beijing where it hurt -- in one of the epicenters of its spying operations in the United States.

The technique the administration chose -- accuse, condemn, evict -- has been used before. And, so far, there is scant evidence that it has limited the cyberattacks and other bad behavior from America's two greatest rivals for influence and power around the world, ***China*** and Russia.

Officers of the Chinese People's Liberation Army were indicted in 2014 for an extensive effort to bore inside American companies. The result was an impressive "Wanted" poster by the F.B.I., but six years later none of them have been apprehended to stand trial in the United States on charges of looting some of America's biggest companies.

Two years ago, 12 Russian intelligence operatives were indicted by Robert S. Mueller III, the special counsel who investigated both Moscow and President Trump. They have also evaded trial. The president closed two Russian diplomatic facilities that the United States said were dens of spies operating under diplomatic cover, and ordered more evictions.

Yet the hacking and the disinformation operations have proceeded unabated, and by some measures have accelerated.

"There is no doubt that ***China*** represents a tremendous espionage threat for the United States," said Abraham M. Denmark, who runs the Asia program at the Woodrow Wilson International Center for Scholars and was a senior Defense Department official. "The question here is not ***China***'s culpability -- I expect it's solid -- but rather if suddenly closing the consulate in Houston will address the problem."

It probably won't, most cyberexperts inside and outside the government concede. After years of trying to figure out how to deter cyberattacks -- by naming and shaming, indicting and sometimes even counterattacking -- the problem of halting attacks that remain short of war is proving far more complex than deterring nuclear holocaust.

"Our problem is that we have to be much more clear about what actions we won't tolerate and what the consequences will be," said Representative Jim Langevin, a Rhode Island Democrat who served on the congressionally created Cyberspace Solarium Commission, which recommended a series of steps to increase deterrence this year. When it comes to defending against cyberattacks, Mr. Langevin said, the Obama administration was overly cautious and the Trump administration "is too often shooting from the hip."

In fact, both presidents have often used the same tools -- mostly drawn from a 19th-century diplomatic playbook that is being applied to a 21st-century challenge. It shouldn't be a surprise that it isn't working.

It is a reminder of two things. First, in the cyberage, closing a diplomatic facility has the faint ring of the Cold War, but most of the attacks on American corporations, laboratories and the government are launched from servers outside American borders. And second, without firing a bullet or dropping a bomb, an adversary can deliver a crippling setback to the United States by infiltrating American computer networks, whether the target is the design for the F-35 warplane or a potential ***coronavirus*** ***vaccine***.

To Mr. Trump's credit, orders he issued two summers ago have resulted in more aggressive pushback, what the National Security Agency and the United States Cyber Command call a strategy of "defend forward." That means they go deep into an adversary's computer networks, sometimes to strike back, but more often to signal that an attack will not be cost-free.

"The central issue is that they need to know they will pay a price," Mr. Langevin said.

It was the Obama administration that moved more aggressively to indict cyberactors, making public the information about who was behind the hacks that until then was available only to those who had the clearance to read classified intelligence briefings.

"It was a long-overdue step," said John P. Carlin, who spearheaded the strategy as the chief of the Justice Department's national security division. Mr. Carlin, who later wrote about the experience in the book "Dawn of the Code War," said that "it is a good way to make the detail public in a credible way, with the high standard that you believe you can prove your case beyond a reasonable doubt."

If you do not do that, Mr. Carlin said in an interview on Wednesday, "the message you are sending is that you are decriminalizing this activity." Just before Mr. Carlin left office in 2016, President Barack Obama and Xi Jinping, the Chinese leader, announced an agreement that should have ended cybertheft of corporate data. It worked for a while, then fell apart. The Chinese military's hacking diminished, but the slack was picked up by operatives of the Chinese intelligence agencies. On Tuesday, for example, the Justice Department accused a pair of Chinese hackers of targeting ***vaccine*** development on behalf of the country's intelligence service.

The lesson may be that while the indictments are necessary, they may not be sufficient. So when Gen. Paul M. Nakasone took over as the director of the N.S.A. and the commander of U.S. Cyber Command, he turned to more aggressive actions. The N.S.A. shut down the Internet Research Agency in St. Petersburg for a few days around the 2018 midterms and sent warnings to Russian intelligence officers. It has worked to sabotage North Korean and Iranian missiles.

The best argument for the strategy is that, so far, no one has turned off the power grid in the United States or conducted a similarly crippling strike. But when it comes to stealing corporate or national security secrets, the cost-benefit analysis conducted in Moscow and Beijing usually comes back with the same conclusion: The benefits still outweigh the costs.

While Mr. Trump has periodically threatened the Chinese with trade sanctions in response to their hacking, and thrown Chinese telecommunications firms like Huawei out of the country rather than let them dominate next-generation telecommunications networks, he has also periodically suggested these penalties could be bartered away in a good trade deal. That does not exactly establish red lines.

"There is no evidence of significant pullback by the Chinese and the Russians," said Gregory Rattray, who first dealt with these issues working for President George W. Bush's National Security Council and now runs a cybersecurity consulting firm, Next Peak.

"It's possible that we don't have a better option than to create less exposure, which means focusing on protecting the data you have and thinking more about defense," he said.

*https://www.nytimes.com/2020/07/22/us/politics/**china**-russia-trump-cyberattacks.html*

Graphic

PHOTO: Firefighters at the Chinese Consulate in Houston on Tuesday after reports of papers being burned. (PHOTOGRAPH BY MARK MULLIGAN/HOUSTON CHRONICLE, VIA ASSOCIATED PRESS)

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31 ***Testing Chief Concedes That Turnaround of 2 to 3 Days Is Out of Reach***

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Byline: By Sheryl Gay Stolberg and Katherine J. Wu

Body

With the reopening plans of schools and businesses hinging on rapid test results, the Trump administration's testing czar says a two- to three-day turnaround "is not possible."

WASHINGTON -- With schools, universities and businesses pinning their hopes for reopening on rapid ***coronavirus*** testing, the Trump administration's testing czar told Congress on Friday that getting test results within two to three days "is not a possible benchmark we can achieve today."

But even that sober assessment from Adm. Brett P. Giroir, the assistant secretary for health, most likely did not fully reflect the mounting frustration among patients and health professionals just as the school year struggles to get started.

During a lengthy House hearing with top government health officials, Dr. Giroir told lawmakers that the nation was averaging about 820,000 tests daily, up from 550,000 earlier this month. But the raw numbers belie the testing crunch that officials around the country are facing amid soaring caseloads, particularly in the South and West.

"Turnaround times are definitely improving," Dr. Giroir insisted, adding that it was "very atypical" to wait more than 12 days for results.

But many researchers are still grappling with severe shortages of the testing supplies needed to collect samples from patients and process them in laboratories. That leaves state and local officials without information they need to make critical health decisions, and it creates lags in contact tracing -- a necessary tool for controlling the pandemic's spread.

"We're doing so many tests, sometimes it takes seven to 10 days to get the results back," Gov. Ron DeSantis of Florida noted on Friday evening in a briefing there with President Trump.

Coronavirus testing is essential to opening the economy and getting people back to work and school, but it is almost useless if long lag times keep people unnecessarily quarantined for days or allow them to spread the virus while they await their results.

Dr. Giroir insisted that over all, 59 percent of tests report results within three days, and 76 percent within five.

"I'm sure there's an outlier at 12 to 16 days because that happens," he added, "but that's very atypical."

Dr. Giroir's comments, during a hearing of the House Select Subcommittee on the ***Coronavirus*** Crisis, were met with puzzlement by public health experts, who say testing shortages persist. In some places, tests cannot be processed at all because of a lack of reagents -- the chemicals needed to detect whether the virus is present -- or lab capacity.

And anxious patients around the country paint a far bleaker picture. Shawn Jain, who was tested along with several family members on July 7 in Nashville, waited 16 days for his results after they were processed by Quest Diagnostics. Some of his family members still have not heard back.

"I honestly thought they had lost the test," said Mr. Jain, who tested negative for the virus. He added, "It made me feel like, well if in the future I do worry I have it, I can't even rely on something as basic as testing."

On Friday, the National Institutes of Health announced awards totaling $248.7 million for seven companies to ramp up test production and deliver millions more weekly tests as early as September. The N.I.H. director, Dr. Francis Collins, described the announcement as the "first of more awards to come." Three of the tests are simple enough to deliver results in 30 minutes or less.

At the hearing, Dr. Anthony S. Fauci, the director of the National Institute of Allergy and Infectious Diseases, said again that a safe and effective ***coronavirus*** ***vaccine*** would most likely be ready by the end of this year or early next, and cast doubt on efforts by Russia and ***China***.

"I do hope that the Chinese and the Russians are actually testing the ***vaccine*** before they're administering the ***vaccine*** to anyone," Dr. Fauci said.

Until a ***vaccine*** is available, testing remains critical, but new diagnostic tools will not come soon enough for the fall semester at universities and colleges around the country. Many have decided to transition to online classes in part because administrators cannot be assured that enough testing will be available to keep students, faculty and staff safe.

"***Covid-19*** testing capacity and delays in reporting results remain a challenge," Sylvia M. Burwell, a health secretary in the Obama administration who is now the president of American University, wrote this week, in announcing that there would be "no residential experience" for students this fall.

"The ability to test and support contact tracing is critical to reducing community spread of ***Covid-19***," she added, "and the ambiguity in this area presents a significant hurdle for all."

Other colleges were in the same position.

"The increased spread of the virus nationwide, the impact that this resurgence has had on the availability of testing supplies needed to satisfy our testing protocols, and the strong national trend of rising rates of infection in younger populations lead us to conclude that our community is best served by maintaining social distancing in miles rather than feet," Alison R. Byerly, the president of Lafayette College in Pennsylvania, wrote last week.

Democrats seized on reports of testing delays to demand a national testing strategy.

"We once again call upon the president to get serious about this -- no, testing is not overrated," Speaker Nancy Pelosi told reporters as the hearing was underway.

Testing delays hurt efforts to contain the spread of the virus. Diagnostic tests reflect only a person's health status on the day a sample is collected. While those who visit testing sites are typically told to quarantine at home while they await their results, that advice becomes harder to take the longer people are forced to wait -- especially for those who work essential jobs that cannot be done remotely.

"It is an issue if you can't get it within a 24-to-48-hour period," Dr. Fauci said.

And diagnostic tests alone are not enough. Experts say that in order to stop the pandemic, the country will have to expand testing in the broader community -- not just to identify sick people, but to assess the prevalence of disease in the general population and to catch asymptomatic people who might be unknowingly carrying the virus.

About half of all ***coronavirus*** tests, Dr. Giroir said, are conducted in so-called point-of-care settings -- like doctor's offices or urgent care clinics, without the need to route samples through laboratories -- or hospitals. Point-of-care tests, intended to be fast and simple enough to obviate the need for specialized equipment or highly trained personnel, can yield results in 15 minutes, he said, while hospital tests take around a day.

The remainder of ***coronavirus*** tests are conducted by large-scale commercial laboratory companies, like LabCorp and Quest Diagnostics, which are strained near their limits.

This month, Daniel Larremore, a mathematician and infectious disease modeler at the University of Colorado, Boulder, collected data about testing delays via an informal survey on Twitter, showing that residents in multiple states were experiencing prolonged test result turnaround times.

What is more, turnaround times do not reflect "how long it takes for people to get a test in the first place, and how convenient it is to get the testing done," Dr. Larremore said. He also pointed out that many places were still prioritizing patients with symptoms for testing.

But mounting evidence suggests that about 40 percent of ***coronavirus*** infections could present without symptoms entirely. Tests are also still failing to reach many of those who need it the most, including communities marginalized by race and ethnicity, who have been disproportionately affected by the ***coronavirus***.

Michael T. Osterholm, the director of the Center for Infectious Disease Research and Policy at the University of Minnesota, said the administration needed a "national dashboard for testing" where data was collected and made publicly available.

"We need to know how many people are tested, by which test, how long does it take to get a result back and where there is testing capacity available, but they can't be done because there is an absence of reagent or other critical components," he said.

While the country's capacity for testing has certainly increased, Dr. Larremore said, "That doesn't mean that we are where we need to be -- just that we're continuing to accelerate."

Sheryl Gay Stolberg reported from Washington, and Katherine J. Wu from Boston.

*https://www.nytimes.com/2020/07/31/us/politics/trump-**coronavirus**-testing.html*

Graphic

PHOTO: Dr. Anthony S. Fauci spoke about the timetable for results. "It is an issue if you can't get it within a 24-to-48-hour period," he said. (PHOTOGRAPH BY STEFANI REYNOLDS FOR THE NEW YORK TIMES)

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32 ***Trump's Order on Coronavirus Relief Alarms Governors as Stimulus Talks Stall***

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Highlight: The Trump administration is ordering schools on Native American reservations to reopen. California's chief health officer has resigned. The pandemic has now sickened more than 20 million people, according to a Times database.

Body

The Trump administration is ordering schools on Native American reservations to reopen. California's chief health officer has resigned. The pandemic has now sickened more than 20 million people, according to a Times database.

Governors say Trump's order on pandemic relief would wreck state budgets.

Governors across the United States struggled on Monday with how to make good on *President Trump's order* that their economically battered states deliver billions more in unemployment benefits to jobless residents.

Democrats were harshly critical of *Mr. Trump's order*, which he signed on Saturday night after talks with Congress on a broad new pandemic aid package collapsed. But even Republican governors said the order could strain their budgets and worried it would take weeks for tens of millions of unemployed Americans to begin seeing the benefit.

Congress initially provided a $600-a-week supplement to unemployment benefits when the ***coronavirus*** pandemic shut down much of the United States in March. But that benefit lapsed on July 31, after talks between the White House and Congress broke down. Republicans had pushed for a $400 supplemental benefit, Democrats said it was not enough, and so on Saturday Mr. Trump ordered the $400 benefit — but said it was contingent on states to come up with $100 of that on their own.

Gov. Andrew M. Cuomo of New York told reporters on Monday that Mr. Trump's order would cost his state about $4 billion by the end of the year, making it little more than a fantasy. He said that no New Yorker would see enhanced unemployment benefits because of the president.

"This only makes a bad situation worse," Mr. Cuomo said. "When you are in a hole, stop digging. This executive order only digs the hole deeper."

His comments were echoed by Gov. Andy Beshear of Kentucky, a Democrat like Mr. Cuomo, who said Mr. Trump's order would cost his state $1.5 billion through the end of the year.

"It's not workable in its current form," Mr. Beshear said. "It's something virtually no state can afford."

Trump considers a rule that would block Americans thought to have the virus from returning home.

President Trump is considering new immigration regulations that would allow border officials to temporarily block American citizens and legal permanent residents from returning to the United States from abroad if authorities believe they may be infected with the ***coronavirus***.

In recent months, Mr. Trump has imposed sweeping rules that ban entry by foreigners into the United States, citing the risk of allowing the virus to spread from hot spots abroad. But those rules have exempted two categories of people attempting to return: American citizens and noncitizens who have already established legal residence.

Now, a draft regulation would expand the government's power to prevent entry by citizens and legal residents in individual, limited circumstances. Federal agencies have been asked to submit feedback on the proposal to the White House by Tuesday, though it is unclear when it might be approved or announced.

Under the proposal, which relies on existing legal authorities of the Centers for Disease Control and Prevention, the government could block a citizen or legal resident from crossing the border into the United States if an official "reasonably believes that the individual either may have been exposed to or is infected with the communicable disease."

The draft, parts of which were obtained by The Times, explicitly says that any order blocking citizens and legal permanent residents must "include appropriate protections to ensure that no Constitutional rights are infringed." And it says that citizens and legal residents cannot be blocked as an entire class of people.

The documents appear not to detail how long a citizen or legal resident would be required to remain outside of the United States.

The draft memo says the prohibition on the introduction of U.S. citizens or legal residents from abroad would apply "only in the rarest of circumstances," and "when required in the interest of public health, and be limited in duration."

Still, if Mr. Trump approves the change, it would be an escalation of his government's longstanding attempts to seal the border against what he considers to be threats, using the existence of the ***coronavirus*** pandemic as a justification for taking actions that would have been seen as draconian in other contexts.

A spokesman for the Department of Homeland Security declined to comment. A spokesman for the C.D.C. said late Monday afternoon that he would seek to gather more information about the proposal.

It is unclear whether there are any existing rules that would allow American citizens and legal residents to be prohibited from returning to the United States for a period of time because of concerns about a communicable disease. Immigration officials have broad authority to deny entry to people based on national security issues.

The rule appears to apply to all points of entry into the United States, including at airports and along both the northern and southern borders. In particular, the draft could impact the border with Mexico, where many American citizens and legal residents cross back and forth frequently.

The rule notes the prevalence of the ***coronavirus*** in Mexico as evidence of the need for the modified rule, citing the death on Aug. 2 of the health minister in the Mexican border state of Chihuahua, who the order says died of ***Covid-19*** after a two-week hospitalization.

Britain's push to open schools may force it to close pubs.

Prime Minister Boris Johnson says that opening Britain's schools next month is a "moral duty," and that in the event of a resurgence of the virus, "the last thing we want to do is to close schools."

To avoid the scenario that Mr. Johnson described Monday, medical experts said, the government will have to be ready to sacrifice a hallowed British institution — pubs, as well as restaurants, which reopened a few weeks ago but are increasingly viewed as among the greatest risks for spreading the virus.

Mr. Johnson's drive to reopen schools has put him at odds with teachers' unions and local governments, which generally accept that schools should reopen but argue that Britain's system for testing and contact tracing is not robust enough to cope with the outbreaks that may follow.

The government, they said, has not developed plans for how teachers should handle sick students or communicate with parents if there is an outbreak. Mr. Johnson's back-to-school campaign, some said, appeared to be rushed after the government had emphasized other priorities, like eating out in restaurants.

"The big question is, if you open schools, how long can you keep them open?" said Devi Sridhar, the director of the global health governance program at Edinburgh University. "If there's spreading, do you shut down the whole school? Do you shut down a single class?"

Professor Sridhar said the safest way to open schools was to drive down the transmission rate — and the way to do that, she said, was to close "the nighttime economy." In the Scottish city of Aberdeen, she noted, nearly 800 people were forced into quarantine because of an outbreak that the authorities traced to a handful of pubs.

"My message is, you have to choose," she said. "Which part of the economy do you have to sacrifice? Something's got to give."

Mr. Johnson cannot order schools to open or close; those decisions are made by the local health authorities. But some teachers say they are eager to return to the classroom, viewing the health risks as manageable. Schools in Scotland plan to reopen this week, with England's opening on Sept. 1.

Federal schools on Native American reservations, where infection rates can run high, are told to reopen.

The Trump administration is ordering schools operated by the Bureau of Indian Education to reopen for in-person instruction "to the maximum extent possible" on Sept. 16, according to an internal memo obtained by The New York Times.

The memo says that while families may choose to keep their students home and rely on virtual instruction, teachers are expected to teach in person unless they are at high risk for health complications should they contract the ***coronavirus***.

The bureau operates *53 schools* serving Native Americans living on tribal lands. A number of reservations have been hard-hit by the ***coronavirus***, especially the Navajo Nation in the Southwest.

The bureau's schools are among the few under direct federal control, rather than state or local control. The bureau is part of the Department of the Interior.

Sue Parton, a member of the Kiowa Tribe of Oklahoma and the president of the union that represents the bureau's employees, said the plan to reopen the schools so soon was "foolish."

Educators are afraid to return to classrooms, she said, because of high rates of infection in Native communities. But unlike teachers in local school districts, she said, the bureau's teachers felt they had little say in what the schools should do.

"I think a big difference, of course, is us being federal employees," Ms. Parton said. "We have our chain of command, and unfortunately it goes all the way to the top in D.C."

President Trump has been urging all schools to reopen and did so again at a news conference on Monday, claiming children do not catch the virus easily or get very sick. But *studies show that children carry high amounts of the virus* once infected, and experts have *repeatedly expressed concern* that they could be a significant source of transmission in close-knit environments like schools.

On Monday in Kentucky, Gov. Andy Beshear said he recommended that schools delay the start of in-person classes until Sept. 28.

"It's six weeks from what I hope is the peak of this virus," he said. "In my very core, I want us to get back to in-person instruction. But to ask our kids to go in, and all of our teachers and faculty, at a time when it's not safe, is something that we can't ask of them, and I'm not willing to."

Schools have already reopened in other states, only to quickly order quarantines or close their doors. North Paulding High School in Georgia, for example — which drew attention after *images of its crowded hallways circulated on social media* — said that it would switch to online instruction for Monday and Tuesday after reporting at least nine cases.

Kentucky's governor asks schools to delay the start of in-person classes.

As schools *debate how to safely reopen* while the virus continues to spread, Gov. Andy Beshear of Kentucky, a Democrat, on Monday said he recommended schools delay the start of in-person classes until Sept. 28.

"It's six weeks from what I hope is the peak of this virus," he said. "In my very core, I want us to get back to in-person instruction. But to ask our kids to go in, and all of our teachers and faculty, at a time when it's not safe, is something that we can't ask of them, and I'm not willing to."

His comments comes as some schools have reopened, only to quickly order quarantines or close their doors. North Paulding High School in Georgia, which drew attention *after images of its crowded hallways, with few wearing masks, circulated on social media*, said that it would switch to online instruction for Monday and Tuesday after reporting at least nine cases.

When asked if all students should wear masks *during an interview ABC News*, Dr. Anthony S. Fauci, the nation's top infectious disease expert, said: "I feel that universal wearing of masks is one of five or six things that are very important in preventing the upsurge of infection and in turning around the infections that we are seeing surging."

President Trump has been urging all schools to reopen and did so again at a news conference on Monday, claiming children do not catch the virus easily or get very sick.

"According to the people that I've spoken to, they don't transport or transfer it to other people, or certainly not very easily, so, yeah, I think schools have to open," he said. "We want to get our economy going."

In contrast to Mr. Trump's claims, *studies show that children carry high amounts of the virus* once infected — perhaps even exceeding virus levels documented in adults. While children do seem less likely to become severely ill, *experts have repeatedly said they are worried that they could be a significant source of transmission* in close-knit environments like schools.

The chief health officer in California is out after the state's virus data tracking system breaks down.

Gov. Gavin Newsom of California said Monday that the head of the state's Department of Public Health had resigned amid "personnel judgment questions" that contributed to the breakdown of the state's disease reporting system.

Nearly 300,000 records, most of them from virus tests, disappeared from the system over the past two weeks, a problem that the state is currently rectifying.

"She wrote a resignation letter and I accepted her resignation," Mr. Newsom said of the public heath director, Dr. Sonia Angell. "We are all accountable in our respective roles for what happens underneath us."

In a letter to her colleagues at the California Department of Public Health, Dr. Angell on Sunday had cited "my own plans to depart from my position," but did not give a specific reason for leaving.

The breakdown of the antiquated data system, which the governor on Monday vowed to replace, had *clouded the overall picture* of the virus's progression in California, which as of Monday has had 10,378 deaths related to the virus, third in the nation after New York and New Jersey, and 567,908 confirmed cases, according to a database maintained by The New York Times.

On Monday Mr. Newsom said that despite testing delays and the problems with the disease reporting system, there were encouraging signs in the state's fight against the virus. He cited a 19 percent decline in hospitalizations over the past two weeks. Last week the state had reported a 10 percent decline. Hospitalizations are counted using a separate system unaffected by the data problems.

Dr. Angell, who had been in her role for less than a year, was replaced by two people: Sandra Shewry, a veteran public health official, is now the acting director of the Department of Public Health, and Dr. Erica Pan, the former chief health officer of Alameda County, is now the acting state public health officer. In her role in Alameda County, Dr. Pan had *clashed* with Elon Musk, the billionaire entrepreneur and head of Tesla, over plans to reopen the company's car factory in Fremont, Calif.

In other U.S. news:

- More than 47,000 cases and more than 530 deaths were announced across the United States on Monday, *according to the Times database*. The global caseload also surpassed 20 million, 43 days after it hit 10 million.
- Many medical experts — including members of his own staff — worry about *whether Dr. Stephen Hahn, the commissioner of the Food and Drug Administration and one of the nation's most powerful health officials*, has the fortitude and political savvy to protect the scientific integrity of the F.D.A. from the president. Critics point to a series of worrisome responses to the epidemic under Dr. Hahn's leadership, most notably the emergency authorization the agency gave to hydroxychloroquine, the drug *promoted by Mr. Trump*. The F.D.A. *reversed its decision three months later* because the treatment did not work and harmed some people.
- At least seven courtrooms in San Antonio had to go offline for several minutes last week in what the authorities called a "Zoom bomb" attack. On Wednesday, virtual court hearings were interrupted with profanities, sexual images, graphic photos of courthouse shootings and a photograph from the 1999 Columbine High School massacre, court officials said. The same day, in Tampa, Fla., another virtual hearing went offline after pranksters posing as reporters interrupted a Zoom bond hearing for *Graham Ivan Clark*. Mr. Clark, 17, who pleaded not guilty to numerous charges, is accused of hijacking the Twitter accounts of Bill Gates, Barack Obama and Elon Musk, among others.
- Gov. Lourdes Leon Guerrero of Guam said on Twitter on Monday that she had *tested positive*. Ms. Guerrero said in a statement that she discovered on Wednesday that she had come into close contact with a relative who had tested positive for the virus.

As U.S. schools reopen, a study finds at least 97,000 children were recently infected.

As schools *face the daunting challenge of reopening* while the virus continues to spread, at least 97,000 children around the United States tested positive in the last two weeks of July, according to *a new report* from the American Academy of Pediatrics and the Children's Hospital Association. It says that at least 338,000 children had tested positive through July 30, meaning more than a quarter tested positive in just those two weeks.

The report comes as some *schools have tried to reopen*, only to quickly order quarantines or close their doors. North Paulding High School in Georgia, which drew attention *after images of its crowded hallways circulated on*

social media, announced on Sunday that it would switch to online instruction for Monday and Tuesday after reporting at least nine cases.

States in the South and West accounted for more than seven out of 10 infections in the new report, which relied on data from 49 states along with Washington, D.C., Puerto Rico and Guam. The count could be higher because the report did not include complete data from Texas and parts of New York State outside of New York City.

Missouri, Oklahoma, Alaska, Nevada, Idaho and Montana were among the states with the highest percentage increase of child infections during that period, according to the report.

The report comes as a study in Chicago found that infected children carry *at least as much virus* in their nose and throat as adults do. Several studies from other countries have also suggested that children under 10, in particular, are much less likely to spread the virus to others.

In the *latest such report*, from South Korea, researchers tracked the household members of 107 infected children between ages 10 and 17 from Jan. 20 and April 6, when schools were closed. They confirmed 41 cases of infection among the children's 238 household contacts. But 40 of those 41 people were exposed to the same source of infection as the child was, suggesting that shared exposure may have been the source of their virus.

The researchers were only able to identify one 16-year-old who had returned from the United Kingdom and transmitted the virus to her younger sister.

Deaths in India top 1,000 a day for the first time.

India's health ministry said the country had recorded more than 1,000 virus deaths on Sunday, the first time the daily death toll had been that high.

Some health experts said the high number is likely to be seen again, as state-run hospitals are still overflowing with sick patients, and *private hospitals are mostly out of reach for many Indians*.

The high count has some Indians questioning the government's seeming failure to capitalize on the gains made during its initial moves to contain the virus.

In late March, Prime Minister Narendra Modi *implemented one of the most severe lockdowns anywhere*, ordering all Indians to stay inside, halting transportation and closing most businesses.

But as the ailing economy started contracting, *officials lifted some of the restrictions*, hoping to ease the economic suffering. People soon thronged markets, maintaining little social distance.

In some of the congested localities, there was an explosion of new infections.

"We were cramped inside for months," said Saurab Sharma, a schoolteacher, in Delhi, India's capital. "But it seems the government did not know how to make the most out of the lockdown gains."

As of Sunday, India had more than 2.2 million infections and 44,386 deaths, *according to a New York Times database*. The country's caseload is the world's third-largest, after those in the United States and Brazil, and India has recorded at least 800 deaths a day in the past week.

The country is recording more new cases than the United States and Brazil, although India carries out more tests than Brazil, at 700,000 a day. (An earlier version of this post mischaracterized the number of tests conducted by India. It conducts a similar number of tests as the United States, not more.)

Indian officials said on Monday that more than 80 percent of the new cases were being reported in 10 of India's 29 states, and that the number of recoveries exceeded 1.5 million.

Some public health experts have linked the country's rising infection toll to its spread in densely populated areas of major cities, which have crowded marketplaces and almost no social distancing.

England will overhaul its contact tracing program.

England will overhaul its *faltering **coronavirus** contact-tracing system*, the government said on Monday, shifting some control from private contractors to local public health teams and cutting the jobs of thousands of call center workers who had complained of having no one to call.

The changes were the clearest acknowledgment yet by Prime Minister Boris Johnson's government that its centralized, privatized system for tracking down the patients' contacts has come up short.

Instead, the government has heeded some of the pleas of underfunded local public health directors, who have been warning for months that a London-run contact tracing system would not deliver the local intelligence needed to squelch flare-ups of the virus.

Under the reorganization announced on Monday, 6,000 contact tracing jobs will be cut by late August, one-third of the total employed by two outsourcing companies. Some of the remaining 12,000 privately employed tracers will be redeployed to regional public health teams.

In some areas, "the national Test and Trace system wasn't picking up enough of the cases and contacts on the ground to make a difference," Dr. Lincoln Sargeant, the director of public health in North Yorkshire, said in an interview on Monday. "The knowledge and relationships we have in local government are certainly what you need to bridge that gap."

England's centralized program has repeatedly stumbled since its rushed launch in late May — one of many missteps that have contributed to Britain having *the worst outbreak in Europe*.

Only 51,500 of the 92,000 people identified as close contacts of positive cases were ever reached by call center contact tracers as of late July, according to *government statistics*. Many contact tracers had reached no more than a couple of people in two months of work.

Inside a Houston hospital's battle with the virus.

As ***coronavirus*** infections surged in Texas this summer, Houston Methodist Hospital opened one intensive care unit after another for the most critically ill.

In one of the hospital's I.C.U.s, many patients or their families gave Times reporters permission to follow their care. The 24-bed unit, where more than 60 percent of the patients who were there in mid-July identified as Hispanic, is a microcosm for a country where the pandemic has disproportionately affected Latinos.

Inside, machines beep to indicate danger, doctors rush in to perform procedures, and patients experience alternating waves of improvement and decline. Veteran staff members cry in their cars, never having seen so much severe illness and death all at once.

"It's hurt me to see so many of my people," said Lluvialy Faz, a critical care nurse on the unit who is Hispanic. "I feel like it's really hit our community, and my community, more."

Many of these patients endure cascading tragedies, with multiple relatives struck by the virus. A man recovers and goes home from the hospital, but leaves his critically ill wife behind. A patriarch with two dozen ailing family

members fights for his life after attending his son's funeral. And a grandmother may die because she celebrated a grandchild's birthday.

A Chinese company begins human trials for a ***coronavirus*** ***vaccine*** in Indonesia.

A private Chinese company began a late-stage human trial of its ***coronavirus*** ***vaccine*** candidate on Tuesday in Indonesia, where the number of cases continues to grow.

The trial by the company, Sinovac Biotech, will enlist as many as 1,620 Indonesian volunteers to test the efficacy and safety of the ***vaccine*** candidate, CoronaVac. It is one of *several trials by private and state-owned Chinese companies that are underway* around the world in the race to develop the first ***vaccine***.

Human trials of CoronaVac have already begun in Brazil and may soon start in Bangladesh. It was not practical for Sinovac to conduct them in ***China***, where the virus first emerged, because the country now has too few cases.

Indonesia, the world's fourth-most-populous country, has reported more than 127,000 cases, including nearly 14,000 in the past week, and nearly 6,000 deaths. Mainland ***China*** has had nearly 92,000 cases confirmed cases, but fewer than 400 were reported over the past week.

The Chinese company's efforts may be complicated by the problems and scandals that have long plagued the country's ***vaccine*** industry, including the revelation two years ago that *ineffective* ***vaccines*** *for diphtheria, tetanus and other conditions had been given to babies.*

Indonesia's president, Joko Widodo, who attended a ceremony on Tuesday in the city of Bandung to mark the start of the human trials, has been frustrated by the damage the pandemic has caused to the economy and is eager for the development of a ***vaccine***.

On Tuesday, Mr. Joko said he hoped that the Sinovac trials would be successfully completed in six months and that production could begin in Indonesia in January. "The threat is not over until the ***vaccine*** can be given to everyone in the country," he said.

In other news from around the world:

- Vietnam, which did not record its first ***Covid-19*** death until July 31, reported four on Tuesday, its highest daily number since the start of the pandemic. All 15 of the country's fatalities so far have been linked to an outbreak that began last month in the central city of Danang and infected nearly 400 people. The country now has 847 confirmed cases.
- England will overhaul its *faltering* ***coronavirus*** *contact-tracing system*, officials said on Monday, shifting some control from private contractors to local public health teams and cutting the jobs of thousands of call center workers who had complained of having no one to call. The changes were the clearest acknowledgment yet by Prime Minister Boris Johnson's government that its centralized, privatized system for tracking the patients' contacts had come up short.
- Mexico is battling one of the worst outbreaks in the world, with at least 53,000 confirmed deaths, the third-highest toll of the pandemic. And its struggle has been made even harder by a pervasive phenomenon: *a deeply rooted fear of hospitals*.
- *Clashes between protesters and the police*erupted across Belarus on Monday, a day after President Aleksandr G. Lukashenko, who has denied that the ***coronavirus*** poses a health risk, declared victory in an election his critics dismissed as rigged.
- People in France must wear face masks outdoors in crowded areas of Paris and other major cities beginning Monday as the number of virus infections rises at the fastest rate since a national quarantine ended in mid-May.

- Antonio Banderas has tested positive for the virus, the actor *announced on Twitter* on Monday, his 60th birthday. In a message that originally appeared in Spanish, he reassured his followers that while his celebrations would be tempered by an isolation at home, he still felt relatively well and was "confident" that he would recover soon.
- The United States' top health official *lauded Taiwan 's democracy on Monday* as he met with the island's leader for a visit laden with symbols of stronger ties between Washington and the self-ruled island claimed by Beijing.
- The mayor of Mexico City, Claudia Sheinbaum, announced on Monday that she would self-quarantine after coming into contact with the city's interior secretary, José Alfonso Suárez del Real y Aguilera, who announced on Twitter on Monday that he had tested positive for the virus.
- India's health ministry said the country had recorded more than 1,000 virus deaths on Sunday, the first time the daily death toll had been that high. Some health experts said the high number is likely to be seen again, as state-run hospitals are still overflowing with sick patients, and *private hospitals are mostly out of reach for many Indians*.

New York has repurposed streets for walking, biking, dining and more, but what happens as traffic returns?

When New York went into lockdown five months ago to contain the virus, traffic virtually disappeared, and the mostly deserted streets suddenly became a vast trove of open space in one of the world's most crowded cities.

But now as New York slowly recovers and cars are returning, *a battle for the 6,000 miles of city streets is just beginning*.

Desperate restaurant owners have put out tables and chairs and want to keep them there. Anxious parents see the streets as a solution to crowded indoor classrooms. Cyclists and pedestrians are demanding more safe corridors as their numbers soar. And some virus-wary commuters are avoiding public transit and climbing into cars to protect their health.

Competition for New York's streets is nothing new — there have been growing calls in recent years to push cars aside — but the pandemic has emboldened more people than ever to stake their claim to a piece of asphalt and force a sweeping reimagining of the urban grid.

Under pressure from advocates for open spaces and the restaurant industry, the city has temporarily excluded cars from more than 70 miles of open streets for social distancing, biking and outdoor dining.

City officials have not presented any overall vision or comprehensive plan for redesigning the streets to accommodate more uses and have said they are waiting to see emerging traffic patterns as more people return to work and schools open for some in-person learning.

For now, they have taken a more piecemeal approach, including adding batches of open streets every few weeks and announcing five new busways to speed up service by taking cars off busy arteries. They have also expanded temporary outdoor dining to help restaurants, and Mayor Bill de Blasio said the dining setups would return after the winter.

But critics — many of whom have viewed Mr. de Blasio as a pro-driver mayor — have faulted what some describe as the city's reactionary approach and contend that the moment is ripe for an ambitious blueprint, much like other cities are adopting to permanently redraw the streetscape.

In other New York news:

- Wedding receptions at restaurants in New York State where indoor dining is allowed are not subject to the 50-person cap on gatherings that the governor imposed as part of the state's ***coronavirus*** shutdown, a

> federal judge has ruled. The ruling, issued Friday by Judge Glenn Suddaby of Federal District Court for the Northern District of New York, would allow wedding venues to host parties of more than 50 people under the same rules that apply to restaurants. The rules now limit indoor service to half a restaurant's typical capacity. Because indoor dining has not yet been allowed in New York City, the ruling would not appear to apply to wedding venues there.

Most N.Y.C. families in public schools say they will send their children back to school.

About a quarter of New York City families in public schools have said they want to opt out of in-school learning and*start the school year remote-only*, Mayor Bill de Blasio said Monday, while most families are still tentatively planning to send their children to classrooms part-time starting in September. Those numbers could change over the next month, because families could choose later to switch to remote-only.

Mr. de Blasio seized upon the numbers as evidence that the city *should forge ahead with its plan to reopen schools* on a hybrid model, with children attending school in-person one to three days a week. Monday's announcement seemed partly intended to rebuff the leader of the city's powerful teachers' union, who has spent the last few weeks saying that teachers and parents were unwilling to send their children back to school.

The mayor also said that about 15 percent of the city's public school teachers have applied for medical exemptions that would allow them to work remotely, but that not all requests would be granted. The city had originally anticipated that about 20 percent of teachers would apply to work remotely. Teachers over 65 and those with pre-existing medical conditions will likely be granted accommodations to work at home.

Asked about concerns that many of the city's aging school buildings *would not have proper ventilation to combat an airborne virus*, Mr. de Blasio said the city was upgrading ventilation systems but would not reopen any classrooms that did not have proper ventilation.

Though indoor dining, gyms and museums remain closed in New York City, the governor said Monday that city schools can reopen because students won't be "in the immediate company of hundreds of people." When schools reopen, students will be split into smaller cohorts, which the governor said limits their potential to spread the virus to a large population. "It's fundamentally different than a museum because it's a much more controlled circumstance," he said.

College players speak out: 'We all want to play football this season.'

Many top college football players have mounted a public campaign to salvage the fall season amid the pandemic, and to*assert power in a multibillion-dollar industry* that has always relied on their talents and often sought to silence their voices.

In messages on Twitter, the players, including the quarterbacks*Justin Fields of Ohio State* and*Trevor Lawrence of Clemson*, and the running back *Najee Harris of Alabama*, all posted the same image that led with: "We all want to play football this season." They urged conferences to adopt universal health guidelines; said that players should be allowed to opt out, as some already have; and declared that they wanted to use their "voices to establish open communication and trust between players and officials."

Later Monday, *Mr. Trump joined the debate* when he retweeted Mr. Lawrence and said, "The student-athletes have been working too hard for their season to be canceled. #WeWantToPlay."

No Power 5 conference has abandoned plans for a football season, though all have cautioned for months that games were no sure bet. On Monday afternoon, a Big Ten official, who spoke on the condition of anonymity to discuss private talks, said that the presidents and chancellors of the conference's member schools had not taken a

vote over whether to proceed with a season during recent meetings. (The conference is scheduled to open on Sept. 3.)

In other U.S. sports news:

- On Monday, the Mountain West Conference announced "the indefinite postponement" of fall sports, making it the second top tier Division I football conference to do so after the Mid-American Conference and joining others, including the Ivy League, to dash hopes of having a fall season. Last week, Connecticut, an independent in football,*canceled its season*, and on Monday *Old Dominion* announced its season was canceled.

- On Monday, for the 15th day in a row, the M.L.B. schedule included at least one postponement because of the ***coronavirus***. The Miami Marlins are back from *their outbreak*, but now the St. Louis Cardinals are shut down through Thursday, at least, and haven't played since late July. The Marlins had 20 positive tests, including 18 players. The Cardinals have had 17 positives, including 10 players. The infections have limited St. Louis to just five games this season; other teams will have played as many as 18 through Monday. If the Cardinals cannot slow their outbreak, which first emerged July 30, how can they play enough games to have a legitimate season? *Rob Manfred, the commissioner of Major League Baseball, spoke to Tyler Kepner, The Times' national baseball writer.*

Many Americans won't set foot in a hospital during the pandemic, but their pets are seeing vets.

The human health care system has struggled financially through the pandemic, *losing billions* from the cancellations of lucrative elective operations as patients were first told to stay away from hospitals and then were leery of setting foot in one.

The canine and feline health system, though, is booming.

"It's crazy, in a good way," said Dr. Margot Vahrenwald, a veterinarian in Denver. "We're probably seeing 25 percent more new pets than what we would normally. It feels busier, and we're seeing increased revenue."

While hospitals were *furloughing workers*, Dr. Vahrenwald, an owner of Park Hill Veterinary Medical Center, added five employees, and still has job listings for more. Her clinic has had to buy two phone lines to handle a deluge of calls from pet owners.

Animal hospitals appear to have pulled off something human hospitals have struggled to do: make patients feel comfortable seeking routine care.

Most veterinarians are now requiring curbside service — owners drop their pet at the door, and wait outside during the appointment — lessening the risk of being infected.

Their animal patients tend to be less susceptible to the ***coronavirus***, although not completely immune. Some pets have become infected, and last month the first dog in the United States to test positive for the virus *died*.

Pet owners have, collectively, decided there is enough value in maintaining the health of their cats and dogs to brave the outside world at least a little more. Much of the increase in veterinary care seems to be for wellness visits and ***vaccinations***. By contrast, primary care spending for humans is estimated to have dropped by $15 billion over the course of the pandemic.

The veterinary industry provides something else important that the human health system doesn't: transparent prices. Veterinarians can typically provide reliable price estimates, in part because they have standard charges that don't vary by type of insurance.

Patients may be reluctant to return to the human health system in part because they’ve lost coverage, or have less income, and are *worried about the possibility of a surprise bill*.

Reporting was contributed by Alan Blinder, Emily Bobrow, Luke Broadwater, Troy Closson, Emily Cochrane, Stacy Cowley, James Dobbins, Sheri Fink, Thomas Fuller, Christina Goldbaum, Kevin Granville, Jenny Gross, Mika Gröndhal, Andrew Higgins, Winnie Hu, Sheila Kaplan, Natalie Kitroeff, Sarah Kliff, Hari Kumar, Mark Landler, Ron Lieber, Apoorva Mandavilli, Sarah Mervosh, Benjamin Mueller, Ivan Nechepurenko, Richard C. Paddock, Azi Paybarah, Amy Qin, Alan Rappeport, Emily Rhyne, Erin Schaff, Nate Schweber, Ed Shanahan, Eliza Shapiro, Michael D. Shear, Jeanna Smialek, Mitch Smith, Kaly Soto, Muktita Suhartono, Eileen Sullivan, Lucy Tompkins, Paulina Villegas, Mark Walker, Jeremy White, Jin Wu, Katherine J. Wu, Sameer Yasir and Karen Zraick.

PHOTO: (PHOTOGRAPH BY The New York Times FOR THE NEW YORK TIMES)

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33 As U.S. and Taiwan Celebrate Bond, China Replies With Screaming Jets

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Body

The highest-level American visit to Taiwan in decades shows the island's importance as ties between the United States and ***China*** deteriorate.

TAIPEI, Taiwan -- The United States' top health official lauded Taiwan's democracy and its response to the ***coronavirus***. Taiwan's president hailed the island's growing economic and public health ties with the United States.

Yet just offstage from this show of bonhomie on Monday between Alex M. Azar II, the secretary of health and human services, and President Tsai Ing-wen of Taiwan was the looming force of ***China***. Beijing claims Taiwan as its territory and underlined its opposition to official exchanges like Mr. Azar's visit by sending two fighter jets toward the island just before the talks.

Mr. Azar's trip, the highest-level visit to Taiwan by an American official since Washington severed official ties with the island in 1979, pointed to the increasingly important role Taiwan will play in a brewing ideological battle between the two superpowers. Taiwan and the United States have frequently framed their alliance as one based on "shared democratic values," and ***China***'s reaction was a reminder of the risks the island faces as it seeks a stronger relationship with Washington.

To Taiwan, the trip is a diplomatic coup and an opportunity to showcase its widely praised response to the virus, which it achieved despite efforts by ***China*** to diplomatically isolate the island. Ms. Tsai, in remarks welcoming Mr. Azar, said his visit showed that relations between the two sides "have never been better."

To Beijing, the visit is considered yet another provocation from the United States at the most volatile time in the bilateral relationship in decades. The ruling Communist Party sees the interactions between Taiwan and Washington as a challenge to its sovereignty and in defiance of its threats to unify the island with the mainland by force.

To the Trump administration, Mr. Azar's visit is a chance to take a jab at ***China***, which has sought to spin the ***coronavirus*** crisis as a testament to the strength of its authoritarian system. It is a way for Washington to show that it backs Taiwan in the face of increasing efforts by ***China*** to keep the island off the international stage.

"It is a true honor to be here to convey a message of strong support and friendship from President Trump to Taiwan," Mr. Azar said in remarks at the Taiwanese presidential office before heading into a meeting with Ms. Tsai. "Taiwan's response to ***Covid-19*** has been among the most successful in the world, and that is a tribute to the open, transparent, democratic nature of Taiwan's society and culture."

As of Monday, Taiwan, an island of 23 million off the southeastern coast of ***China***, had reported just 480 ***coronavirus*** cases and seven deaths. Officials have promoted the island as a model of democracy, in part by sending millions of masks labeled "Made in Taiwan" to countries in need.

"Over the last few months, Taiwan and the U.S. have worked together to confront the challenge posed by the ***Covid-19*** pandemic," Ms. Tsai said during the talks with Mr. Azar. The two officials wore blue surgical masks as they met.

"When the people of Taiwan saw footage of White House officials wearing 'Made in Taiwan' masks, they were happy that these products were helping people in partner countries," she said.

[Video: Watch on YouTube.]

To critics of the Trump administration, the timing and highly publicized nature of Mr. Azar's visit reflect the government's desire to distract from its own failed response to the virus. The United States passed a grim milestone over the weekend, with five million known cases -- by far the most of any country -- as well as more than 162,000 deaths from the ***coronavirus***, according to a New York Times database.

Mr. Azar's visit adds to concerns about a new Cold War between the United States and ***China***. Tensions have surged between the two powers over geopolitics, human rights, trade and technology. In the past month, there have been fresh clashes over consulates, journalists' visas and Chinese social networking apps.

Both countries have in recent months stepped up their military presence in the region, fueling worries about the growing risk of a confrontation, whether intended or not. On Monday, two Chinese fighter jets briefly crossed the median line in the strait separating mainland ***China*** and Taiwan. The jets were driven out by patrolling Taiwanese aircraft, Taiwan's Air Force Command said in a statement released by the defense ministry.

China's official news media denounced Mr. Azar's visit as part of a cynical ploy by the United States to use Taiwan as a political pawn to contain ***China***.

"The United States will gradually turn Taiwan into a gunpowder keg for the Sino-US game, and Taiwan will slide to the brink of being detonated by the United States and lose its ability to choose its own strategy," wrote The Global Times, which is published by the Chinese Communist Party's People's Daily.

Beijing also lodged a formal complaint with Washington about Mr. Azar's visit, vowing to take countermeasures as it warned the United States not to "gravely damage" relations. There are concerns that as the U.S. election approaches, the Trump administration -- which has sought to rally opposition to ***China*** as Mr. Trump trails in the polls -- could make an overture toward Taiwan that it can't easily walk back.

"The Chinese side -- the whole world -- is speculating that Trump could make some even more severe adventures in his ***China*** policy to save his prospect of re-election," including by breaching ***China***'s "very serious bottom line over Taiwan," said Shi Yinhong, a professor of international relations at Renmin University in Beijing.

China has long been a complicating factor in the United States' relationship with Taiwan, now one of the most vibrant and prosperous democracies in East Asia.

Concerns about angering Beijing have meant that no sitting Taiwanese president has been allowed to visit Washington. Ties between the United States and Taiwan are managed through quasi-official institutions like the American Institute in Taiwan, which issues visas and provides other basic consular services. The last cabinet-level visit to Taiwan was a 2014 trip by Gina McCarthy, the administrator of the Environmental Protection Agency at the time.

"A lot of what the U.S. does with Taiwan has been so restricted based on Chinese reactions," said Jessica Drun, a nonresident fellow at the Project 2049 Institute, a nongovernmental organization in Virginia that studies security and policy issues in Asia. "We have become oversensitized to ***China***'s reactions, and they're aware of this."

There are doubts about Mr. Trump's personal commitment to Taiwan. Recently, John R. Bolton, Mr. Trump's former national security adviser, wrote in his memoir that the president had repeatedly disparaged the island's significance, comparing Taiwan to the "tip of one of his Sharpies."

Publicly, Mr. Trump and his administration have been far more supportive. In 2016, just before he took office, he broke with nearly four decades of diplomatic practice when he accepted a congratulatory phone call from Ms. Tsai. ***China*** largely dismissed the call, characterizing it as "a petty action by the Taiwan side."

In 2018, Mr. Trump, over ***China***'s objections, signed the Taiwan Travel Act, which encouraged high-level official visits between the two sides, paving the way for Mr. Azar's visit. The United States remains the island's top arms supplier, and the administration has approved additional weapons sales to Taiwan.

The U.S. Health and Human Services Department has not said whether Mr. Azar will visit an official memorial that has been set up in Taipei for Lee Teng-hui, the former Taiwanese president who led the island's peaceful democratization. In his remarks, Mr. Azar called Mr. Lee, who died last month, the "father of Taiwan's democracy and one of the great leaders of the 20th century's movement toward democracy."

As the United States and ***China*** dig into a protracted battle, some in Taiwan are concerned that the island's interests could get lost in the mix.

Chan Chang-chuan, a professor of public health at National Taiwan University, said that one area in which Americans could help Taiwan was in ***coronavirus***-related ***vaccines*** and therapeutics. The United States and ***China*** are among the countries leading the race to develop a ***vaccine***.

"I do have a very strong wish that Secretary Azar can listen to what we really need," Mr. Chan said. "If we get nothing and ***China*** has a ***vaccine***, then it would be like if we didn't have good weapons to defend our security. It's strategic."

Bella Huang contributed research.

*https://www.nytimes.com/2020/08/09/world/asia/taiwan-us-azar-**china**.html*

Graphic

PHOTOS: Alex M. Azar II, the U.S. secretary of health, met President Tsai Ing-wen, right, of Taiwan on Monday. "It is a true honor to be here to convey a message of strong support," he said in his remarks. (PHOTOGRAPH BY EPA, VIA SHUTTERSTOCK)

The encroaching Chinese fighter jets were driven out by patrolling Taiwanese aircraft, seen above in a live-fire exercise in July. (PHOTOGRAPH BY RITCHIE B TONGO/EPA, VIA SHUTTERSTOCK)

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34 *Putin Says Russia Is First to Approve vaccine, but Skepticism Abounds*

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Body

The country became the first in the world to approve a possible ***vaccine*** against the virus, despite warnings from the global authorities against cutting corners.

MOSCOW -- Russia has become the first country in the world to approve a ***vaccine*** for the ***coronavirus***, President Vladimir V. Putin announced on Tuesday, though global health authorities say the ***vaccine*** has yet to complete critical, late-stage clinical trials to determine its safety and effectiveness.

Mr. Putin, who told a cabinet meeting on Tuesday morning that the ***vaccine*** "works effectively enough," said that his own daughter had taken it. And in a congratulatory note to the nation, he thanked the scientists who developed the ***vaccine*** for "this first, very important step for our country, and generally for the whole world."

The major powers are locked in a global race for a ***vaccine*** that President Trump, Mr. Putin and ***China***'s president, Xi Jinping, are treating as a proxy war for their personal leadership and competing national systems. The United States, with an effort called Operation Warp Speed, and ***China*** have poured billions into the pursuit, and health officials worry that Russia is trying to snatch a victory by cutting corners.

By skipping large-scale clinical trials, the Russian dash for a ***vaccine*** has raised widespread concern that it is circumventing vital steps -- and potentially endangering people -- in order to score global propaganda points.

Russia's ***vaccine*** sped through early monkey and human trials with apparent success. But Moscow was cautioned just last week by the World Health Organization not to stray from the usual methods of testing a ***vaccine*** for safety and efficacy.

Beyond that, the United States, Canadian and British governments have all accused Russian state hackers of trying to steal ***vaccine*** research. Russian officials have denied the accusations, and say their ***vaccine*** is based on a design developed years ago by Russian scientists to counter the Ebola virus.

A ***vaccine*** is seen as the most likely avenue for defeating the novel ***coronavirus*** and alleviating a worldwide health crisis that has killed at least 734,900 people and decimated national economies. Western regulators have said repeatedly that they do not expect a ***vaccine*** to become widely available before the end of the year at the earliest.

Around the world, more than 30 ***vaccines*** -- out of a total of more than 165 under development -- are now in various stages of human trials. Currently, eight ***vaccines*** have entered the final phase of mass human testing,

including ones produced by Moderna in the United States, Oxford University and AstraZeneca in Britain and several Chinese companies.

Some of those Chinese companies have been accused of cutting corners themselves. One offered the ***vaccine*** to employees at the national oil company, while another has teamed up with the People's Liberation Army to conduct human trials.

In Russia, the minister of health, Mikhail Murashko, has said the country will begin a mass ***vaccination*** campaign in the fall, and said on Tuesday that it would start with teachers and medical workers this month.

In Moscow, the announcement was greeted with a mixture of national pride and nagging doubts by Russians who have been schooled by experience to treat such boasts with a healthy dose of skepticism.

Lidiya Ivleva, 70, a retired nurse out for a walk in a Moscow park Tuesday afternoon, embodied both sentiments. While calling the ***vaccine*** "a great achievement" for Russian scientists, she said she would not rush to get it herself because of the "hasty" testing.

"Those who fear the pandemic more will take it first, and good for them," she said. If in a year or so it is clearly shown to be safe, she said, then she will reconsider.

vaccines generally go through three stages of human testing before being approved for widespread use. The first two phases test the ***vaccine*** on relatively small groups of people to see if it causes harm and stimulates the immune system. The last phase, known as Phase 3, compares the ***vaccine*** to a placebo in tens of thousands of people.

The Russian scientific body that developed the ***vaccine***, the Gamaleya Institute, has yet to conduct Phase 3 trials.

That final phase, however, is the only way to know with statistical certainty whether a ***vaccine*** can prevent an infection, and how effective it is. And because it tests a much larger group of people, a Phase 3 trial can also detect more subtle adverse effects of a ***vaccine*** that earlier trials could not.

Experts warn that, among other things, a faulty ***vaccine*** could actually render those inoculated more vulnerable to severe forms of ***Covid-19***, the disease caused by the virus, a potential disaster that can be ruled out only through extensive testing on human volunteers.

The Russian ***vaccine*** uses two strains of adenovirus that typically cause mild colds in humans. Scientists genetically modified them to cause infected cells to make proteins from the spike of the new ***coronavirus***, officials have said.

The approach is similar to the one used in a ***vaccine*** developed by Oxford University and AstraZeneca that is now undergoing Phase III tests in Britain, Brazil and South Africa.

The W.H.O. is in close contact with the Russian authorities and discussing proper procedures, Tarik Jasarevic, a spokesman for the organization, told reporters in Geneva on Tuesday. But he emphasized that obtaining the organization's seal of approval would require "rigorous review of safety and efficacy data" derived from clinical trials.

The Russian Ministry of Health did not respond to detailed written questions sent last week about human trials and research into potentially harmful side effects.

The Gamaleya Institute developed the Russian ***vaccine*** using a human cell line first cultured in 1973 -- the same line used in the Oxford-AstraZeneca ***vaccine***. Like a number of other cell lines used in medical research and ***vaccine*** manufacturing, it began with cells taken from an aborted fetus, raising objections from abortion opponents that may come into sharper focus if the ***vaccine*** is used widely.

Russia's announcement of a potential ***vaccine*** well ahead of the Western timeline of the end of the year could provide a welcome respite for Mr. Putin from a string of bad news.

Over the past year he has seen a steady decline in his approval ratings, which had soared to more than 80 percent after the annexation of Crimea in 2014. Now, with Russian troops bogged down in Syria and Libya, foreign adventures have lost their appeal for most Russians.

Mr. Putin has also stumbled in domestic affairs. He was uncharacteristically passive in the spring as Russia erupted into one of the world's hot spots for the ***coronavirus*** pandemic. And he has had no answers for the economic malaise enveloping the country, as the pandemic has flattened prices for oil and other natural resources that are the main engine of the Russian economy.

Russia has already used the ***vaccine*** race as a propaganda tool, even in the absence of published scientific evidence to support its claims as the front-runner. The ***vaccine***, for example, was branded Sputnik V, recalling the Soviet Union's launch of a first satellite, beating the United States.

For the last several months, state television has promoted the idea that Russia is leading the competition. In May, it reported that the first person in the world to be vaccinated against the virus was a Russian researcher who had injected himself even before monkey trials had been completed.

Russia also tested the ***vaccine*** on soldiers, raising concerns about consent, though the Ministry of Defense said that all the soldiers had volunteered.

Kirill Dmitriev, the head of a government-controlled fund that invested in the ***vaccine***, denied in a conference call with journalists on Tuesday that Russia had cut corners on testing, or that it had stolen intellectual property to get ahead.

Mr. Dmitriev said Russia relied on a formidable legacy of research into viruses and ***vaccines*** in the Soviet Union, and had focused on established technologies, like the approach already used for the Ebola ***vaccine***.

He contrasted that history with the Trump administration's Operation Warp Speed program, which is financing research by Pfizer and Moderna for a genetic ***vaccine*** and supporting a variety of other experimental technologies. The Russian ***vaccine***, he said, is "more proven, on a larger number of people, than any of the new technologies that people are trying."

On Tuesday, the Trump administration announced a $1.5 billion agreement with Moderna to manufacture and deliver 100 million doses of its ***coronavirus*** ***vaccine***, which entered a late-stage, Phase 3 clinical trial last month, the first to that mark in the United States.

If successful, the ***vaccine*** could become a geopolitical boon for Russia, recalling the Soviet Union's mass exports of cheap ***vaccines*** to the developing world during the Cold War. Russia has already received orders for 1 billion doses from 20 countries and plans to manufacture the ***vaccine*** in Brazil, India, South Korea, Saudi Arabia and Cuba, according to the Gamaleya Institute.

If Russian scientists have taken an unorthodox route to the ***coronavirus*** ***vaccine***, it would not be the first time. Back in the 1950s, a team of researchers tested a promising, and ultimately successful, polio ***vaccine*** on their own children.

Reporting contributed by Nick Cumming-Bruce in Geneva, Katie Thomas in New York and Noah Weiland in Washington.

*https://www.nytimes.com/2020/08/11/world/europe/russia-**coronavirus**-**vaccine**-approval.html*

Graphic

PHOTO: A volunteer receiving the ***vaccine*** as part of clinical trials at Sechenov Medical University in Moscow. (PHOTOGRAPH BY SECHENOV MEDICAL UNIVERSITY PRESS OFFICE\TASS, VIA GETTY IMAGES)

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35 ***College Officials Clamp Down on Student Behavior Over Covid-19 Fears***

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Highlight: Joe Biden criticized President Trump's virus response and outlined a strategy to fight the pandemic. Overburdened health care specialists are finding themselves on the front lines as schools reopen.

Body

Joe Biden criticized President Trump's virus response and outlined a strategy to fight the pandemic. Overburdened health care specialists are finding themselves on the front lines as schools reopen.

This briefing has ended. Read *live **coronavirus** updates here*.

Shutdowns, warnings and scoldings follow alarming incidents on college campuses.

As tensions grew over the practicality of bringing students back to college campuses for the fall semester, officials at North Carolina State on Thursday announced that classes would be moved online after an increase in ***coronavirus*** cases and the number of students sent to quarantine or isolation.

On the same day, Syracuse University and Vanderbilt fired warning shots across the bow of newly arrived students who seem intent on having an ordinary campus experience in a year that is anything but ordinary.

"The good news is that campus has been safe," N.C. State's chancellor, Randy Woodson, said at a news conference. "But we've seen behaviors off campus that, frankly, are inconsistent with our community standards and have had an impact on our ability to go forward."

The warning at Syracuse came after a campus gathering alarmed officials.

"Last night," one Syracuse official *said in a letter*, "a large group of first-year students selfishly jeopardized the very thing that so many of you claim to want from Syracuse University — that is, a chance at a residential college experience. I say this because the students who gathered on the Quad last night may have done damage enough to shut down campus, including residence halls and in-person learning, before the academic semester even begins."

The university warned that the students now face discipline.

Vanderbilt, trying to prevent a similar episode, *sent out a series of tweets imploring* everyone to behave on the Nashville campus and reminding students that disregard for safety rules "will not be tolerated."

The shift at N.C. State and the warnings at Syracuse and Vanderbilt came just days after the University of North Carolina shut down its campus and chose to go with remote learning in response to an outbreak in the first week of

its reopening. The university has said most students must leave their on-campus housing, a decision that N.C. State, for now, has not matched. N.C. State will begin its online-only learning on Monday.

The Vanderbilt messages, signed by the chancellor and the provost, who is also the vice chancellor for academic affairs, included a reminder that “we write this not to scare you but to be perfectly plain: The situation happening at other universities can be avoided at Vanderbilt, but only if you anchor down, step up and do your part.”

The Syracuse letter said that the students who gathered on the Quad had “knowingly ignored New York State public health law and the provisions of the *Syracuse University Stay Safe Pledge*” and called their actions selfish because they might “prevent our seniors from claiming their final year of college on our residential campus.”

Also on Thursday, Gov. Tate Reeves of Mississippi banned all game day “social gatherings outside college and university stadiums,” including tailgates and picnics. Mr. Reeves said he would allow games to be held, but he barred stadium seating bowls from being more than 25 percent full.

The decision followed a series of rulings from schools across the South about how they would handle tailgating festivities, a rite of autumn Saturdays in the region’s college towns. The University of Alabama and Auburn University forbade tailgating on their campuses, but Florida State University said Thursday that it would allow it, at least for now.

Biden knocks Trump’s pandemic response, and outlines a national strategy.

In his virtual keynote address to the Democratic National Convention, Joseph R. Biden Jr. criticized President Trump’s response to the ***coronavirus*** and outlined a national strategy for fighting it through enhanced testing, a national mask mandate and other means.

“The president keeps telling us the virus is going to disappear,” Mr. Biden *said in his speech on Thursday* as he accepted the Democratic presidential nomination. “He keeps waiting for a miracle. Well, I have news for him: No miracle is coming.”

As of Thursday evening, more than 5.5 million people in the United States have been infected with the ***coronavirus*** and at least 174,000 have died, *according to a New York Times database*. Mr. Biden said it was unacceptable that the U.S. caseload and death toll were the world’s highest, and that Black, Latino, Asian-American and Native American communities were “bearing the brunt” of the impacts.

“And after all this time the president still does not have a plan,” he added. “Well, I do.”

Speaking on the convention’s fourth night, Mr. Biden said that if he were elected, he would swiftly implement a national strategy for dealing with the virus that includes rapid testing with immediate results, more domestic manufacturing of medical supplies and a national mask mandate. He said the mandate would not be a “burden,” but rather a “patriotic duty to protect one another.”

Mr. Biden also pledged to provide enough resources to schools to make them “open, safe and effective,” and to “take the muzzle off” health experts to allow for “unvarnished truth” about the virus.

“In short, we’ll do what we should have done from the very beginning,” he continued. “Our current president has failed in his most basic duty to the nation. He’s failed to protect us. He’s failed to protect America. And my fellow Americans, that is unforgivable.”

Mr. Biden’s speech was the *most important — and likely most surreal — address of a national political career* that he began as a 29-year-old senator-elect. The convention, which began on Monday night, has been heavy on emotion and Mr. Biden’s biography, and relatively light on policy details.

Mr. Trump *tweeted fresh criticism* of Mr. Biden in real time, as he did a night earlier during former President Barack Obama's virtual address to the convention. "In 47 years, Joe did none of the things of which he now speaks," Mr. Trump wrote on Thursday. "He will never change, just words!"

Mr. Trump's tweets did not directly address the pandemic.

U.S. health agencies announce moves to confront the flu season and plummeting child ***vaccination*** rates.

Two top U.S. health agencies have announced tangible steps in trying to confront health issues that are byproducts of the ***coronavirus*** pandemic — plummeting childhood ***vaccination*** rates and concern about the approaching flu season.

The Department of Health and Human Services is giving permission to *pharmacists nationwide to administer all scheduled shots* to children as young as 3 — including boosters for measles and other diseases — a step that makes immunization more convenient for parents. The flu ***vaccine*** is also an available option for children.

Protecting against the impending flu season in the United States is foremost in the minds of public health officials, who worry about the confluence of cases of flu and ***Covid-19*** hitting hospitals this fall and winter.

And the Centers for Disease Control and Prevention said on Thursday that a *high-dose flu shot* aimed at better protecting people 65 and older will guard against four strains of the virus this year, rather than three.

On Wednesday, *Massachusetts announced that it will require all students*, ranging from six-month-olds in day care centers to those under 30, to get flu shots by Dec. 31. It is the first state to institute such a sweeping requirement for the shot, which is rarely mandated in the U.S.

This year, because restrictions imposed by the pandemic have shuttered workplaces and school health clinics where millions get their shots, officials have loosened their timing recommendations, which usually point to a window from the middle of September till the end of October. Many public health experts recommend to get the shot as soon as you reasonably can.

The new emergency rule allowing state-licensed pharmacists to give federally scheduled ***vaccines*** to children ages 3 through 18 is supposed to *encourage widespread immunization* as schools open during the pandemic and to resolve a patchwork of state laws that govern shots and age limits.

Papua New Guinea bars Chinese workers who received an unproven ***vaccine***.

Four dozen Chinese workers who received an experimental ***vaccine*** last week were barred from flying to Papua New Guinea over concerns that they could pose a risk to residents of the remote Pacific island nation.

David Manning, who heads Papua New Guinea's pandemic response, said that no human ***vaccine*** trials had been approved and that the planeload of workers headed for a Chinese-run mine, Ramu Nickel, would not be allowed into the country, *the local news media reported*.

China *began giving the unproven* ***vaccine*** to select groups of workers last month even though human trials have not been completed to determine whether it is safe or effective.

China notified Papua New Guinea this week that it was sending 48 workers who had been given the unproven ***vaccine*** on Aug. 10, and that they might test positive for the ***coronavirus*** on arrival even though they did not have ***Covid-19***.

China has offered the experimental ***vaccine*** to workers traveling abroad, but the Papua New Guinea deployment appears to be the first time ***China*** has acknowledged sending workers abroad after they received it.

A nation of nine million people, Papua New Guinea has largely been untouched by the pandemic. As of Friday, it had reported 361 cases, including four deaths.

Mr. Manning, the pandemic response official, said in a statement Friday that any ***vaccines*** imported into Papua New Guinea "must go through vigorous ***vaccine*** trials, protocols and procedures."

He told reporters a day earlier that the workers' plane would not be allowed to land because the ***vaccine*** had not been thoroughly tested, certified by the World Health Organization and approved for use by the Papua New Guinea government.

"In light of the lack of information of what these trials are and what possible risks or threats that they may cause our people if they were to come into the country, I had canceled that flight yesterday just to ensure that we continue to act in the best interest of our people and our country," he said.

In other developments around the world:

- The Colombian government *said* that beginning on Friday morning, the authorities in Venezuela would suspend re-entry for citizens attempting to return through the Simón Bolívar Bridge, a major crossing point along a porous border separating the two South American nations. Venezuelans who have streamed home in recent months after losing jobs in Colombia and elsewhere have been held by their government in makeshift containment centers, as part of President Nicolás Maduro's effort to *deploy his repressive security apparatus against the virus*.
- A large virus outbreak in South Korea linked to a church is *spreading through Seoul and beyond*, threatening the country's success in fighting the pandemic. The Sarang Jeil Church attracts politically active conservatives who oppose the country's liberal president, Moon Jae-in. Mr. Moon has accused his most vocal critics of spreading the infectious disease and putting the entire nation in danger; conservative activists, in turn, have accused him of trying to scapegoat the church to divert attention from his weak approval ratings.
- Health officials in ***China*** issued new guidelines on Thursday that exempt residents of Beijing, the capital, from wearing masks outdoors unless they come into close contact with strangers. The country has reported fewer than 300 infections over the past week, according to a New York Times database.
- India's ***coronavirus*** crisis is now spreading to the hinterlands along its southern coastline. The country recorded at least 69,000 new cases on Wednesday, its largest daily caseload of the pandemic, and nearly a thousand deaths, according to a *New York Times database* and the ministry of health. The South Indian states of Andhra Pradesh, Karnataka and Tamil Nadu now account for nearly a third of new cases in the country.
- In a *tweet*, Hua Chunying, a spokeswoman for ***China***'s Foreign Ministry, weighed in on images of *a recent pool party in Wuhan* — the city where the pandemic began — that have touched a nerve in countries where many people remain under lockdown. "The city only emerges stronger," she wrote. Global Times, a popular state-run tabloid, also said that international criticism of the party amounted to "*foreign sour grapes*."

Florida becomes the fifth state to cross a grim threshold: More than 10,000 deaths related to the virus.

The state of Florida reached a grim threshold on Thursday as its death toll from the ***coronavirus*** exceeded 10,000 people, according to a New York Times *database*.

Florida is the fifth state to report 10,000 or more deaths. The others are New York, New Jersey, California and Texas.

It was a widely expected inflection point. Florida, as of Thursday morning, had identified more than 588,000 cases, and while the number of new cases per day has declined since mid-July, the state is still identifying more than 4,700 new cases per day, on average, in the last seven-day period ending Wednesday.

Public and private-sector efforts to navigate the continuing crisis have been closely scrutinized in the United States's *third most-populous* state, where a quarter of the state's population of more than 21 million is older than 60.

Gov. Ron DeSantis, a Republican, *was criticized* for waiting until April 1 to issue a statewide stay-at-home order, after many states had done so. Disney World *opened* to visitors in July, but the Republican National Convention in Jacksonville was *canceled*. And last week, more than a dozen counties *reopened* their schools in accordance with a statewide order for all schools to offer in-person instruction by the end of the month.

The state's most populous county, Miami-Dade, has suffered the largest number of cases, with 1 in 18 people testing positive.

Mr. DeSantis has stressed that the state's virus crisis is largely limited to the very old. But the disease appears to be taking a relatively small but increasing toll on the young: More Floridians in the 25-44 age group died in July than had died in the previous four months of the pandemic combined, a review of Florida Department of Health data shows. Records also show the *people who died from the virus in Florida among the young* were disproportionately Black.

Nationwide, the pandemic has killed so many Americans that *the patterns of death in nearly every state* look aberrant when compared with recent history. Nationwide, 223,900 more people than usual have died from March 15 to Aug. 8, according to Centers for Disease Control and Prevention estimates.

A test that gives results in minutes gets the F.D.A.'s emergency authorization.

The Food and Drug Administration has granted emergency use authorization to a ***coronavirus*** test made by a British company that gives results in about 12 minutes.

It is an antigen test, the third one of that type that the F.D.A. has authorized.

Antigen tests work by rapidly detecting fragments of virus in a sample. They are speedy, but they tend to miss more infections than do slower tests based on a technology called polymerase chain reaction, or P.C.R.

In its authorization letter to LumiraDx, the British company, the F.D.A. noted that negative results from the antigen test do not rule out an infection, and that a positive test should not be used as the sole basis for treatment.

The new test, which must be administered by a health care professional, is performed using a brick-size device made by LumiraDx, and depends on swab samples collected from a patient's nasal cavity. It is intended to be used for patients who have developed ***Covid-19*** symptoms within the past 12 days; the authorization does not address using it to screening people without symptoms.

"Actionable diagnostic results at the point of care lead to better health outcomes," said Ron Zwanziger, chief executive of LumiraDx, in a statement. The company said it would start shipping the tests by the end of August, and produce 10 million tests by December.

A spokeswoman said that LumiraDx was also seeking F.D.A. emergency use authorization for an antibody test that could be performed using the same machine. Antibody tests indicate whether someone has been exposed to the virus in the past, not whether they are currently infected.

Ukraine sees large increase in cases tied to church services and weddings.

Ukraine, which had done a good job controlling the ***coronavirus*** compared with neighboring countries, reported a sharp rise in cases this week, attributed in part to church attendance and weddings.

On Thursday, the country reported its highest single-day case count, according to Maksym Stepanov, the minister of health. The ministry reported 2,134 cases in the past 24 hours, surpassing the record of 1,967 cases reported the day before.

“Almost every day we have a new anti-record,” he told journalists in an*online briefing*. He reiterated requirements for wearing masks in public spaces and social distancing. “We live in a new reality that requires sticking to the certain rules,” he said. As of Thursday, Ukraine *has reported* a total of 98,658 cases and 2,182 deaths.

Lax adherence to the rules, rather than premature lifting of restrictions, was mostly to blame, Ukrainian medical experts said. Weddings and religious ceremonies in the western part of the country were the main cause of the recent increase in cases, the prime minister, Denys Shmygal, said on Monday. In response, he said, the police are stepping up enforcement of quarantine measures.

Partly, the increase in reported cases followed an increase in testing, Svitlana Fedorova, the director of the Mykolaiv Center, a scientific body studying infectious diseases, said in a post on *Facebook*. About 20,000 people are now tested daily in Ukraine, authorities have said.

But the more rapid spread in Ukraine is not wholly the result of rising rates of testing, Kateryna Bulavinova, of the United Nations Children’s Fund in Ukraine, said in an interview. “People don’t stick to the safety measures, do not keep social distance,” she said. Hospitals have not separated ***coronavirus*** and non-***coronavirus*** patients, she said, making the health care system itself a source of infection. Because of this, she said, “the risk of getting infected is obviously higher.”

Ukraine, however, still has far fewer cases per capita than neighboring Russia and Belarus. In Belarus, President Aleksandr Lukashenko for months denied the virus posed a threat and never fully locked down the country to slow its spread. Participants in antigovernment street protests in Belarus say the failed virus response is one reason for their disaffection.

The White House designates teachers as essential workers.

The White House on Tuesday added teachers to the list of the country’s essential workers, which includes health care workers, grocery store employees and police officers, *among others*.

Since the beginning of the pandemic, there has been widespread confusion over whether people deemed “essential” are actually forced to go back to work, regardless of any lockdowns — will they lose their jobs if they don’t show up? The quick answer is, yes, that is a possibility, but it is up to each employer to decide how lenient to be.

The U.S. Department of Homeland Security, for example, acknowledges that the “essential worker” designation “is not, nor should it be considered, a federal directive or standard.”

The federal government controls a large amount of the funding that goes to public schools, but it does not run the school systems. States and local municipalities have the legal authority for their own districts.

Declaring teachers part of the essential work force “doesn’t mean that all of a sudden that, on a state level, the federal government can tell New York State, for instance, how to run its schools,” Richard Reice, a lawyer who heads the labor enforcement division at the law firm Michelman & Robinson, said in an interview. “It’s a political designation that really may not mean much, but will give different people on different sides ammunition.”

James Baker, a former secretary of state, and Bill Cassidy, a senator, contract the virus.

Former Secretary of State James A. Baker III and his wife, Susan Baker, have contracted the virus, his office said on Thursday, though they appear to have relatively mild cases and are resting at home in Houston.

Mrs. Baker began feeling sick about a week ago, and her husband fell ill a few days later, according to John B. Williams, a senior adviser to Mr. Baker. Mr. Williams said the former secretary was able to joke about the couple's situation: "He's telling friends that thank goodness, he was only 90 when they got it."

Mr. Baker served as White House chief of staff and secretary of the Treasury under President Ronald Reagan and secretary of state under President George Bush; he also ran five presidential campaigns.

Also on Thursday, Senator Bill Cassidy, Republican of Louisiana and a medical doctor, confirmed that he has tested positive for the virus. He is the second senator found to test positive, after Rand Paul, Republican of Kentucky, though others have shown signs of past exposure in antibody tests.

A number of House members have also tested positive for the virus in recent weeks, fanning fears that the virus was circulating in the Capitol. But with most lawmakers now scattered across the country for the August recess, Mr. Cassidy is unlikely to pose an immediate risk to his colleagues.

"I am strictly following the direction of our medical experts and strongly encourage others to do the same," he said in a statement on Thursday.

The statement did not specify where the senator was or when he had been exposed to the virus, only that he had been informed of the possibility Wednesday evening. *According to his Twitter account*, Mr. Cassidy held a campaign event in Shreveport, La., on Wednesday. A spokesman for the senator said he began experiencing mild symptoms shortly before being tested.

The Puerto Rico Senate shut down on Thursday as a precaution after a number of members of the Legislature were found to be infected. Thomas Rivera Schatz, the Senate president, *ordered* the chamber shut until Sept. 8, without saying how many cases were found.

Carlos J. Méndez Núñez, the House speaker, and Representative José Zamora Torres announced on Tuesday that they had tested positive. Their separate announcements came two days after *Puerto Rico's primary*, when politicians attended election-night events to await results.

Mr. Méndez, a leader of the New Progressive Party, spent time with the party's nominee for governor, Pedro R. Pierluisi, and with Jenniffer González-Colón, Puerto Rico's nonvoting representative in Congress. Both said they had tested negative in recent days and would be tested again over the weekend.

1.1 million U.S. workers filed new claims for state unemployment benefits last week.

About 1.1 million American workers filed state jobless claims last week, the Labor Department said on Thursday, an increase after two weeks of declines and a reminder that the labor market remains fragile five months into the pandemic.

"We won't see a renewal of hiring until the pandemic is under much better control," said Carl Tannenbaum, chief economist at Northern Trust in Chicago. "We have made substantial and rapid improvement in the last three months, but improvement from here will prove slower and more difficult."

There were 543,000 new claims last week for Pandemic Unemployment Assistance, a separate program aimed at self-employed people, gig workers and others not covered by traditional unemployment benefits.

The crosscurrents in the economy are striking. The unemployment rate remains dangerously high at 10.2 percent, and sectors like leisure and hospitality are experiencing huge losses in employment. Hotels and airports are nearly

empty and many restaurants remain closed. But *home building is booming* and *retail sales are back* to levels that preceded the pandemic. The *stock market is hitting record highs*.

Economists, however, warn that conditions could easily deteriorate if Washington doesn't offer more support.

Republicans and Democrats have been unable to agree on a new ***coronavirus*** relief package to augment the CARES Act, passed in March. A $600 weekly federal supplement to state unemployment insurance expired at the end of last month, and *a $300-a-week replacement* engineered by President Trump is having trouble getting off the ground, with only 11 states so far participating.

"Federal support is crucial to underpinning the virtuous cycle we've had," said Michael Gapen, chief U.S. economist at Barclays. "The longer negotiations stall, the more likely there will be a hiccup in spending."

Elsewhere in the United States:

- Philadelphia's health commissioner, Dr. Thomas Farley, *announced on Thursday* that indoor dining will return on Sept. 8, albeit at restricted capacity. Restaurants will only be permitted to function at 25 percent their normal volume, and only four people or fewer can sit at a table. Movie theaters will also be allowed to reopen then, and indoor gatherings of up to 25 people will be permitted. Additionally, the commissioner said on Tuesday that the state was immediately opening up bowling alleys, arcades and game areas such as mini-golf, escape rooms and ax-throwing.
- A *survey* of nearly 2,200 members of the largest federal employees' union found that more than 70 percent of those who have returned to on-site work felt their agencies were not keeping them safe. The report, which was prepared by the union and released Wednesday, comes as many federal agencies have begun *directing employees* who had been working remotely at the beginning of the pandemic to return to offices. Only 56 percent of those surveyed said their employers had provided adequate personal protective equipment.
- Dr. Anthony S. Fauci, the government's top infectious disease expert, underwent outpatient surgery on Thursday morning to remove a polyp from his vocal cord, and is now resting at home. In a brief text exchange, Dr. Fauci said he underwent general anesthesia and is "doing fine."
- Experts say new research, sponsored by Eli Lilly and the National Institutes of Health, is among *the first large clinical trials to involve nursing home residents*. And the scientists are delighted.
- North Dakota reported on Thursday 274 new cases, and Nevada reported 37 new deaths, a single-day record in each state.
- Connecticut's governor, citing the latest virus figures, said Thursday that the state was on track to reopen schools in two weeks. Gov. Ned Lamont said the state might have changed course if testing had showed 10 or more new cases per 100,000. "We are way below those metrics," Mr. Lamont said at a news conference, "which implies to us that you can open our schools safely."
- While the moving industry is fractured among numerous small-business owners, and official statistics are tough to come by, one thing is clear: From professionals who are downsizing following a job loss, to students moving back in with their parents, to families fleeing the city for the suburbs, *New Yorkers are changing their addresses in droves*.

Two Mets games are postponed after a player and a staff member test positive.

After a Mets player and a staff member tested positive for the ***coronavirus***, Major League Baseball postponed the team's game in Miami on Thursday and the Friday opener of their series with the Yankees at Citi Field. The Mets did not identify who tested positive but said both people and anyone found to have been in close contact with them would stay behind in Miami.

The Mets said the rest of the team would fly back to New York on Thursday night, following safety and testing protocols.

The Mets become the fourth M.L.B. team to have a player test positive since the truncated season began on July 23. The Miami Marlins and the St. Louis Cardinals have had large-scale outbreaks (20 overall positive cases for the Marlins, 18 for the Cardinals), and the Cincinnati Reds had one positive test last Saturday. The Marlins missed a week of games, the Cardinals missed two weeks, and the Reds had three postponements.

M.L.B. did not issue all of those postponements at once; in each case, the teams had a longer break than the league initially announced. Based on those precedents, it is safe to wonder if any of the Subway Series games against the Yankees will be played this weekend.

The Mets were not the only team affected by the virus on Thursday. The Pittsburgh Pirates' president, Travis Williams, announced that he had tested positive but had not had recent contact with players, coaches or the baseball operations staff.

An outbreak at a Christmas tree farm underlines the danger the virus poses to seasonal farmworkers.

At a Christmas tree farm in Sparta, N.C., a ***coronavirus*** outbreak has now infected 112 workers.

A spokesperson for the farm, which also harvests a variety of produce, said that the company was "providing protective equipment, performing symptom screenings and testing, and training about how to avoid the spread of ***Covid-19***" while working with the local health agency to coordinate testing.

Justin Flores, the vice president of the Farm Labor Organizing Committee, North Carolina's only farmworker union, said about 360 workers on the farm came from Mexico through the H-2A visa, a seasonal guest-worker program. They live in close quarters, he noted, similar to military barracks — possibly contributing to the spread of the virus.

"You're sharing with dozens of co-workers, bathrooms and kitchens and things like that," Mr. Flores said.

Across the country, outbreaks have threatened agriculture workers. In Florida, a watermelon farm in Alachua County that tested 100 workers after a sick laborer arrived from Miami-Dade County found *90 cases*. At a clinic in *Bridgeton, N.J.*, 18 percent of the 200 farmworkers tested in May were positive for the virus, a doctor said.

Mr. Flores noted that many of the cases at Bottomley are asymptomatic.

For many farmworkers on an H-2A visa, stopping work — even when sick — isn't really an option, he said.

"Just like all essential workers, this idea that the responsible thing is to stay home and not go to work — there's obvious economic challenges," Mr. Flores said. "You need to get to work."

New York will allow voters to cast mail-in ballots.

New York State will allow most voters *to cast their ballots by mail* in the November general election, joining *a growing list of states* that have expanded mail-in voting to address the potential spread of the virus at polling places.

The governor *signed a bill* on Thursday allowing voters to request an absentee ballot if they cannot show up at a polling location because of the risk of contracting or spreading an illness, effectively permitting the state's more than *12 million registered voters* to vote by mail.

The challenges of administering an election predominantly by mail will be especially pronounced in New York, following the state's *uneven handling* of its primary just two months ago. To ease the blow of an influx of mail-in ballots, officials are encouraging voters to cast their ballots in person at *early polling sites*, which open statewide on Oct. 24.

Absentee ballots will not be mailed automatically to voters in New York; voters will have to request a mail-in ballot online, over the phone, in person or by mail. The *deadline to apply* by mail is Oct. 27, although officials are urging voters not to wait until the last minute. Ballots need to be postmarked by Election Day.

Election officials are encouraging voters to apply for a ballot online, rather than by mail, to expedite the process of mailing ballots to voters. The state's Board of Elections is expected to unveil an online portal by the end of the month.

North Korea admits that the pandemic hurt its economic plans.

North Korea said on Thursday that the triple punches of the pandemic, international sanctions and flood damage had *significantly delayed plans to improve the country's economy*.

During a meeting in Pyongyang, the capital, the Central Committee of the Workers' Party attributed the delay to "severe internal and external situations and unexpected manifold challenges," and noted that people's living standards had "not been improved remarkably."

The assessment was an unusual admission by the isolated country that its economic plans had faltered.

In 2016, when Mr. Kim adopted his economic plan, the North's economy grew 3.9 percent, the highest since a devastating famine hit the country in the late 1990s, according to estimates by South Korea's central bank, the Bank of Korea.

But as the United Nations tightened sanctions, the North's economy shrank 4.1 percent in 2018, with its exports to ***China*** plummeting 86 percent.

North Korea's economy recovered slightly last year, growing 0.4 percent, as Pyongyang invented ways of easing the pain of the sanctions, such as smuggling banned cargo *across the Chinese border* or between ships *on the high seas*.

But this year, the ***coronavirus*** forced the country to shut down the border with ***China***, which had accounted for more than 90 percent of the North's external trade. North Korea's exports to ***China*** fell to $27 million in the first half of this year, a 75 percent drop from a year earlier, according to the Korea Institute for National Unification in Seoul. Imports from ***China*** dropped 67 percent, to $380 million.

Hit early and hard by the virus, Iran is in the middle of a second wave.

Iran's health ministry announced Wednesday that *it had reached 20,000 deaths from the virus*, but health experts inside and outside Iran — and even members of the Iranian Parliament — suggest that the number may be many times higher.

To understand what's going on, Farnaz Fassihi, who covers Iran for The Times, answered some pressing questions and painted a picture of an outbreak still out of control.

What's the situation in the country?

It's very bad. It's in the thick of a second surge worse than the first one in March. The majority of provinces, including the capital, Tehran, are "red zones." Doctors are saying hospitals and I.C.U. beds are full. At the same time, there are some restrictions for public gatherings but, generally, it's open for business.

Even by the government's own numbers, cases are on the rise. What happened?

They opened too soon. When the virus first arrived in the country, they closed down for just two weeks during the New Year holiday in mid-March. They didn't meet any of the benchmarks when they reopened. There's no contact tracing. There's no quarantine.

What are Iranians feeling?

In the early months, people were very scared. They were self-isolating and staying home and not sending their kids to school, even when the schools were still open. But I think as time has passed, like a lot of places, we see that people are becoming more reckless.

There's also a nuanced dynamic here. This is a government that for 40 years has told people what to do, how to dress, how to behave — and many people's mind-set is to always defy what the government says. So now, when there's a pandemic, and the government tells them, "Stay home, wear a mask," they're like: "No. We don't trust you. And you don't tell us what to do."

And so for Iran, I think the challenge to contain a pandemic may be greater than it is for other countries because the government is dealing with 70 million people whose default mode is to defy it.

The U.S. Virgin Islands halts tourism as cases surge.

The U.S. Virgin Islands is halting visits by tourists for a month, shutting nonessential businesses and restoring stay-at-home orders, while struggling with some of the highest per capita case numbers in the United States.

The territory, which includes the Caribbean islands of St. Croix, St. John and St. Thomas, registered 165 cases over the last seven days as of Thursday, bringing the total number of cases to 869.

Those figures position the *U.S. Virgin Islands behind only Texas* in the ranking of states and territories where per capita cases are climbing fastest. The territory, whose economy relies heavily on tourism, had reopened for leisure visitors on June 1.

Gov. Albert Bryan Jr. announced last week that as of Wednesday, hotels and Airbnb operators would be prohibited from accepting new guests for 30 days. Mr. Bryan also ordered bars, nightclubs and cabarets to shut down until Aug. 31.

The territory, which has 103,000 residents, was already trying to bounce back after being hit in 2017 by two Category 5 storms, Irma and Maria. Tourism, which accounts for a third of the U.S. Virgin Islands economy, is the territory's largest source of employment.

Some public health information exceeded recommended reading levels, a study finds.

Throughout the pandemic, ***coronavirus***-related slogans have been everywhere.

In Britain: "Stay alert. Control the virus. Save lives."

The French issued a similar plea: "Save lives. Stay prudent."

In the Netherlands, the government has urged people to act "together against Corona" and talked about an "intelligent lockdown."

They're not just catchy phrases in a time of crisis. They make a difference, and they should be readily understandable for people of all reading levels.

A *study by the JAMA Network* that looked at the language used in April about the pandemic on websites of international agencies as well as the governments of 15 countries found that in most cases, the language exceeded the recommended eighth-grade reading level, using complex syntax and technical terms.

All of the websites in the study — including those of the *Centers for Disease Control and Prevention*, the *World Health Organization*, and governments around the world — shared at least some information that exceeded the recommended reading level, according to the study.

Not adhering to readability standards could have a bigger influence on communities with lower health literacy, the study found, "potentially exacerbating the disparate effects of the pandemic."

As a result, the study concluded that governments and institutions should "focus on the urgent development of plain-language ***Covid-19*** resources that conform to established guidelines for clear communication and are more accessible to all audiences."

Of those websites the JAMA Network examined, the information from the Netherlands used the most accessible language overall, while Italy used the most complex.

'I just don't know if I can do it alone': School nurses are a rarity in some places in the U.S.

School nurses were already in short supply in the United States, with less than 40 percent of schools employing one full-time before the pandemic. Now those overburdened health care specialists *are finding themselves on the front lines of a risky, high-stakes experiment* in protecting public health as districts reopen their doors amid spiking caseloads in many parts of the country.

The American Association of Pediatrics recommends that every school have a nurse on site. But before the outbreak, according to the *National Association of School Nurses*, a quarter of American schools did not have one at all. And there has been no national effort to provide districts with new resources for hiring them, although some states have *tapped federal relief funds*.

Washington State is one of the places where nurses are a rarity in school hallways, with only 7 percent of schools employing one full-time, and nearly 30 percent of districts having one available for six hours or less per week. As the lone nurse for her school district in central Washington State, Janna Benzel will monitor 1,800 students for virus symptoms when classrooms open later this month, on top of her normal responsibilities like managing allergies, distributing medications and writing hundreds of immunization plans.

"I'll have to go to these schools and assess every sniffle and sneeze that could potentially be a positive case," she said. "I just don't know if I can do it alone."

In some places, administrators have been scrambling to get more nurses into schools before the academic year. New York City, the nation's largest district and one of the few big cities in the country still planning to physically reopen its schools on the first day back, *went on a hiring spree* after the city's powerful teachers' union said their members should not return to classrooms without a nurse in each of the city's roughly 1,300 school buildings.

Mayor Bill de Blasio said last week that the city had finally secured enough nurses to fulfill that demand, less than a month before the scheduled start of in-person instruction.

Researchers are testing an experimental drug to halt sudden outbreaks in U.S. nursing homes.

Nursing home residents make up just 1.2 percent of the U.S. population, but *they account for about 40 percent of* ***Covid-19*** *deaths.*

But when the virus crept into Heartland Health Care Center in Moline, Ill., on the last day of July, the nursing home was not defenseless. Heartland was the first facility to participate in a large clinical trial of a drug that might protect residents from the infection in nursing homes and assisted living facilities.

Drug companies and the federal government often avoid testing drugs in older people, even if they are the ones who need treatment most. The elderly may have a range of complicating conditions that make it difficult to tell if the drug is working, and nursing home and extended care facilities are governed by a raft of complex regulations regarding privacy and access.

Experts say the new research, sponsored by Eli Lilly and the National Institutes of Health, is among the first large clinical trials to involve nursing home residents. And the scientists are delighted.

“These patients are so underserved,” said Dr. Rebecca Boxer, medical director of clinical trials at the Kaiser Permanente Institute for Health Research in Colorado. “They do not get access to innovative new drugs and trials.”

The experimental drug is a monoclonal antibody, an artificially synthesized version of ***coronavirus*** antibodies produced by the body. In this case, the antibody was “cloned” from those found in the blood of a Seattle man, one of the first patients to survive ***Covid-19***.

Monoclonal antibodies are one of the great hopes in the war on the virus. They already serve as the basis for effective treatments for arthritis, cancer, lupus — even Ebola. They are difficult to manufacture, however, and expensive.

Still, two companies, Regeneron and Eli Lilly, have forged ahead with clinical trials. The trial in nursing homes is pivotal to Eli Lilly’s effort to determine whether its version can stop the ***coronavirus***.

Southern India emerges as a hotbed for new infections in the country.

India’s ***coronavirus*** crisis is now spreading to the hinterlands along its southern coastline.

The country recorded at least 69,000 new cases on Wednesday, its largest daily caseload of the pandemic, and nearly a thousand deaths, according to a *New York Times database* and the ministry of health. The South Indian states of Andhra Pradesh, Karnataka and Tamil Nadu now account for nearly a third of new cases in the country.

After nearly three months in lockdown, millions of migrant workers, who over the years had gravitated to jobs in the cities, have recently been pouring back into the countryside. Many of them have become carriers of the virus, epidemiologists say.

Officials in Andhra Pradesh state, which has a total of 316,003 cases, one of the highest in the country, said fishermen arriving from the neighboring state of Tamil Nadu also contributed to the high case numbers, *the BBC reported*.

Monsoon rains have forced thousands of people in villages to seek shelter in cramped spaces, often shared by several others.

India has the *world’s third-highest caseload* after the United States and Brazil, but the actual numbers are thought to be much higher because of limited testing and contact tracing.

“The number of cases which we are reporting are only the tip of the iceberg,” said Dr. Jayaprakash Muliyil, a former professor at the Christian Medical College in Vellore, and a member of the national ***Covid-19*** task force.

Despite the surge in cases, B. S. Yediyurappa, the chief minister of the southern state of Karnataka, *announced this week* that his government would allow gatherings of up to 20 people for an upcoming Hindu festival because of the "religious sentiments" of its people. Mr. Yediyurappa tested positive for the virus this month.

Italy wants its tourists back, unless they sit on the statues.

German *tourists took an unauthorized dip* in the Grand Canal in Venice, under the Rialto Bridge. An Austrian tourist *broke the toe* of a plaster statue of Napoleon's sister while posing for a photograph at a museum in northern Italy. A French tourist was caught red-handed using a black felt-tip pen to immortalize her stay in Florence on the city's famed Ponte Vecchio.

Now, Italian officials have set their sights on a young woman who took a selfie standing atop some newly reopened thermal baths in Pompeii, the fragile archaeological site.

The pandemic may have *crushed the tourism industry in Italy* this year — delivering a *significant blow* to the country's economy — but Italians say that should not give tourists who do come a free pass *to run amok among the country's cultural treasures*.

"There's a question of vigilance, but also of the unpreparedness of visitors," read an editorial published on Tuesday in the Rome daily La Repubblica. "What happened in Pompeii shows that the path to educating those who visit museums is still dotted with difficulties and unforeseen events," a nod to countless episodes of vandalism and damage caused to cultural treasures by visiting tourists.

Lawmakers in the lower house of Parliament introduced *a bill* last month that would toughen penalties for those convicted of destroying Italy's artistic patrimony. Culture Minister Dario Franceschini has been trying to put such a law on the books *since 2016*, but has not managed to get approval from both houses of Parliament.

Movers in N.Y.C. are so busy they're turning people away.

While the moving industry is fractured among numerous small-business owners, and official statistics are tough to come by, one thing is clear: From professionals who are downsizing following a job loss, to students moving back in with their parents, to families fleeing the city for the suburbs, *New Yorkers are changing their addresses in droves*.

According to FlatRate Moving, the number of moves it has done has increased more than 46 percent between March 15 and Aug. 15, compared with the same period last year. The number of those moving outside of New York City is up 50 percent — including a nearly 232 percent increase to Dutchess County and 116 percent increase to Ulster County in the Hudson Valley.

"It felt like move-out day on a college campus," said Bobby DelGreco, who recently vacated his apartment in Stuyvesant Town after nine years and is now living in a long-term Airbnb in Los Angeles. "All the doors were propped open, and there were moving trucks and furniture everywhere."

Matt Jahn, who owns the Brooklyn-based Metropolis Moving, said he has been inundated with customer requests. It's more demand than he can handle. "We are turning people away because we just don't have the capacity," he said.

It certainly didn't start out this way. In mid-March, when the grim realities of the virus became clear, moving companies braced for a slow season. "Right in the beginning, we weren't sure if we were allowed to work, and a lot of businesses were in limbo," said Daniel Norber, the owner of Imperial Movers, based in the West Village. "Everyone was wondering if they should close shop."

But later that month, the governor announced that moving was considered an essential service. “Within 30 minutes of the announcement I got a flood of calls,” Mr. Jahn said. Business hasn’t slowed since, and movers expect the trend to continue through the fall.

Led by Harris and Obama, Democrats continue attacks on Trump’s handling of the pandemic.

Senator Kamala Harris of California, who *was formally nominated for the vice presidency* on Wednesday, was among the Democratic leaders who sharply criticized President Trump’s handling of the ***coronavirus*** pandemic during the third night of their party’s national convention.

Ms. Harris, who became the first woman of color on a major party’s ticket, said that Mr. Trump’s “failure of leadership has cost lives and livelihoods.”

“If you are a parent struggling with your child’s remote learning, or you are a teacher, struggling on the other side of that screen, you know what we’re doing right now is not working,” she added.

The night also featured a striking repudiation of Mr. Trump by former President Barack Obama, a break with the presidential custom of not criticizing a successor by name.

“Donald Trump hasn’t grown into the job, because he can’t,” Mr. Obama said, growing emotional at points as he talked about the challenges facing the country and democracy. “The consequences of that failure are severe. 170,000 Americans dead. Millions of jobs gone.”

Mr. Obama also said Joseph R. Biden Jr. and Ms. Harris understand that “our ability to work together to solve big problems like a pandemic depends on a fidelity to facts and science and logic, and not just making stuff up.”

Senator Elizabeth Warren of Massachusetts said that the ***coronavirus*** crisis was “on Donald Trump and the Republicans who enable him,” and that his administration would be held accountable in the November election.

“***Covid-19*** was Trump’s biggest test,” Ms. Warren said. “He failed miserably.”

As of Thursday morning, the United States had the world’s largest number of both ***coronavirus*** cases, with at least 5.5 million, and deaths, with at least 173,000, *according to a New York Times database*.

Religion and politics collide in South Korea’s new outbreak.

The Sarang Jeil Church in Seoul has been a magnet for thousands of conservative Christians who fear South Korea is turning communist under President Moon Jae-in.

But *the church’s political crusade is now colliding with the pandemic*, as a large outbreak centered on the church spreads through the capital, Seoul, and beyond.

Members have recently participated in some of the largest antigovernment protests that South Korea has seen in years, and many have contracted the ***coronavirus***.

In the past week, the outbreak has forced the church to shut down, and its congregants to isolate themselves at home. The church’s chief pastor, the Rev. Jun Kwang-hoon, is among the infected.

The outbreak pushed South Korea’s daily caseload to 288 on Thursday, the seventh straight day of triple-digit jumps, which shattered hopes that the country had managed to blunt the epidemic sooner than most nations. It marked the biggest cluster of infections in South Korea since an outbreak in *the Shincheonji Church of Jesus* in the central city of Daegu in February and March was tied to 5,200 patients.

Mr. Moon has accused his most vocal critics of spreading the infectious disease and putting the entire nation in danger — a sentiment widespread on social media.

Conservative activists have accused Mr. Moon of trying to scapegoat the church to divert attention from his weak approval ratings.

Reporting was contributed by Sarah Almukhtar, Peter Baker, Alan Blinder, Choe Sang-Hun, Emily Cochrane, Kimiko de Freytas-Tamura, Julia Echikson, Nicholas Fandos, Richard Fausset, Luis Ferré-Sadurní, Robert Gebeloff, Astead W. Herndon, Jan Hoffman, Sheila Kaplan, Josh Katz, Gina Kolata, Hari Kumar, Danielle Ivory, Lisa Lerer, Dan Levin, Denise Lu, Tiffany May, Patricia Mazzei, Zachary Montague, Claire Moses, Eric Nagourney, Richard C. Paddock, Elisabetta Povoledo, Frances Robles, Simon Romero, Margot Sanger-Katz, Julie Satow, Nelson D. Schwartz, Karan Deep Singh, Sheryl Gay Stolberg, Marina Varenikova, Jonathan Wolfe and Lauren Wolfe.

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36 What if the First Coronavirus vaccines Aren't the Best?

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Body

Dozens of research groups around the world are playing the long game, convinced that their experimental ***vaccines*** will be cheaper and more powerful than the ones leading the race today.

Seven months into the ***coronavirus*** crisis, with more than 30 ***vaccines*** rapidly advancing through the rigorous stages of clinical trials, a surprising number of research groups are placing bets on some that have not yet been given to a single person.

The New York Times has confirmed that at least 88 candidates are under active preclinical investigation in laboratories across the world, with 67 of them slated to begin clinical trials before the end of 2021.

Those trials may begin after millions of people have already received the first wave of ***vaccines***. It will take months to see if any of them are safe and effective. Nevertheless, the scientists developing them say their designs may be able to prompt more powerful immune responses, or be much cheaper to produce, or both -- making them the slow and steady winners of the race against the ***coronavirus***.

"The first ***vaccines*** may not be the most effective," said Ted Ross, the director of the Center for ***vaccines*** and Immunology at the University of Georgia, who is working on an experimental ***vaccine*** he hopes to put into clinical trials in 2021.

Many of the ***vaccines*** at the front of the pack today try to teach the body the same basic lesson. They deliver a protein that covers the surface of the ***coronavirus***, called spike, which appears to prompt the immune system to make antibodies to fight it off.

But some researchers worry that we may be pinning too many hopes on a strategy that has not been proved to work. "It would be a shame to put all our eggs in the same basket," said David Veesler, a virologist at the University of Washington.

In March, Dr. Veesler and his colleagues designed a ***vaccine*** that consists of millions of nanoparticles, each one studded with 60 copies of the tip of the spike protein, rather than the entire thing. The researchers thought these bundles of tips might pack a stronger immunological punch.

When the researchers injected these nanoparticles into mice, the animals responded with a flood of antibodies to the ***coronavirus*** -- much more than produced by a ***vaccine*** containing the entire spike. When the scientists exposed vaccinated mice to the ***coronavirus***, they found that it completely protected them from infection.

The researchers shared their initial results this month in a paper that has yet to be published in a scientific journal. Icosavax, a start-up company co-founded by Dr. Veesler's collaborator, Neil King, is preparing to begin clinical trials of the nanoparticle ***vaccine*** by the end of this year.

U.S. Army researchers at the Walter Reed Army Institute have created another spike-tip nanoparticle ***vaccine***, and are recruiting volunteers for a clinical trial that they also plan to start by the end of 2020. A number of other companies and universities are creating spike-tip-based ***vaccines*** as well, using recipes of their own.

Immune punch

Antibodies are only one weapon in the immune arsenal. Blood cells known as T cells can fight infections by attacking other cells that have been infiltrated by the virus.

"We still don't know which kind of immune response will be important for protection," said Luciana Leite, a ***vaccine*** researcher at Instituto Butantan in São Paulo, Brazil.

It's possible that ***vaccines*** that arouse only antibody responses will fail in the long run. Dr. Leite and other researchers are testing ***vaccines*** made of several parts of the ***coronavirus*** to see if they can coax T cells to fight it off.

"It's a second line of defense that might work better than antibodies," said Anne De Groot, the C.E.O. of Epivax, a company based in Providence, R.I.

Epivax has created an experimental ***vaccine*** with several pieces of the spike protein, as well as other viral proteins, which it plans to test in a clinical trial in December.

The effectiveness of a ***vaccine*** can also be influenced by how it gets into our body. All of the first-wave ***vaccines*** now in clinical trials have to be injected into muscle. A nasal spray ***vaccine*** -- similar to FluMist for influenza -- might work better, since the ***coronavirus*** invades our bodies through the airway.

Several groups are gearing up for clinical trials of nasal spray ***vaccines***. One of the most imaginative approaches comes from a New York company called Codagenix. They are testing a ***vaccine*** that contains a synthetic version of the ***coronavirus*** that they made from scratch.

The Codagenix ***vaccine*** is a new twist on an old formula. For decades, ***vaccine*** makers have created ***vaccines*** for diseases such as chickenpox and yellow fever from live but weakened viruses. Traditionally, scientists have weakened the viruses by growing them in cells of chickens or some other animal. The viruses adapt to their new host, and in the process they become ill-suited for growing in the human body.

The viruses still slip into cells, but they replicate at a glacial pace. As a result, they can't make us sick. But a small dose of these weakened viruses can deliver a powerful jolt to the immune system.

Yet there are relatively few live weakened viruses, because making them is a struggle. "It's really trial-and-error based," said J. Robert Coleman, the chief executive of Codagenix. "You can never say exactly what the mutations are doing."

The Codagenix scientists came up with a different approach. They sat down at a computer and edited the ***coronavirus***'s genome, creating 283 mutations. They then created a piece of DNA containing their new genome and put it in monkey cells. The cells then made their rewritten viruses. In experiments on hamsters, the researchers found that their ***vaccine*** didn't make the animals sick -- but did protect them against the ***coronavirus***.

Codagenix is preparing to open a Phase 1 trial of an intranasal spray with one of these synthesized coronaviruses as early as September. Two similar ***vaccines*** are in earlier stages of development.

The French vaccine maker Valneva plans to start clinical trials in November on a far less futuristic design. "We are addressing the pandemic with a rather conventional approach," said Thomas Lingelbach, the C.E.O. of Valneva.

Valneva makes vaccines from inactivated viruses that are killed with chemicals. Jonas Salk and other early vaccine makers found this recipe to work well. Chinese vaccine makers already have three such coronavirus vaccines in Phase 3 trials, but Dr. Lingelbach still sees an opportunity for Valneva making its own. Inactivated virus vaccines have to meet very high standards for purification, to make sure all the viruses are not viable. Valneva has already met those standards, and it's not clear if Chinese vaccines would.

The United Kingdom has arranged to purchase 60 million doses of Valneva's vaccine, and the company is scaling up to make 200 million doses a year.

Faster and cheaper production

Even if the first wave of vaccines work, many researchers worry that it won't be possible to make enough of them fast enough to tackle the global need.

"It's a numbers game -- we need a lot of doses," said Florian Krammer, a virologist at Icahn School of Medicine at Mount Sinai in New York City.

Some of the most promising first-wave products, such as RNA vaccines from Moderna and Pfizer, are based on designs that have never been put into large-scale production before. "The manufacturing math just doesn't add up," said Steffen Mueller, the chief scientific officer of Codagenix.

Many of the second-wave vaccines wouldn't require a large scale-up of experimental manufacturing. Instead, they could piggyback on standard methods that have been used for years to make safe and effective vaccines.

Codagenix, for example, has entered into a partnership with the Serum Institute of India to grow their recoded coronaviruses. The institute already makes billions of doses of live weakened virus vaccines for measles, rotaviruses and influenza, growing them in large tanks of cells.

Tapping into well-established methods could also cut down the cost of a coronavirus vaccine, which will make it easier to get it distributed to less wealthy countries.

Researchers at Baylor College of Medicine, for example, are doing preclinical work on a vaccine that they said might cost as little as $2 a dose. By contrast, Pfizer is charging $19 a dose in a deal with the U.S. government, and other companies have floated even higher prices.

To make the vaccine, the Baylor team engineered yeast to make coronavirus spike tips. It's precisely the same method that has been used since the 1980s to make vaccines for hepatitis B. The Indian vaccine maker Biological E has licensed Baylor's vaccine and is planning Phase 1 trials that will start this fall.

"They now already know they can make a billion doses a year," said Maria Elena Bottazzi, a Baylor virologist. "It's easy-breezy for them, because it was exactly the same bread-and-butter vaccine technology that they have been working with for years."

Even if the world gets cheap, effective vaccines against Covid-19, that doesn't mean all of our pandemic worries are over. With an abundance of other coronaviruses lurking in wild animals, another Covid-like pandemic may be not far off. Several companies -- including Anhui Zhifei in China, Osivax in France and VBI in Massachusetts -- are developing "universal" coronavirus vaccines that might protect people from an array of the viruses, even those that haven't colonized our species yet.

Many scientists see their ongoing vaccine work as part of a long game -- one that the well-being of entire nations will depend on. Thailand, for example, is preparing to purchase Covid-19 vaccines developed overseas, but scientists there are also carrying out preclinical research of their own.

At Chulalongkorn University, researchers have been investigating several potential candidates, including an RNA-based vaccine that will go into Phase 1 studies by early 2021. The vaccine is similar to one that Pfizer is now testing in late-stage clinical trials, but these scientists want the security of making their own version.

"While Thailand has to plan for buying vaccines, we should do our best to produce our own vaccine as well," said Kiat Ruxrungtham, a professor at Chulalongkorn University. "If we are not successful this time, we will be capable to do much, much better in the next pandemic."

https://www.nytimes.com/2020/08/27/health/covid-19-vaccines.html

Graphic

PHOTOS: Top, a volunteer receiving an experimental coronavirus vaccine in Soweto, South Africa. Some researchers worry about unproven approaches to such vaccines. Above left, research at a lab of the French vaccine maker Valneva, which is taking a conventional approach to developing a vaccine, using viruses that are inactivated by chemicals. Above, technicians working on a vaccine assembly line at Serum Institute of India. (PHOTOGRAPHS BY LUCA SOLA/AGENCE FRANCE-PRESSE -- GETTY IMAGES

JEAN-FRANCOIS MONIER/AGENCE FRANCE-PRESSE -- GETTY IMAGES

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Organization: UNIVERSITY OF GEORGIA (55%)

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37 *Spy Versus Spy In Rush to Gain A vaccine Edge*

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Byline: By Julian E. Barnes and Michael Venutolo-Mantovani

Body

The intelligence wars over ***vaccine*** research have intensified as ***China*** and Russia expand their efforts to steal American work at both research institutes and companies.

WASHINGTON -- Chinese intelligence hackers were intent on stealing ***coronavirus*** ***vaccine*** data, so they looked for what they believed would be an easy target. Instead of simply going after pharmaceutical companies, they conducted digital reconnaissance on the University of North Carolina and other schools doing cutting-edge research.

They were not the only spies at work. Russia's premier intelligence service, the S.V.R., targeted ***vaccine*** research networks in the United States, Canada and Britain, espionage efforts that were first detected by a British spy agency monitoring international fiber optic cables.

Iran, too, has drastically stepped up its attempts to steal information about ***vaccine*** research, and the United States has increased its own efforts to track the espionage of its adversaries and shore up its defenses.

In short, every major spy service around the globe is trying to find out what everyone else is up to.

The ***coronavirus*** pandemic has prompted one of the fastest peacetime mission shifts in recent times for the world's intelligence agencies, pitting them against one another in a new grand game of spy versus spy, according to interviews with current and former intelligence officials and others tracking the espionage efforts.

Nearly all of the United States' adversaries intensified their attempts to steal American research while Washington, in turn, has moved to protect the universities and corporations doing the most advanced work. NATO intelligence, normally concerned with the movement of Russian tanks and terrorist cells, has expanded to scrutinize Kremlin efforts to steal ***vaccine*** research as well, according to a Western official briefed on the intelligence.

The contest is reminiscent of the space race, where the Soviet Union and America relied on their spy services to catch up when the other looked likely to achieve a milestone. But where the Cold War contest to reach the Earth's orbit and the moon played out over decades, the timeline to help secure data on ***coronavirus*** treatments is sharply compressed as the need for a ***vaccine*** grows more urgent each day.

"It would be surprising if they were not trying to steal the most valuable biomedical research going on right now," John C. Demers, a top Justice Department official, said of ***China*** last month during an event held by the Center for Strategic and International Studies. "Valuable from a financial point of view and invaluable from a geopolitical point of view."

China's push is complex. Its operatives have also surreptitiously used information from the World Health Organization to guide its vaccine hacking attempts, both in the United States and Europe, according to a current and a former official familiar with the intelligence.

It was not clear how exactly China was using its influential position in the W.H.O. to gather information about vaccine work around the globe. The organization does collect data about vaccines under development, and while much of it is eventually made public, Chinese hackers could have benefited by getting early information on what coronavirus vaccine research efforts the W.H.O. viewed as most promising, according to a former intelligence official.

American intelligence officials learned about China's efforts in early February as the virus was gaining a foothold in the United States, according to current and former American officials. The C.I.A. and other agencies closely watch China's moves inside international agencies, including the W.H.O.

The intelligence conclusion helped push the White House toward the tough line it adopted in May on the W.H.O., according to the former intelligence official.

Besides the University of North Carolina, Chinese hackers have also targeted other universities around the country and some may have had their networks breached, American officials said. Mr. Demers said in his speech that China had conducted "multiple intrusions" beyond what the Justice Department revealed in an indictment in July, which accused two hackers of working on behalf of China's Ministry of State Security spy service to pursue vaccine information and research from American biotechnology companies.

The F.B.I. warned officials at U.N.C. in recent weeks about the hacking attempts, according to two people familiar with the matter. The Chinese hacking teams were trying to break into the computer networks of the school's epidemiology department but did not infiltrate them.

A U.N.C. spokeswoman, Leslie Minton, said that the school "regularly receives threat alerts from U.S. security agencies." She directed further questions to the federal government, but said the school had invested in "around-the-clock monitoring" to "help guard against advanced persistent threat attacks from state sponsored organizations."

Besides hacking, China has pushed into universities in other ways. Some government officials believe it is trying to take advantage of research partnerships that American universities have forged with Chinese institutions.

Others have warned that Chinese intelligence agents in the United States and elsewhere have tried to collect information on researchers themselves. The Trump administration ordered China on July 22 to close its consulate in Houston in part because Chinese operatives had used it as an outpost to try to make inroads with medical experts in the city, according to the F.B.I.

Chinese intelligence officials are focused on universities in part because they view the institutions' data protections as less robust than those of pharmaceutical companies. But spy work is also intensifying as researchers share more vaccine candidates and antiviral treatments for peer review, giving adversaries a better chance of gaining access to formulations and vaccine development strategies, said an American government official briefed on the intelligence.

So far, officials believe that foreign spies have taken little information from the American biotech companies they targeted: Gilead Sciences, Novavax and Moderna.

At the same time the British electronic surveillance agency G.C.H.Q. was learning about the Russian effort and American intelligence learned of the Chinese hacking, the Department of Homeland Security and F.B.I. dispatched teams to work with American biotech teams to bolster their computer networks' defenses.

The Russian effort, announced by British, American and Canadian intelligence agencies in July, was primarily focused on gathering intelligence about research by Oxford University and its pharmaceutical corporate partner, AstraZeneca.

The Russians caught trying to get ***vaccine*** information were part of the group known as Cozy Bear, a collection of hackers affiliated with the S.V.R. Cozy Bear was one of the hacking groups that in 2016 broke into Democratic computer servers.

Homeland security officials have warned pharmaceutical companies and universities about the attacks and helped institutions review their security. For the most part, officials have observed the would-be ***vaccine*** hackers using known vulnerabilities that have yet to be patched, not the more exquisite cyberweapons that target unknown gaps in computer security.

No corporation or university has announced any data thefts resulting from the publicly identified hacking efforts. But some of the hacking attempts succeeded in at least penetrating defenses to get inside computer networks, according to one American government official. And hackers for ***China*** and Russia test weaknesses every day, according to intelligence officials.

"It is really a race against time for good guys to find the vulnerabilities and get them patched, get those patches deployed before the adversary finds them and exploits them," said Bryan S. Ware, the assistant director of cybersecurity for the Homeland Security Department's Cybersecurity and Infrastructure Security Agency. "The race is tighter than ever."

While only two teams of hackers, one each from Russia and ***China***, have been publicly identified, multiple hacking teams from nearly all the intelligence services of those two countries have been trying to steal ***vaccine*** information, according to law enforcement and intelligence officials.

Russia announced on Aug. 11 that it had approved a ***vaccine***, a declaration that immediately aroused suspicion that its scientists were at least aided by its spy agencies' work to steal research information from other countries.

American officials insist their own spy services' efforts are defensive and that intelligence agencies have not been ordered to steal ***coronavirus*** research. But other current and former intelligence officials said the reality was not nearly so black and white. As American intelligence agencies try to find out what Russia, ***China*** and Iran may have stolen, they could encounter information on those countries' research and collect it.

Officials expressed concerns that further hacking attempts could hurt ***vaccine*** development efforts. Hackers extracting data could inadvertently -- or purposefully -- damage research systems.

"When an adversary is doing a smash-and-grab, there is even more likely a chance of not just stealing information but somehow disrupting the victim's operations networks," Mr. Ware said.

While some of Russia's and ***China***'s spying may have been aimed at checking their own research or looking for shortcuts, some current and former officials raised the possibility that the countries sought instead to sow distrust in an eventual ***vaccine*** from Western countries.

Both Russia and ***China*** have already spread disinformation about the virus, its origins and the American response. Russian intelligence services in particular are laying the groundwork for a more aggressive effort to escalate the anti-***vaccine*** movement in the West and could use the allegations of spying to give its narrative greater traction.

Russia has a long record of trying to amplify divisions in American society. Current and former national security officials said they expect Russia to eventually spread disinformation about any ***vaccine*** approved in the West.

"This case seems to be a throwback to the old Soviet Union," said Fiona Hill, the former National Security Council official and Russia expert who testified in the impeachment hearings against President Trump. "Russia and the Chinese have been out there on disinformation campaigns. How better to create confusion and weaken the U.S. further than to whip up the antivax movement? But you make sure all your guys are vaccinated."

David E. Sanger and Ronen Bergman contributed reporting.

*https://www.nytimes.com/2020/09/05/us/politics/**coronavirus**-**vaccine**-espionage.html*

Graphic

PHOTO: The F.B.I. has warned officials at the University of North Carolina at Chapel Hill about Chinese attempts in recent weeks to hack into computer networks in the school's epidemiology department. (PHOTOGRAPH BY GERRY BROOME/ASSOCIATED PRESS) (A5)

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38 ***In Sign of Progress, Fewer Than 1% of New York's Virus Tests Are Positive***

The New York Times

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Highlight: The state's share of positive tests has stayed below 1 percent for 30 straight days, Gov. Andrew M. Cuomo said, though he urged caution amid Labor Day celebrations. India surpassed Brazil to become the country with the second-highest number of cases.

Body

The state's share of positive tests has stayed below 1 percent for 30 straight days, Gov. Andrew M. Cuomo said, though he urged caution amid Labor Day celebrations. India surpassed Brazil to become the country with the second-highest number of cases.

[Follow our *live* ***Covid-19*** *updates* around the globe.]

'Be smart': New Yorkers get good news on virus numbers, but also a warning.

The share of virus tests coming back positive in New York State has stayed below 1 percent for 30 straight days, suggesting that the state's aggressive approach to containing its outbreak — once the most severe in the country — has largely worked.

The state's positivity rate, announced on Sunday, remained below 1 percent even as parts of the economy gradually reopened, the number of people being tested continued to trend upward, and other states grappled with sharply rising case counts.

But for all the encouragement offered by the monthlong marker, many New Yorkers remain anxious heading into the fall and winter, when case counts could rise as the nation's largest public school district and more businesses are preparing to reopen.

Even Gov. Andrew M. Cuomo, in announcing the figure, took the opportunity to urge not celebration but continued restraint, pointing in a statement to New York's approach to reopening — slower and more controlled than in most other states — as well as its statewide mask mandate.

"Caution is a virtue, not a vice," Mr. Cuomo said.

New York State is now averaging slightly more than 700 cases a day, *according to a New York Times database* — up a bit from about 600 in late August, but still a fraction of the 9,000 to 10,000 cases a day it was reporting at the peak in April. The number of people in hospitals because of the virus dropped to 410 on Saturday, the lowest figure since March 16.

The governor's announcement came in the middle of a holiday weekend that, like others before it, seemed certain to tempt many to gather socially as the summer wanes. Mr. Cuomo warned that the state's gains could be imperiled by any backsliding on precautions like mask wearing and social distancing.

"Our actions today determine the rate of infection tomorrow," he said. "So as the Labor Day weekend continues, I urge everyone to be smart, so we don't see a spike in the weeks ahead."

A *recent outbreak* at the State University of New York at Oneonta, a public college in Central New York, showed how quickly new clusters can flare up.

After some students held large parties, more than 500 students there tested positive; officials canceled in-person instruction for the semester less than two weeks after it began, closed the school's dormitories and sent students home. On Sunday, Mr. Cuomo said a state rapid testing team sent to the City of Oneonta had found 91 more cases, largely among college-age adults.

At New York University, more than 20 students have been suspended for violating virus-related rules, the school *announced on Twitter on Saturday*.

Skyrocketing cases push India to No. 2 on the pandemic list.

India, home to the world's fastest-growing ***coronavirus*** outbreak, has surpassed Brazil to become the country with the second-highest number of cases.

On Monday, India reported 90,802 new infections, breaking its own record from the day before and taking its total to more than 4.2 million, according to a *New York Times database*. Brazil is now third with more than 4.1 million cases.

In early July, India surpassed Russia to become the country with the third-highest number of cases. By then, the United States was entrenched at No. 1, where it remains today with more than 6.2 million cases.

"Crowded cities, lockdown fatigue and a lack of contact tracing have spread ***Covid-19*** to every corner of this country of 1.3 billion people," The Times's Jeffrey Gettleman and Sameer Yasir *reported* in late August.

India has recorded 71,642 deaths from the virus, the world's third-highest toll after the United States and Brazil, though India has a relatively low death rate per capita in a youthful nation.

The country's surge in cases comes as the government continues to ease lockdown measures in an effort to help the economy. On Monday, the subway system in New Delhi, the capital, began a *phased reopening* after being shut for more than five months.

The pandemic has been economically devastating for India, which not so long ago *dreamed of becoming a global powerhouse*. Last week, the government *reported a 24 percent contraction* in the second quarter, the worst among the world's top economies.

Britain is stunned by a spike in daily cases.

British health officials on Sunday announced a sharp rise in new infections, prompting warnings that they may need to reconsider the aggressive reopening of the country.

The British Public Health agency reported that*2,998 new cases had been confirmed* — the highest number since late May, during the British outbreak's peak.

Amid criticism that the government had once again lost control of an outbreak that has already killed more than 41,000 in Britain, government officials signaled that they were prepared to crack down.

"We'll take whatever action is necessary," said Matt Hancock, the health secretary, declaring that "we can use, and we will use, local lockdowns if that's what's necessary."

But noting that as is the case in many parts of the world, the newest outbreak is hitting mostly younger people, Mr. Hancock implored them to think of their grandparents and be vigilant.

"The first line of defense is that people should follow social distancing," he said.

There have been almost 350,000 **coronavirus** cases in Britain, which was initially reluctant to acknowledge the threat posed by the outbreak and act decisively to shut down. It suffered some of the worst losses in Europe in April and May, but gradually cases began to decline after the government moved to lock down.

In August, however, cases began rising again.

With schools newly reopened, some British experts are sounding the alarm over the newest infection numbers.

"They've lost control of the virus," Gabriel Scally, a former National Health Service official, told The Guardian.

Kamala Harris expresses distrust of any **vaccine** promoted by President Trump.

Senator Kamala Harris of California, the Democratic nominee for vice president, said she would not trust President Trump's assurances that a **coronavirus** **vaccine** was safe, and instead would wait for medical experts to confirm the **vaccine** was reliable before she received an inoculation.

"I will not take his word for it," Ms. Harris said of Mr. Trump on the CNN program "State of the Union."(An earlier version of this article misidentified the program as "Inside Politics.")

"He wants us to inject bleach," she added, referring to remarks in April when the president incomprehensibly suggested a dangerous **coronavirus** treatment.

Ms. Harris's remarks came after federal officials alerted state and major city public health agencies last week to prepare to distribute a **vaccine** to health care workers and other high-risk groups as soon as late October or early November. Given that no **vaccine** candidates have completed the kind of large-scale human trials that can prove efficacy and safety, that time frame has heightened concerns that the Trump administration is seeking to rush a **vaccine** rollout ahead of Election Day, Nov. 3.

For months, Ms. Harris and Joseph R. Biden Jr. have assailed Mr. Trump for his handling of the **coronavirus** crisis. Ms. Harris's comments on Sunday questioning a potential **vaccine**, as scientists racing for a **vaccine** report constant pressure from a White House anxious for good news, are likely to further sow skepticism among Americans considering whether to get the **vaccine** when it becomes available.

With concern about the politicization of **vaccines** and treatments on the rise, five drug companies are preparing to issue a statement this week pledging to not release a **vaccine** unless it meets rigorous standards for effectiveness and safety. The companies — Pfizer, Moderna, Johnson & Johnson, GlaxoSmithKline and Sanofi — are aiming to reassure the public that they will not seek premature approval under political pressure.

Ms. Harris on Sunday also said she and Mr. Biden would set a national "standard" for mask wearing, stopping short of endorsing a mandate.

"This is not about punishment. It's not about Big Brother," Ms. Harris said, adding that wearing a mask is a "sacrifice" in a time of crisis.

Her comments appeared to be a softening of the position she and Mr. Biden have previously staked out.

Last month, Mr. Biden and Ms. Harris *called for Americans to be required to wear masks*, telling reporters after receiving a briefing from public health experts that every American should wear a mask while outside for at least the next three months and that all governors should mandate mask wearing.

Mr. Biden in July suggested that if he were president, he *would require mask wearing in public*, and, asked if he could use "federal leverage to mandate that," said he could, and "would from an executive standpoint."

As hope builds over possible frequent at-home testing, experts call the idea a long shot.

Over the past few weeks, a Harvard scientist has made headlines for a bold idea to curb the spread of the virus: rolling out antigen tests, a *decades-old* underdog in testing technology, to tens of millions of Americans for near-daily, at-home use.

These tests *are not very good at picking up low-level infections*. But they are cheap and convenient, and return results in minutes. Real-time information, *argued* Dr. Michael Mina, the Harvard scientist, would be far better than the *long delays* clogging the testing pipeline.

The fast-and-frequent approach to testing has captured the attention of *scientists* and journalists around the world, and that of *top officials* at the Department of Health and Human Services.

But more than a dozen experts said that near-ubiquitous antigen testing, while *intriguing in theory*, may not be effective in practice. In addition to posing huge logistical hurdles, they said, the plan hinges on broad buy-in and compliance from people who have grown increasingly disillusioned with ***coronavirus*** testing. The aim also assumes that rapid tests *can achieve their intended purpose*.

"We are open to thinking outside the box and coming up with new ways to handle this pandemic," said Esther Babady, the director of the clinical microbiology service at Memorial Sloan Kettering Cancer Center in New York. But she said antigen tests that could work at home had yet to enter the market.

Also, no rigorous study has shown that fast and frequent testing is better than sensitive but slower in the real world, she said. "The data for that is what's missing."

What has been put forth about the approach is "largely aspirational, and we need to check it against reality," said Dr. Alexander McAdam, the director of the infectious diseases diagnostic laboratory at Boston Children's Hospital and an author of *a recent report on pandemic testing strategies* in The Journal of Clinical Microbiology.

Most of the virus tests to date rely on a laboratory technique called PCR, long considered the gold standard because it can pick up even small amounts of genetic material from germs like the ***coronavirus***.

But sputtering supply chains have compromised efforts to collect, ship and process samples for PCR tests, lengthening turnaround times. And the longer the wait, the less useful the result.

Chinese firms are testing ***vaccines*** on their own employees. One executive says it's working.

A Chinese pharmaceutical company, which has tested ***coronavirus*** ***vaccines*** on its own employees, said the workers traveled to countries with large outbreaks without becoming infected.

Zhou Song, the general counsel of the ***vaccine*** manufacturer Sinopharm, suggested on Sunday that the ***vaccines***, which are still in the final stages of testing, might be effective in controlling the virus. But it will be months before any final conclusions can be drawn, and the employee data cannot be used to obtain regulatory approvals.

Under an "emergency use" program approved by the Chinese government in July, a broad array of people considered to be at high risk of virus exposure, including border officials, soldiers, medical personnel and

employees of state-owned companies, are allowed to *receive unapproved **coronavirus vaccines*** outside of official clinical trials. Chinese ***vaccine*** makers are also conducting clinical trials according to normal regulatory processes in Brazil and other countries that — unlike ***China*** — have large, active outbreaks.

Mr. Zhou did not say to which countries the Sinopharm employees had traveled, or specify which ***vaccine*** they received. The state-owned company has *two **vaccines** in Phase 3 trials*.

It is also unclear whether the employees who received the ***vaccine*** had mingled with locals on their trips abroad, increasing their chances of exposure, or had been sequestered to their living quarters. If they avoided infection by keeping to themselves, that would not prove the ***vaccine*** works.

In an interview with eastday.com, a Shanghai-based news website, Mr. Zhou said that the absence of infections among inoculated employees was "a remarkable thing."

He also said that none of the workers had shown any serious adverse reactions, and that "if one is optimistic, the ***vaccines*** could be launched by the end of the year."

Separately, Sinovac, a Beijing-based company that also has a ***coronavirus*** ***vaccine*** in the last stage of testing, said that almost all of its employees and their family members — around 3,000 people — had been vaccinated on a voluntary basis under the emergency use program, The South ***China*** Morning Post *reported on Sunday*. Yin Weidong, the chief executive of Sinovac, said he expected the ***vaccine*** to be approved for use as soon as the end of the year.

A university known for ***coronavirus*** research warns its scientists to look out for suspicious packages.

Since the ***coronavirus*** pandemic started, public health officials in the United States have faced harassment and death threats, and some have even been *driven from office*. Now a university deeply involved in studying the virus has warned hundreds of its researchers to be on the lookout for dangerous packages.

Last Monday, the University of Washington, based in Seattle, sent an email to about 500 of its researchers telling them to be wary of suspicious packages and saying that virus researchers elsewhere had been targeted.

"We have received unfortunate reports from our contacts at the Federal Bureau of Investigations (FBI) that threatening mail has been sent to ***COVID-19*** researchers on the east coast of the United States," said the email, which was first reported by *BuzzFeed News on Saturday*.

The BuzzFeed News article quoted an F.B.I. spokesman saying that the bureau, "along with our local law enforcement partners, responded to a suspicious package sent to a few university researchers" and that "preliminary testing has indicated there is no threat to public safety in connection with this mailing."

A University of Washington spokeswoman, Susan Gregg, provided a copy of the university's email to The New York Times and said no suspicious packages had been reported so far.

The email warned researchers to be on the lookout for signs of suspicious mail, including an address with misspelled words, no return address, oily stains, discoloration or a strange odor. Any mail that raised concerns, the email said, should be left unopened and reported to the police by calling 911.

Research at the University of Washington includes *16 clinical studies related to the virus* and a prominent but sometimes criticized forecasting model. The model estimated last week that ***Covid-19*** would kill about 410,000 people in the United States by the end of the year, more than double the current death toll, *drawing skepticism from experts* who said predictions about the course of the pandemic months into the future are too uncertain to be useful.

The report of threats to researchers follows earlier signs of the risks faced by public health officials and others involved in the pandemic response. Dr. Anthony Fauci, a member of President Trump's virus task force and the nation's leading expert on infectious diseases, *received additional security in April* after threats, and he said the security was also *expanded to his daughters*. Local and state health officials have *also been targeted* by those challenging public health measures.

After earlier post-holiday spikes in cases, a warning for Labor Day weekend.

For many Americans, Labor Day is a goodbye to summer before children go back to school and cold weather arrives. But public health experts worry that in the midst of a pandemic, this weekend could result in disaster in the fall.

After the Memorial Day and Fourth of July weekends, cases of ***Covid-19*** surged around the United States after people held family gatherings or congregated in large groups.

Dr. Anthony S. Fauci, the country's top infectious disease expert, said he wanted people to enjoy Labor Day weekend, but urged precautions.

"You don't want to tell people on a holiday weekend that even outdoors is bad — they will get completely discouraged," Dr. Fauci said. "What we try to say is enjoy outdoors, but you can do it with safe spacing. You can be on a beach, and you don't have to be falling all over each other. You can be six, seven, eight, nine or 10 feet apart. You can go on a hike. You can go on a run. You can go on a picnic with a few people. You don't have to be in a crowd with 30, 40 or 50 people all breathing on each other."

In terms of daily case counts, the United States is in worse shape going into Labor Day weekend than it was for Memorial Day weekend. The nation now averages about 40,000 new confirmed cases per day, up from about 22,000 per day ahead of Memorial Day weekend.

Colleges are struggling to keep students from breaking safety protocols, and many have seen significant outbreaks, as have many college towns. ABC News posted a video on Twitter showing crowds at a sports bar near the University of South Carolina. The university, which *disciplined some of its Greek houses last week*, has reported more than 1,735 cases since Aug. 1, including 1,461 active cases, according to its ***Covid-19*** *dashboard*.

Dr. Fauci said that a spike in infections after Labor Day would make it far harder to control the virus's spread in the fall, when cooler temperatures force more people indoors.

Public health experts said it was more challenging to persuade people to curtail their Labor Day weekend plans compared with past holiday weekends, because so many people are feeling pandemic fatigue after six months of restrictions, closures and separation.

"People are getting tired of taking these precautions and of having their lives upended," said *Eleanor J. Murray,* an assistant professor of epidemiology at the Boston University School of Public Health. "They're missing their friends and family, and everyone wishes things were back to normal. That's totally understandable, but unfortunately we don't get a say, really."

Even so, there are signs that one pandemic precaution — mask wearing — has gained increasing acceptance over the summer. *A Pew Research Center survey* found that 85 percent of Americans said they wore masks all or most of the time when in stores or businesses, compared with 65 percent in June.

New York plans more post-mortem tests for the ***coronavirus*** and the flu to help increase 'death data' accuracy.

With fall fast approaching, symptoms alone will not be useful in distinguishing the ***coronavirus*** from similar-looking cases of the flu. That means routinely testing for both viruses will be crucial — even, perhaps, after some patients have died.

In New York, officials *recently announced* a *ramp-up in post-mortem testing* for the ***coronavirus*** as well as for the flu. Deaths linked to respiratory illnesses that were not confirmed before a person died are to be followed up with tests for both viruses within 48 hours, according to the new regulation.

"These regulations will ensure we have the most accurate death data possible as we continue to manage ***Covid-19*** while preparing for flu season," Dr. Howard Zucker, the state's health commissioner, said *in a statement* last week.

Deceased hospital patients and nursing home residents, as well as bodies in the care of funeral directors or medical examiners, will be among those targeted for follow-up testing.

These tests can help health officials track the prevalence of both types of infections, as well as indicate whether to warn close contacts of the deceased that they may need to quarantine.

"People need to know who around them was sick," said Dr. Valerie Fitzhugh, a pathologist at Rutgers New Jersey Medical School. "If someone can't be tested in life, why not test them soon after death?"

Putting regulations in place ahead of time will also encourage counties to bolster their testing readiness ahead of autumn and winter, when seasonal viruses like flu and respiratory syncytial virus, or R.S.V., tend to thrive, said Dr. Mary Fowkes, a pathologist at Mount Sinai Hospital in New York.

In many parts of the United States, ***coronavirus*** cases are *still ratcheting up every day* — and will become more difficult to track when similar sicknesses muddle the picture.

Children, please put on your rain suits.

With a number of schools in the United States opting for outdoor education over the potentially germier confines of their traditional indoor spaces, *some outdoor-oriented companies are starting new product lines or repurposing existing ones* to capitalize on how the pandemic has changed the education experience.

Demand for waterproof clothing and related gear "has been overwhelming," said Sam Taylor, the chief executive of Oaki, a maker of a rain suit based in the Salt Lake City area. Mr. Taylor said demand for Oaki products had increased 60 percent this year.

"There's been a ton of research that's shown how productive being outside is," Mr. Taylor said. "There's no reason a little moisture or rain should stop that. If anything, that should be a positive if you've got the right gear."

Those searching for weatherproof supplies have also turned to *Rite in the Rain,* a century-old company based in Tacoma, Wash., that sells waterproof products including notebooks and printer paper.

Fifty percent of Rite in the Rain's business comes from the government, mostly the military. But aside from "pretty decent business with college bookstores," said Ryan McDonald, the company's director of marketing, it hadn't focused much on students until recently, with an increase in orders from elementary and high schools.

Mexico City's mayor wants people to take the virus seriously, even when their president doesn't.

The ***coronavirus*** has thrived in Mexico's dense capital, Mexico City, which is home to nine million people, half of them poor. But while more than 11,000 have died, analysts say it could have been worse *without the interventions of Mayor Claudia Sheinbaum*.

Although she is one of President Andrés Manuel López Obrador's most trusted confidants, she has been careful to distance herself from him when possible when it comes to the virus. Mr. López Obrador minimized the pandemic early on, questioning the science behind face masks and doing little testing. Seeking to avert economic pain, he has barely restricted travel.

Under his watch, Mexico has the fourth-highest ***coronavirus*** death toll worldwide.

As of Saturday, Mexico had recorded 67,326 ***coronavirus*** deaths, according to a *Times database*. But the health ministry also said that the country had recorded 122,765 more deaths than usual from the time the pandemic started until August, suggesting that its true toll could be much higher than reported.

When Mr. López Obrador was still kissing babies at rallies and comparing the virus to the flu, Ms. Sheinbaum was planning for a long pandemic. She pushed an aggressive testing and contact tracing campaign, and set up testing kiosks where people get swabbed for free.

She also required that everyone in Mexico City use face coverings on public transit, and wore a mask each time she addressed the news media. And when doctors told her the N95 masks the federal government had imported from ***China*** were too narrow to fit Mexican faces, she had a local factory converted into a mask-making operation.

For Ms. Sheinbaum, a scientist with a Ph.D. in energy engineering, aligning too closely with the president would mean ignoring the practices she knows are in the best interest of public health. Stray too far, and she risks losing the support of a political kingmaker who is said to be considering her — the first woman and first Jewish person elected to lead the nation's capital — as the party's next presidential candidate.

So far, her strategy has been to follow the science while refusing to criticize the president.

Other ***coronavirus*** news from around the world:

- Israel on Sunday announced overnight curfews on some 40 cities and towns hit hard by the virus, but backed away from imposing full lockdowns after an uproar by politically powerful religious politicians, The Associated Press reported. In July, under heavy public pressure, Prime Minister Benjamin Netanyahu appointed a respected hospital director as the national "***coronavirus*** project manager," but when the new official began pushing for full lockdowns on areas with the worst outbreaks — among them ultra-Orthodox Jewish communities — leaders there strongly resisted. In an apparent compromise, Mr. Netanyahu opted for curfews. The measures will go into effect on Monday night.
- Only a week after opening, most schools in a province in central Cuba are shutting their doors because of an outbreak. Seventy-five of Ciego de Ávila's 90 schools will now return to televised teaching, The A.P. reported. The province has reported 30 new infections over the past 15 days. Students had returned to classrooms on Sept. 1 after a six-month break. Cuba as a whole has reported more than 4,300 infections and 100 deaths since March, with the biggest problem in Havana, which remains under a nighttime curfew.
- Melbourne, Australia's second-largest city, on Sunday extended its lockdown by two weeks until at least Sept. 28. The state of Victoria, the center of Australia's worst outbreak, has been under lockdown since early August.

The virus is spiking around college campuses as students return.

Within days of the University of Iowa's reopening, students were complaining that they couldn't get ***coronavirus*** tests or were bumping into people who were supposed to be in isolation. Undergraduates *were jamming sidewalks* and *downtown bars*, masks hanging below their chins, never mind the city's mask mandate.

Now, Iowa City is a full-blown pandemic hot spot — one of about 100 college communities around the United States where infections have spiked in recent weeks as students have returned for the fall semester. Although the rate of

infection has bent downward in the Northeast, where the virus first peaked in the United States, it remains high across many states in the Midwest and the South, and evidence suggests that students returning to big campuses are a major factor.

In a New York Times review of 203 U.S. counties where students make up at least 10 percent of the population, about half have experienced their worst weeks of the pandemic since Aug. 1. In about half of those, figures showed that the number of new infections is currently peaking.

Despite the surge in cases, there has been no uptick in deaths in college communities, data shows. This suggests that most of the infections are stemming from campuses, since young people who contract the virus are far less likely to die than older people.

However, leaders fear that young people who are infected will contribute to the spread of the virus throughout the community.

The surge in infections reported by county health departments comes as many college administrations are also disclosing clusters on their campuses, and taking disciplinary actions against students who flout rules. Northeastern University *dismissed 11 students* for violations last week, keeping their tuition.

And on Saturday, New York University said it had *suspended 20 students* since classes resumed. The virus's potential spread beyond campus greens has deeply affected the workplaces, schools, governments and other institutions of local communities.

The result is often an exacerbation of traditional town-and-gown tensions as college towns have tried to balance *economic dependence* on universities with visceral public health fears.

For people of color, the pandemic-era virtual office may create additional hurdles to moving ahead.

Chance office encounters that used to allow for networking have been replaced by the formal geometry of the Zoom screen. And with fewer and less extensive connections than white colleagues to begin with, Black and Hispanic workers can find themselves more isolated than ever.

Assignments end up flowing to people who look more like top managers — a longstanding issue — while workers of color hesitate to raise their voices during online meetings, said Sara Prince, a partner at the consulting firm McKinsey.

"It's a critical issue, and there is a real risk facing diversity and inclusion in the current environment," Ms. Prince said. "When the leader is looking for someone to take up the mantle, most of them go to the comfort zone of people who remind them of themselves. This is exacerbated by the virtual office."

It's harder to tell which employees have shrunk back in their chairs or otherwise withdrawn in virtual meetings, said Evelyn Carter, managing director at Paradigm, a consulting firm, but moderators should pay attention to clues, like people with their cameras off, and try to draw those participants back into the discussion.

Some experts do see upsides for office workers who might have been marginalized.

"Most minorities are left out of informal networks and might not have been invited out for drinks or lunch," said Tina Shah Paikeday, who oversees global diversity and inclusion advisory services at Russell Reynolds, a recruiting firm.

"The Zoom meeting is intentionally planned, and managers feel very intentional about inviting everyone."

"It's a great equalizer, and it creates opportunities for affinity group within large organizations," she said. "It could end up being a good thing for minorities."

In Indonesia, students climb trees and travel miles in search of a signal for their remote classes.

Around the globe, including in some of the world's wealthiest countries, educators are struggling with how to facilitate distance learning during the pandemic. But in poorer countries like Indonesia, the challenge is particularly difficult.

In North Sumatra, students climb to the tops of tall trees a mile from their mountain village. Perched on branches high above the ground, they hope for a cellphone signal strong enough to complete their assignments.

The travails of these students and others like them have come to symbolize the hardships faced by millions of schoolchildren across the Indonesian archipelago. Officials have closed schools and brought in remote learning, but internet and cellphone service is limited and many students do not have smartphones and computers.

More than a third of Indonesian students have limited or no internet access, according to the Education Ministry, and experts fear that many students will fall far behind, especially in remote areas where online study remains a novelty.

Indonesia's efforts to slow the spread of the ***coronavirus*** have met with mixed results. As of Saturday, the country had 190,665 cases and 7,940 deaths. But testing has been limited and independent health experts say the actual number of cases is many times higher.

With the start of a new academic year in July, schools in virus-free zones were allowed to reopen, but these schools serve only a fraction of the nation's students. As of August, communities in low-risk areas could decide whether to reopen schools, but few have done so.

"Students have no idea what to do, and parents think it is just a holiday," said Itje Chodidjah, an educator and teacher trainer in Jakarta, the capital. "We still have lots of areas where there is no internet access. In some areas, there is even difficulty getting electricity."

Hong Kong's police thwart a protest over elections postponed on pandemic grounds.

Thousands of police officers in riot gear filled the streets of Hong Kong on Sunday, stifling a protest over the postponement of legislative elections because of the pandemic and over ***China***'s imposition of a national security law that gives the authorities *sweeping new powers to pursue critics*.

A large police presence was seen across the Kowloon Peninsula, where some activists had called for a march on the day the elections were initially scheduled to take place, despite social distancing rules that prohibit mass gatherings. Although occasional pro-democracy chants broke out as small groups wound through side streets, the number of demonstrators remained small compared with the huge crowds that gathered last year.

While Hong Kong has seen an increase in ***coronavirus*** cases over the past month, a recent wave has largely been brought under control. The city announced 21 new cases on Sunday, after more than a week of daily totals in the single or low double digits.

Hong Kong's government, with the aid of a team from mainland ***China***, began a universal testing program last week that it said was necessary to break hidden chains of virus transmission. Some activists and health care workers urged residents to boycott the plan, calling it a waste of resources motivated by a political desire to burnish the image of ***China***'s central government.

Health officials said on Thursday that six positive cases had been found in the first batch of 128,000 tested in the program, including four people with previously confirmed cases who were treated in hospitals. Five more cases detected through the program were announced on Sunday. About one million people in the city of 7.5 million have registered for tests.

Reporting was contributed by Kenneth Chang, Catie Edmondson, Natasha Frost, Robert Gebeloff, Shawn Hubler, Danielle Ivory, Jennifer Jett, Natalie Kitroeff, Sarah Kliff, Patrick J. Lyons, Tiffany May, Dera Menra Sijabat, Eric Nagourney, Richard C. Paddock, Tara Parker-Pope, Austin Ramzy, Nelson D. Schwartz, Mike Seely, Sarah Watson, Sui-Lee Wee, Katherine J. Wu and Mihir Zaveri.

PHOTO: (PHOTOGRAPH BY The New York Times FOR THE NEW YORK TIMES)

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39 ***Coronavirus Update***

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Body

Tuesday was the back-to day. It was back-to-school day for millions of schoolchildren, except that they flipped open laptops at home instead of clambering onto buses and squeezing into desks in conventional classrooms. And it was back-to-work day for Congress after its August recess.

The schoolchildren ran into trouble almost immediately -- technical glitches bedeviled their online classes. A ransomware attack forced Hartford, Conn., to cancel classes. Officials managed to restore students' addresses, grades and attendance records but not the system that provides moment-to-moment information on bus routes, leaving nearly 18,000 students with no way to get to school. In Houston, a crashing website left 200,000 students staring at blank screens and error messages. Other problems affected internet connectivity in Virginia Beach and nearby Norfolk, Va. "This outage is affecting schools up and down the East Coast," the Virginia Beach district announced in a Facebook post.

Some of the nation's largest districts, including Chicago, Dallas and Baltimore, also began the year remotely on Tuesday. And with just under two weeks left until the start of in-person classes in New York City, a majority of classrooms there have passed ventilation inspections and will reopen as planned on Sept. 21, Mayor Bill de Blasio said.

But concerns have grown over the academic consequences of the ***coronavirus*** crisis, which has widened racial and economic achievement gaps. In 80 districts in North Texas, more than 100,000 children never took part in remote learning in the spring, according to an analysis of state data by The Dallas Morning News. Some 19,000 students dropped out of contact with teachers entirely.

As for Congress, Senator Mitch McConnell of Kentucky, the majority leader, released a scaled-down ***coronavirus*** relief package. It would reinstate lapsed federal supplemental unemployment benefits, but at $300, half the previous amount. It would not provide another round of $1,200 stimulus checks. But it would deliver funding to schools, farmers, small businesses and the Postal Service.

Mr. McConnell announced that the Senate would vote to advance the new plan on Thursday. It appeared unlikely to win the support of enough Democrats in order to pass the necessary 60-vote threshold. The two top Democrats in Congress -- Senator Chuck Schumer of New York, the minority leader, and Speaker Nancy Pelosi of California -- criticized the plan as "laden with poison pills Republicans know Democrats would never support."

But if Tuesday was back-to-work day, it came with a 2020-is-different asterisk. In New York City, many companies have been reluctant to call workers back to their offices. Only 8 percent had returned by mid-August, a 20 percent

drop from projections in May, according to a survey by the nonprofit Partnership for New York City. Only 26 percent of the employees questioned said they expected to be back behind their old desks by the end of the year, and only 54 percent by July 2021.

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Nine big drug companies made their promise official. They issued a joint pledge on Tuesday that they would market no ***coronavirus*** ***vaccine*** before its time -- meaning, before it had thoroughly been evaluated for safety and efficacy. The top executives of the nine companies likeliest to produce the first ***vaccines*** were looking to boost public confidence in whatever drugs eventually reach consumers. Plans for the pledge first became public on Friday.

The executives said that they would "stand with science" and that any potential ***vaccine*** would have gone through "large, high quality clinical trials." They also said they would follow guidance from regulatory agencies like the Food and Drug Administration.

The companies did not rule out seeking an emergency authorization of their ***vaccines***. President Trump has repeatedly claimed that a ***vaccine*** could be available before Election Day on Nov. 3. "We'll have the ***vaccine*** soon, maybe before a special date," the president said on Monday. "You know what date I'm talking about." Such comments have heightened suspicions that the White House was politicizing the race to develop a ***vaccine***, potentially undermining public trust. The president's statement was also at odds with one by Moncef Slaoui, the top scientist on Operation Warp Speed, the federal effort to bring a ***vaccine*** to market as fast as possible. He told National Public Radio last week that the chance of successful ***vaccine*** results by October was "very, very low."

The statement from the nine companies did not mention the president. It said only that they had "a united commitment to uphold the integrity of the scientific process."

Three of the companies that signed the pledge are testing their candidate ***vaccines*** in late-stage clinical trials in the United States: Pfizer, Moderna and AstraZeneca. But only Pfizer has said that it may apply to the F.D.A. for emergency approval as early as October. The other two have said they hope to have a ***vaccine*** by the end of the year.

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China proclaimed, in effect, mission accomplished. President Xi Jinping said on Tuesday that the country's success in suppressing its ***coronavirus*** outbreak was a vindication of Communist Party rule.

Declaring that the ***coronavirus*** crisis had fueled a patriotic surge, he said that "the great strategic outcomes achieved in the struggle" against the ***coronavirus*** "had fully demonstrated the clear superiority" of the party's leadership. He spoke at a ceremony for doctors, nurses and local officials who party officials said had made important contributions in fighting the virus. The Trump administration has accused Beijing of playing down the threat posed by the virus and withholding information as it spread across the world.

The ceremony, in the Great Hall of the People in Beijing, included a moment of silence for the thousands of Chinese killed by the virus. But on social media, many Chinese bemoaned the failure to mention Li Wenliang, the doctor in Wuhan who was reprimanded for posting a warning about the virus on Dec. 30, so early that the ***coronavirus*** had not yet been named. Dr. Li died from the virus on Feb. 7.

China is now focused on economic recovery, and the government has chosen an unusual set of volunteers to test a ***coronavirus*** ***vaccine***: its trade negotiators, who are more likely than most Chinese to interact with potentially infected foreigners.

Chen Deming, a former commerce minister who is still active on trade issues, told an economic policy conference on Tuesday that he had been given a ***vaccine***. Mr. Chen, who was not wearing a mask, said he had developed

antibodies that would protect against the ***coronavirus***. He explained later that he received the Sinopharm ***vaccine***, one of several now in Phase 3 trials in ***China***. He said that a third of the Commerce Ministry's staff had joined him in applying for the trial and had gotten the same injection.***Coronavirus*** Update wraps up the day's developments with information from across the virus report.

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40 China Is Using Its vaccines to Win Friends

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Body

With pledges of a ***coronavirus*** ***vaccine***, ***China*** is on a charm offensive to repair strained diplomatic ties and bolster engagement with other countries.

The Philippines will have quick access to a Chinese ***coronavirus*** ***vaccine***. Latin American and Caribbean nations will receive $1 billion in loans to buy the medicine. Bangladesh will get over 100,000 free doses from a Chinese company.

Never mind that ***China*** is still most likely months away from mass producing a ***vaccine*** that is safe for public use. The country is using the prospect of the drug's discovery in a charm offensive aimed at repairing damaged ties and bringing friends closer in regions ***China*** deems vital to its interests.

Take, for example, Indonesia, which has long been wary of Beijing. ***China***'s leader, Xi Jinping, assured the nation's president, Joko Widodo, in a call last week: "***China*** takes seriously Indonesia's concerns and needs in ***vaccine*** cooperation."

Mr. Xi hailed the two countries' cooperation on developing a ***vaccine*** as "a new bright spot" in relations, according to a statement from ***China***'s Foreign Ministry. "Together, ***China*** and Indonesia will continue to stand in solidarity against ***Covid-19***," he promised.

China's ***vaccine*** pledges, on top of earlier shipments of masks and ventilators around the world, help it project itself as a responsible player as the United States retreats from global leadership. Beijing's moves could also help it push back against accusations that the ruling Communist Party should be held responsible for its initial missteps when the ***coronavirus*** first emerged in ***China*** in December.

The ability to develop and deliver ***vaccines*** to poorer countries would also be a powerful signal of ***China***'s rise as a scientific leader in a new post-pandemic global order.

"People are very willing to take a Chinese ***vaccine***," said Ghazala Parveen, a senior official at the National Institute of Health in Pakistan, where two Chinese ***vaccine*** makers are conducting trials. "In fact, we are being asked by people to have the ***vaccine*** ready as soon as possible."

By some measures, ***China*** is leading the global race for a ***Covid-19*** ***vaccine***. It has four candidates in the last phase of clinical trials, more than any other country.

The United States has three *vaccine* candidates in late-stage trials, with Pfizer saying it could apply for emergency approval as early as October and Moderna saying it hopes to have a *vaccine* by the end of the year. AstraZeneca, a British-Swedish company that received U.S. government funding to develop its *vaccine*, paused its late-stage global trials this week because of a serious suspected adverse reaction in a participant.

China has approved at least two experimental *vaccines* under an emergency use program that started in July with soldiers and employees of state-owned companies and has quietly expanded to include health care and aviation workers. Its *vaccine* makers have built factories that can produce hundreds of thousands of doses.

Mr. Xi has declared that *China* would make domestically developed *vaccines* a global public good, though his government has provided few details.

China has long viewed contributing to global health as an opportunity to build its soft power.

"The government definitely would like to see that *China* is successful in producing a good *vaccine* and that many countries want it," said Jennifer Huang Bouey, an epidemiologist and *China* expert at the RAND Corporation. "It's beneficial for its diplomacy and changing the narrative on Covid."

But Chinese *vaccine* companies that have gone abroad to conduct clinical trials have generated controversy amid fears that local residents are being treated like guinea pigs. And with so much still unknown about the *coronavirus*, the *vaccines* could make it to the last stage of trials only to stumble.

Despite the uncertainty, Beijing has pushed its prospective *vaccines* with confidence and has used them to help smooth over frictions.

Last month, Premier Li Keqiang met with officials from Thailand, Laos, Cambodia and Vietnam to damp criticism that *China* had contributed to a devastating drought in the Southeast Asian nations. He also offered Chinese *vaccines* -- a proposal that was well received.

In a speech during the same summit, Prime Minister Hun Sen of Cambodia, a staunch supporter of *China*, singled out Beijing for praise, saying he "would like to give a high appreciation of efforts of our friend *China* in producing a *vaccine*."

In the Philippines, where *China* is competing with the United States for influence, President Rodrigo Duterte told lawmakers in July that he had "made a plea" to Mr. Xi for help with *vaccines*. He also said he would not confront *China* over its claims to the South *China* Sea.

A day later, Wang Wenbin, a spokesman for *China*'s Foreign Ministry, said *China* was willing to give the Philippines priority access to a *vaccine*.

Chinese leaders have made similar offers to countries in Africa, Latin America, the Caribbean, the Middle East and South Asia -- regions where Beijing has sought to expand its influence.

"We pledge that once the development and deployment of the *Covid-19* *vaccine* is completed in *China*, African countries will be among the first to benefit," Mr. Xi told a meeting of African leaders in June. The Chinese foreign minister, Wang Yi, promised in July that *China* would extend $1 billion in loans for *vaccines* to Latin American and Caribbean countries, according to the government of Mexico.

For all its talk of providing *vaccines* as a public good, *China* seems determined to do so only on its own terms. It has been reticent on whether it plans to join Covax, a World Health Organization-backed mechanism that aims to help countries distribute a *coronavirus* *vaccine* equitably. (The Trump administration has flat-out rejected the initiative.)

"In fact, we have already cooperated with some countries," Hua Chunying, a spokeswoman for ***China***'s Foreign Ministry, told reporters last week. "***China*** always keeps its word."

If ***China*** wins the race for a ***vaccine***, it will owe its success to some of these countries, which have played an indispensable role by providing Chinese ***vaccine*** makers with human test subjects.

Chinese drugmakers have taken their research abroad because the outbreak at home has been under control for months.

In Bangladesh, Sinovac Biotech, a ***vaccine*** maker based in Beijing, is testing its ***vaccine*** on 4,200 health care workers in Dhaka, the capital. The Chinese company has agreed to provide over 110,000 free ***vaccine*** doses to the country, according to Dr. John D. Clemens, executive director of Bangladesh's International Center for Diarrhoeal Disease Research, which is helping conduct the trials.

That is a tiny fraction of the 170 million residents of Bangladesh, one of Asia's poorest countries. And despite their participation in the Chinese clinical trials, Bangladeshis fear that the ***vaccines*** that result may be priced out of the reach of most of the country's citizens.

"If any person in the world gets deprived of their right to a ***Covid-19*** ***vaccine*** because of patent rights and profitability, this would be the biggest injustice in this century," said Md. Sayedur Rahman, a professor of pharmacology at Bangabandhu Sheikh Mujib Medical University in Dhaka.

The Foreign Ministry in Beijing has emphasized that ***China*** will not seek to establish a monopoly on ***vaccine*** supply. State news media reports have also rejected accusations that ***China*** is using ***vaccines*** as a diplomatic tool, while government-backed academics assert that the provision of ***vaccines*** is altruistic.

"There will certainly be no strings attached," said Ruan Zongze, executive vice president of the ***China*** Institute of International Studies. "Since it is going to be a global public good, adding any conditions would arouse suspicion from the other party."

But ***China*** is already drawing concern in countries on the receiving end of its overtures, as well as from regional powers that view Beijing as encroaching on their spheres of influence.

In Nepal, where ***China*** would like to conduct clinical trials on 500 workers in a cement company, politicians have raised questions about the safety of the ***vaccines*** and the lack of transparency.

"Shouldn't we be assured about its side effects?" Prakash Sharan Mahat, a former foreign minister of Nepal and a leader of the country's main opposition party, Nepali Congress, said in an interview.

India, which is wary of Beijing's intentions in South Asia, has responded to ***China***'s offers of ***vaccines*** for Bangladesh and Nepal with its own pledges to provide its allies with ***vaccines***.

Some countries may have few alternatives to ***China***.

Indonesia has started a last-stage clinical trial for Sinovac on 1,620 volunteers and has signed an agreement with the Chinese company for 50 million doses of ***Covid-19*** ***vaccine*** concentrate that would allow an Indonesian state-owned ***vaccine*** maker, PT Bio Farma, to produce doses locally.

Some political experts in Indonesia worry about the leverage that ***China*** would wield over the country, but they acknowledge that Indonesia has little choice.

"Should we be suspicious, or should we be grateful?" asked Muhammad Zulfikar Rakhmat, an academic at Universitas Islam Indonesia, who researches ***China***'s foreign policy in Indonesia.

"I think both."

Reporting was contributed by Julfikar Ali Manik, Muktita Suhartono, Bhadra Sharma and Salman Masood. Amber Wang and Claire Fu contributed research.Md. Sayedur Rahman, a professor of pharmacology at Bangabandhu Sheikh Mujib Medical University in Dhaka.

https://www.nytimes.com/2020/09/10/business/china-vaccine-diplomacy.html

Graphic

PHOTOS: Paulo Roberto Oliveira receiving a Covid-19 vaccine in Porto Alegre, Brazil, last month. It was produced by the Chinese company Sinovac Biotech. (PHOTOGRAPH BY SILVIO AVILA/AGENCE FRANCE-PRESSE -- GETTY IMAGES) (B1)

An engineer at Sinovac Biotech in Beijing working on an experimental vaccine for the coronavirus in April. (PHOTOGRAPH BY NICOLAS ASFOURI/AGENCE FRANCE-PRESSE -- GETTY IMAGES) (B4)

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41 ***Parties Delay the Start of In-Person Classes at Some U.S. High Schools***

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Highlight: A federal judge ruled that pandemic safety restrictions in Pennsylvania were unconstitutional. The damage to the world's major economies from the virus has been six times more severe than the 2009 financial crisis.

Body

A federal judge ruled that pandemic safety restrictions in Pennsylvania were unconstitutional. The damage to the world's major economies from the virus has been six times more severe than the 2009 financial crisis.

[Follow our *live* ***Covid-19*** *updates* around the globe.]

High school parties force some Northeast schools in the U.S. to delay the return to classes.

Several K-12 school districts in the U.S. Northeast have delayed the start of in-person classes in recent days after high school students attended large parties, leading to concern about increased spread of the virus.

After several weeks of*partying college students* complicating their schools' reopening plans, high school students are now creating the same disruptions, underscoring the yawning gap between policy and enforcement — and the limitations of any school to control the behavior of young people.

Lincoln-Sudbury Regional High School in Sudbury, Mass., just west of Boston, delayed opening classrooms by two weeks, to Sept. 29, after the police broke up a party involving 50 to 60 students from the school on Saturday, local officials said.

The *Board of Health said* the police had reported that the students were not wearing masks or practicing social distancing, and that many had either fled when the police arrived or given false names to officers.

Although there were no known cases of the virus among students at the party, the board said that without complete information about who had attended, "the risk to the school community cannot be adequately assessed."

In nearby Dedham, Mass., the school district also *delayed in-person instruction* after an uptick of cases in the town, which local *health officials attributed* to two recent gatherings of young people, including a party attended by high school students.

In Pelham, N.Y., high school students partying during and after the Labor Day weekend led the school district to postpone the start of in-person learning for all students and to require that high school students either be tested before coming to school or quarantine for 14 days.

The superintendent, Cheryl H. Champ, *wrote in a letter* to families that more than 100 teenagers appeared to have attended the parties and that video showed students “engaging in risky behavior, failing to practice physical distancing, and not wearing masks or face coverings.”

Also in New York, Carle Place Union Free School District on Long Island delayed bringing students back to school after end-of-summer parties led to positive cases.

“As we are learning the hard way, the actions of a few can impact the many,” the superintendent, Christine A. Finn, wrote to families.

Trump defends his indoor rally, but some aides are concerned.

President Trump and his campaign are defending his right to rally indoors after they held one on Sunday in Nevada. But some aides have privately called the move a game of political Russian roulette amid growing concern that such gatherings could prolong the pandemic.

“I’m on a stage, and it’s very far away,” Mr. Trump said in *an interview with The Las Vegas Review-Journal* on Monday, after thousands of his supporters *gathered on Sunday night* inside a manufacturing plant in a Las Vegas suburb, flouting a state directive limiting indoor gatherings to fewer than 50 people.

The president did not address health concerns about the rally attendees, a vast majority of whom did not wear masks or practice any social distancing. When it came to his own safety, he said, “I’m not at all concerned.”

The decision to hold a rally indoors, officials said, was something of a last resort for a campaign that had tried to procure five different outdoor locations. A Trump campaign official said they all faced pressure from state officials not to host the rally. The plant where the rally was ultimately held, Xtreme Manufacturing, has been fined $3,000 by the city of Henderson, Nev., the *local news media reported*.

Upcoming rallies in Wisconsin and Minnesota are planned for outdoor airport hangars, the kind of gathering the president *recently resumed scheduling* with little fanfare but which still violates state guidelines limiting gatherings to fewer than 50 people. But some states, including North Carolina, where Mr. Trump held an outdoor rally in Winston-Salem last week, have a First Amendment exemption permitting crowds to gather in the name of freedom of speech.

Tim Murtaugh, a Trump campaign spokesman, defended the decision to carry on with an indoor rally.

“No one bats an eye at people gambling in casinos or tens of thousands of people protesting shoulder to shoulder,” he said. “People should be able to gather peacefully under the First Amendment to hear from the president of the United States.”

But the decision to forge ahead created a wave of internal backlash, including from a top Trump adviser who said the campaign was taking a cavalier approach to the pandemic that could backfire politically. The adviser requested anonymity so as not to anger Mr. Trump.

More than 100 people, a majority of them not wearing masks, packed into a hotel ballroom in Arizona for an event on Monday.

For the president, the quiet return of the classic Trumpian political event has been a way to give himself a sense of control at a time when he has *little influence over events or news cycles*.

L.A. begins a testing program expected to be among the most comprehensive U.S. school-based initiatives.

A sweeping initiative to test and screen all 700,000 students and 75,000 employees in the Los Angeles public schools for the virus has started, with five cases detected last week among more than 5,400 children and adults tested, the district's superintendent said.

All were among adults who work for the district. Up to 20,000 more employees are to be tested this week, said Austin Beutner, the superintendent, whose Los Angeles Unified School District is the nation's second largest, behind New York City's.

Some 700 small children in district-provided child care were also tested, Mr. Beutner said, but none were infected.

With the exception of certain special-needs students, who recently received the go-ahead to return to classrooms for very limited instruction, classes at Los Angeles Unified have been remote.

The $150 million program, *announced last month* amid national alarm over inadequacies in testing, is expected to be among the largest and most comprehensive school-based initiatives in the nation by the time Los Angeles classrooms fully reopen, which will depend on positivity rates.

Last week's tests, conducted on Thursday and Friday, were among principals, custodians and others working in sanitized school buildings, as well as children in the district's child care program.

"The next round will be for all employees, whether or not they're at a school site, and then we'll roll into testing students," Mr. Beutner said.

The positivity rate — about 0.1 percent of tests conducted — was far lower than the *3.4 percent overall rate* in Los Angeles County, said Mr. Beutner, who said that was to be expected. Los Angeles Unified's tests are being administered regardless of symptoms, whereas the more than 11,000 tests conducted each day in the county have tended to be among people who have sought testing because of symptoms or fear of exposure.

In other education news:

- Twenty-three fraternity and sorority houses and seven other homes at Michigan State University *were ordered* to quarantine by the county health department. If they don't comply with the orders, which require that residents distance themselves and wear masks within the homes and return calls and text messages from officials "within two business hours," they could face up to six months in prison, a fine of $200 or both.
- Some low-income K-12 students had depended on *visits by dental hygienists* to school gyms and nurses' offices for their dental care, but with many schools closed, oral health care providers are concerned that children "could have a mouthful of cavities" without their parents knowing.
- With universities largely *putting the onus on students* not to spread the virus, students are using platforms like Twitter and Reddit to argue against their schools' pandemic policies. When James Madison University in Virginia hosted an outdoor movie night, a student posted a photo of the event's crowded lawn in a *Twitter thread* highlighting the school's "failure in handling this pandemic."

A federal judge strikes down virus safety measures that had been put in place by Pennsylvania's governor.

A *federal judge in Pennsylvania ruled* on Monday that several restrictions ordered by Gov. Tom Wolf to combat the pandemic in the state were unconstitutional. The decision struck down stay-at-home orders and the closure of "non-life-sustaining" businesses, directives that were issued in March and have since been suspended.

The judge also declared that a current order limiting the size of gatherings — no more than 25 people indoors and 250 outdoors — violated "the right of assembly enshrined in the First Amendment."

A spokeswoman for Mr. Wolf, a Democrat, said the administration was seeking a stay of the decision and an appeal. William Shaw Stickman IV, the judge who ruled on the case, was nominated to the bench by President Trump in 2019.

Mr. Trump, at an event in Arizona, celebrated the decision, calling it a “great ruling.”

As in other states, many Republican politicians in Pennsylvania have been steadfastly opposed to their state’s pandemic mitigation strategy, with some in Pennsylvania *urging the governor’s impeachment*. In July, the State Supreme Court *rejected a suit* filed by Republican legislators seeking to end Mr. Wolf’s emergency authority.

Some of the most vocal opponents of the governor, including Representative Mike Kelly, a Republican whose district is in western Pennsylvania, were among the plaintiffs in the suit that was decided on Monday.

“The court believes that defendants undertook their actions in a well-intentioned effort to protect Pennsylvanians from the virus,” Judge Stickman wrote. “However, good intentions toward laudable ends are not alone enough to uphold governmental action against a constitutional challenge. Indeed, the greatest threats to our system of constitutional liberties may arise when the ends are laudable, and the intent is good — especially in a time of emergency.”

In a statement, the governor’s spokeswoman said that “the actions taken by the administration were mirrored by governors across the country and saved, and continue to save, lives in the absence of federal action.”

A Chinese health official says a ***vaccine*** could be available there by November.

A senior Chinese health official said a ***coronavirus*** ***vaccine*** could be available to the public in ***China*** as early as November, the state news media reported on Tuesday.

Dr. Wu Guizhen, the chief expert for biosafety at the Chinese Center for Disease Control and Prevention, told the state broadcaster CCTV that “ordinary people” in ***China*** could be given the ***vaccine*** in November or December. “Current progress has been very smooth” for ***vaccine*** candidates in the final stage of clinical trials, she said.

China now has *five* ***vaccine*** *candidates* in late-stage clinical trials, including one being developed in collaboration with other countries, Dr. Wu said. Two production factories have been approved for manufacturing, and a third is in the approval process, she said. ***China***, the world’s largest ***vaccine*** producer, has put the prospect of a ***Covid-19*** ***vaccine*** at the center of a *diplomatic charm offensive*.

China has already approved at least two experimental ***vaccines*** under an emergency use program, which began this summer with soldiers and employees of state-owned companies and has quietly expanded to include health care and aviation workers.

Dr. Wu, who said she was still doing well after receiving one of the experimental ***vaccines*** in April, said she expected them to remain effective for one to three years.

Dr. Wu’s estimate that a ***vaccine*** could be ready in November is not far off from predictions made by President Trump. His administration has *told state officials* to be ready to start distributing one as soon as late October. That would be just before the U.S. presidential election, and the timing raised concerns that a ***vaccine*** could be rushed for political reasons. A group of drug companies racing to develop a ***vaccine*** has pledged not to release anything that *does not meet efficacy and safety standards*.

A ***vaccine*** approved by Russia in August was *met with skepticism from experts* who warned against rushing normal procedures, and Russian and Chinese ***vaccines*** have been *criticized over their designs*. Health officials have warned against thinking of a ***vaccine*** as a “silver bullet,” saying that even if one is approved before the end of the year, it will take time to produce and distribute and will not mean an immediate end to pandemic restrictions.

The French cities of Bordeaux and Marseille tighten restrictions as cases surge.

The French cities of Marseille and Bordeaux significantly tightened restrictions on public gatherings on Monday after officials pointed to a concerning surge of cases in the cities and surrounding areas.

The two cities were among several areas where the French government, *amid a nationwide rise in cases*, has identified a *worrying spread of the virus*, including among older people.

Officials in both cities imposed a new ban on gatherings of more than 10 people in public places like parks, riverbanks and beaches and canceled school outings and student parties. Visits to retirement homes will also be more restricted.

In Marseille, a city on the Mediterranean coast, officials banned the selling and consumption of alcohol after 8 p.m. And in Bordeaux, in the country's southwest region, the authorities banned bars from having standing customers or playing music on the street, and made it illegal to drink alcohol in public areas.

The limit for large outdoor gatherings in Gironde, the area that encompasses Bordeaux, had been 5,000 — the same as the limit for the rest of the country. Now public gatherings are limited to 1,000 people, and events like carnivals and antiques sales will be banned, local officials said in a news conference on Monday.

Fabienne Buccio, the prefect for the Nouvelle-Aquitaine region, which includes Bordeaux, said at the news conference that venues that usually organized "dancing parties" like weddings would no longer be allowed to do so.

"The idea is not to no longer get married, but to postpone big festivities tied to weddings," Ms. Buccio said, adding that public transportation would be bolstered during rush hours to avoid overcrowding in buses and trains.

In other developments around the world:

- The Australian state of Victoria, the center of the country's outbreak, on Tuesday reported no new ***coronavirus*** deaths for the first time in more than two months. The state's capital, Melbourne, remains in lockdown, but restrictions have been loosened in the rest of the state as cases continue to fall.
- New Zealand on Tuesday reported zero new cases of community transmission as it begins to loosen restrictions that were imposed after an outbreak last month in Auckland, its largest city.
- Hong Kong on Tuesday reported zero new cases of community transmission for the first time since a third wave of infections began in early July. Bars, nightclubs, karaoke parlors, theme parks and swimming pools will be allowed to reopen starting Friday, officials said. Carrie Lam, Hong Kong's chief executive, also praised a two-week mass testing program that ended on Monday but drew fewer participants than the government had hoped. Almost 1.8 million people, or about a quarter of the population, signed up for the testing, which uncovered 32 cases, or about two per 100,000 people tested.
- The United States relaxed its travel advisory for ***China*** and Hong Kong on Monday, warning Americans to "reconsider travel" but not outright advising against it, as the State Department had previously done because of the virus. In *its updated guidance*, the department said ***China*** and Hong Kong had resumed most business operations.
- In Jordan, schools will be closed for in-person classes, restaurants will be open only for delivery and takeout, public markets will shut down and houses of worship will suspend prayers for two weeks starting Thursday in an attempt to curb the spread of the virus, *the country's state-run news agency said* on Monday.
- Silvio Berlusconi, the former Italian prime minister, left a Milan hospital on Monday, nearly two weeks after he was admitted for pneumonia caused by ***Covid-19***. In a short speech, he warned Italians not to underestimate the gravity of the virus. Cases have been growing in Italy in recent weeks, and Mr.

Berlusconi most likely contracted the virus while vacationing on the island of Sardinia, which became a *viral hot spot* in August.

- Starting Monday, Britain has lowered the limit on the number of people allowed to meet to six from 30. The country recorded *3,330 new infections on Sunday*, the third consecutive day of new case counts surpassing 3,000, a level not seen in Britain since May.
- Antarctica, the only continent free of the ***coronavirus***, is preparing for an influx of researchers in the coming months as a change of season makes studies on the icy South Pole more feasible. The first researchers, from the United States, arrived on Monday after quarantining in New Zealand.
- A health official in Australia said on Monday that she was under police protection because of death threats amid rising opposition to her pandemic policies. Dr. Jeannette Young, the chief health officer of Queensland, had been criticized over a requirement that travelers from other parts of Australia quarantine for two weeks, especially after a woman in quarantine was not allowed to attend her father's funeral.

A Trump health aide alleges broad conspiracies and warns of armed revolt.

The top communications official at the powerful cabinet department in charge of combating the virus accused career government scientists on Sunday of "sedition" in their handling of the pandemic and warned that left-wing hit squads were preparing for armed insurrection after the election.

Michael Caputo, 58, the assistant secretary of public affairs at the Department of Health and Human Services, said without evidence that the Centers for Disease Control and Prevention was harboring a "resistance unit" determined to undermine President Trump. He also suggested that he personally could be in danger.

"You understand that they're going to have to kill me, and unfortunately, I think that's where this is going," Mr. Caputo, a Trump loyalist installed by the White House in April, told followers in a video he hosted live on his personal Facebook page.

In a statement, the department said Mr. Caputo was "a critical, integral part of the president's ***coronavirus*** response, leading on public messaging."

Mr. Caputo delivered his broadside against scientists, the news media and Democrats after a spate of news reports over the weekend that detailed his team's systematic interference in the C.D.C.'s official reports on the pandemic. Former and current C.D.C. officials described to *Politico*, *The New York Times* and other outlets how Mr. Caputo and a top aide routinely demanded the agency revise, delay and even scuttle the C.D.C.'s core public health updates, called Morbidity and Mortality Weekly Reports, which they believed undercut Mr. Trump's message that the pandemic was under control.

Those reports have traditionally been so shielded from political interference that political appointees see them only just before they are published.

Mr. Caputo on Sunday complained on Facebook that he was under siege by the news media and said that his physical health was in question and his "mental health has definitely failed."

In his Facebook video, Mr. Caputo ran through a series of conspiracy theories, culminating in a prediction that Mr. Trump will win re-election, but his Democratic opponent, Joseph R. Biden Jr., will refuse to concede.

"And when Donald Trump refuses to stand down at the inauguration, the shooting will begin," he said. He added: "If you carry guns, buy ammunition, ladies and gentlemen, because it's going to be hard to get."

Wisconsin reports a record number of new daily cases, with spikes linked to college campuses.

Wisconsin is facing its highest level of new daily cases during the pandemic, averaging more than 1,000 new cases a day in the last week, with college towns driving the troubling surge.

On Sunday, the state reported *a new daily record* of 1,582 cases and a 20 percent positivity rate. Most of the cases have been among people between the ages of 20 and 29, a health department spokeswoman said.

Wisconsin has reported *more than 1,700 cases* linked to college campuses, according to a New York Times database, with over 1,000 of those at the University of Wisconsin-Madison, the school's flagship campus. La Crosse County, home to University of Wisconsin-La Crosse, had one of the highest per capita case counts in the state over the last seven days, while some large counties like Milwaukee, Waukesha and Racine have not seen a major uptick in cases and remain below the state average.

On Sunday afternoon, the chancellor at University of Wisconsin-La Crosse *announced "shelter in place" restrictions* for all residence halls on campus. And in Madison, the faculty senate voted on Monday afternoon to *shorten spring break* to a three-day weekend.

Wisconsin was not hit as hard as some other states early on in the pandemic, but it has not made it through unscathed. Just over 1,200 people have died of the ***coronavirus***, with some of the highest daily death reports coming in late May.

In other news around the United States:

- Instead of its usual two-and-a-half-mile journey through Manhattan, the 94th Macy's Thanksgiving Day Parade will be confined to the Herald Square area and broadcast for viewers to watch, the company announced on Monday. This year's event is "basically the end portion of *our traditional march*," said Orlando Veras, a Macy's spokesman.
- South Carolina's lieutenant governor, Pamela Evette, *said Monday* that she had tested positive, but has had "only mild symptoms." She was last in close contact with Gov. Henry McMaster on Sept. 6, a spokesman said, adding that Mr. McMaster received a negative test result on Sunday.
- Treasury Secretary Steven Mnuchin said on Monday that he was prepared to negotiate with Speaker Nancy Pelosi with "no conditions" on an economic stimulus plan, as talks between the White House and Democrats on such a package remained stalled. Speaking to CNBC, Mr. Mnuchin said that while he believed a robust recovery was underway, parts of the economy, particularly small businesses, needed more help. But Ms. Pelosi accused Republicans of merely pretending to want to provide additional aid, saying a plan they brought up in the Senate last week was "relief in name only."

The virus and wildfires are colliding threats for U.S. prisoners on the West Coast.

As wildfires tore through huge areas of Oregon this week, prison inmates were *hurried away* from the encroaching flames — not to freedom but to an overcrowded state prison, where they slept shoulder to shoulder in cots, and in some cases on the floor. Food was in short supply, showers and toilets few, and fights broke out between gang members.

They were safe from one catastrophe, but delivered to another: the ***coronavirus*** pandemic, which has spread at an alarming rate in America's prisons.

"From what we know about ***Covid-19***, how quickly it can spread and how lethal it can be, we have to prepare for the worst," said Bobbin Singh, the executive director of the Oregon Justice Resource Center, a prisoner advocacy organization.

Twin crises of the pandemic and a devastating wildfire season *have taken a significant toll in prisons along the West Coast*. Virus outbreaks have spread through cellblocks — Oregon's state prison system has had 1,600 infections over the past three months — and poor ventilation systems have whipped in smoke from the fires.

Kristina Boswell, a prisoner in Oregon who was moved overnight on Friday, described a chaotic evacuation in an audio recording her lawyer shared with The Times.

She said prisoners were bound together with zip-ties and loaded into buses in the middle of the night, without their medications or water. When they arrived, she said, there was a shortage of mattresses and no chance of social distancing.

"We're all in dorm settings," said Ms. Boswell, who was among more than 1,300 female prisoners moved to Deer Ridge Correctional Facility in Madras, Ore. "Everyone is crammed in."

A clinical trial shows an arthritis drug slightly improved recovery times for severely ill patients.

An arthritis drug that suppresses the immune system may slightly improve recovery times in severely ill ***Covid-19*** patients, the drug's makers announced on Monday.

The drug, baricitinib, was tested in a large clinical trial sponsored by the National Institute of Allergy and Infectious Diseases. More than 1,000 hospitalized patients were randomly assigned to receive either the arthritis drug plus remdesivir, an antiviral shown to modestly speed recovery, or remdesivir plus a placebo.

Those taking the two-drug combination recovered on average one day sooner than those taking remdesivir alone, said Eli Lilly and Incyte, the makers of baricitinib. But the companies provided no data.

The N.I.A.I.D. confirmed that the Eli Lilly announcement is accurate but would not comment further, as government researchers analyze the trial results and prepare a paper for publication.

"Their priority is assuring scientific rigor in how the data are disclosed," said Dr. Daniel Skovronsky, the chief scientific officer of Eli Lilly. "Ours is that when we have potentially material information, we get it out to our shareholders."

Baricitinib is used in an attempt to quell the so-called *cytokine storm*, an overreaction of the immune system occurring in some severely ill ***Covid-19*** patients. In a cytokine storm, the immune system itself may cause illness and death.

Citing the drug's benefit, Eli Lilly said it would ask the Food and Drug Administration for emergency use authorization, allowing it to sell baricitinib at a 40-milligram dose before the company formally submits an application for marketing.

The news poses a problem for doctors and hospitals. While the baricitinib trial was underway, researchers in Britain reported that a cheap generic steroid, dexamethasone, can improve recovery and reduce the death rate in ***Covid-19*** patients. That drug also works to tamp down the immune system's overreaction.

The studies aren't entirely comparable, however. Doctors and patients knew who was getting the drug in the British study, but not in the American trial, and the study populations differed. The death rate among patients in Britain was also four times that of patients in the United States.

In addition, a six-milligram tablet of dexamethasone costs about $1.30 in the United States. In contrast, 20 milligrams of baricitinib — half of the dose that was used in the trial — has a list price of $87.50 per day.

The global economic hit from the virus has been six times worse than the financial crisis.

The damage to the world's major economies from ***coronavirus*** lockdowns has been six times more severe than the 2009 global financial crisis and created an "unprecedented" blow to growth in the second quarter in almost every country except ***China***, the *Organization for Economic Cooperation and Development* said Monday.

Growth in the nations represented by the Group of 20 — an organization of 19 countries and the European Union, representing 80 percent of the world's economic production — fell by a record 6.9 percent between April and June from the previous three months as governments kept people indoors and froze business activity. The drop eclipsed a 1.9 percent contraction recorded in the same period in 2009, when the financial crisis was at a peak, the organization said.

China, where lockdowns ended earlier than in the rest of the world, was the only economy to bounce back, expanding at an 11.5 percent rate.

While growth figures have been published by national governments, the organization's tally puts the magnitude of the damage into a global perspective. The biggest growth declines were in India (minus 25.2 percent) and Britain (minus 20.4 percent).

Growth in the United States shrank by more than 9 percent, and by nearly 15 percent in the euro area. By contrast, ***China***, South Korea and Russia appeared to be the least negatively affected.

The global economy will fare far worse should a second wave of infections lead governments to renew wide-scale quarantines, the organization *has warned*.

Amazon plans to go on a hiring spree as shoppers flock online.

Amazon said on Monday that it *would hire 100,000 new workers in the United States and Canada* for its warehouses and logistics network, another sign that the pandemic has resulted in a huge growth in demand for the e-commerce giant.

Amazon has been one of the biggest winners of the crisis as people turn to online shopping rather than visit traditional brick-and-mortar retailers; those businesses have been decimated. As the broader economy suffered from the economic fallout of ***Covid-19***, *Amazon reported record sales and profit* last quarter.

Dave Clark, senior vice president of worldwide operations for Amazon, said in a news release that the company was opening 100 buildings this month for sorting products, delivery and other purposes. The new jobs will pay a starting wage of $15 per hour and will include a $1,000 starting bonus in some cities.

The hiring announcement is on top of the 33,000 salaried job openings that Amazon said *last week* it had available in areas like cloud computing and warehouse management. In 2020, Amazon said, it has opened 75 new fulfillment and sorting centers, regional air hubs and delivery stations in the United States and Canada.

Amazon *previously said* that it had hired 175,000 additional people to meet the huge surge in demand related to ***Covid-19***.

Reporting was contributed by Livia Albeck-Ripka, Liz Alderman, Tim Arango, Nicholas Bogel-Burroughs, Aurelien Breeden, Maria Cramer, Abdi Latif Dahir, Shaila Dewan, Shawn Hubler, Jennifer Jett, Annie Karni, Isabel Kershner, Gina Kolata, Alex Marshall, Jennifer Medina, Bryan Pietsch, Elisabetta Povoledo, Alan Rappeport, Campbell Robertson, Amanda Rosa, Adam Satariano, Anna Schaverien, Michael Shear, Matina Stevis-Gridneff, Kurt Streeter, Kate Taylor, Katie Thomas, Sui-Lee Wee and Elaine Yu.

PHOTO: (PHOTOGRAPH BY The New York Times FOR THE NEW YORK TIMES)

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42 China, in vaccine Wager, Gives Unproven Shots to Thousands

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Byline: By Sui-Lee Wee

Body

Drug company workers, government officials and others have been injected outside the usual testing process. More will be soon, bewildering experts who worry about potential ill effects.

First, workers at state-owned companies got dosed. Then government officials and ***vaccine*** company staff. Up next: teachers, supermarket employees and people traveling to risky areas abroad.

The world still lacks a proven ***coronavirus*** ***vaccine***, but that has not stopped Chinese officials from trying to inoculate tens of thousands, if not hundreds of thousands, of people outside the traditional testing process. Three ***vaccine*** candidates are being injected into workers whom the government considers essential, along with many others, including employees of the pharmaceutical firms themselves.

Officials are laying out plans to give shots to even more people, citing emergency use, amounting to a big wager that the ***vaccines*** will eventually prove to be safe and effective.

China's rush has bewildered global experts. No other country has injected people with unproven ***vaccines*** outside the usual drug trial process to such a huge scale.

The ***vaccine*** candidates are in Phase 3 trials, or the late stages of testing, which are mostly being conducted outside ***China***. The people in those trials are closely tracked and monitored. It is not clear that ***China*** is taking those steps for everyone who is getting the shots within the country.

The unproven ***vaccines*** could have harmful side effects. Ineffective ***vaccines*** could lead to a false sense of security and encourage behavior that could lead to even more infections.

The wide use of ***vaccines*** also raises issues of consent, especially for employees of Chinese ***vaccine*** makers and state-owned companies who might feel pressure to roll up their sleeves. The companies have asked people taking the ***vaccines*** to sign a nondisclosure agreement preventing them from talking about it to the news media.

"My worry for the employees of the companies is it may be difficult for them to refuse," said Dr. Kim Mulholland, a pediatrician at the Murdoch Children's Research Institute in Melbourne, Australia, who has been involved in the oversight of many ***vaccine*** trials, including those for a ***Covid-19*** ***vaccine***.

While ***China*** is racing the United States and other countries to develop a ***vaccine***, its rivals are moving more cautiously. American companies have pledged to thoroughly vet a ***vaccine*** before wide use, despite pressure from

President Trump to go faster. In Russia, the first country to approve a ***vaccine*** even before trials were completed, the authorities have yet to administer it to a large population, according to health officials and experts.

It is not clear how many people in ***China*** have received ***coronavirus*** ***vaccines***. Sinopharm, a Chinese state-owned company with a ***vaccine*** candidate in late-stage trials, has said hundreds of thousands of people have received its shots. Sinovac, a Beijing-based company, said more than 10,000 people in Beijing had been injected with its ***vaccine***. Separately, it said nearly all its employees -- around 3,000 in total -- and their families had taken it.

Hong Kong-based Phoenix Television said this month that its Chinese journalists had been given the Sinopharm ***vaccine***.

Tao Lina, a ***vaccine*** expert in Shanghai, said part of the government's motivation was to "test" the public's willingness to take a ***vaccine***, laying the groundwork for wider acceptance.

"I think this is our country feeling us out," said Mr. Tao, a former immunologist at the Shanghai Center for Disease Control and Prevention. "That is to say, even without an epidemic, everyone should consider the possibility of a resurgence and weigh whether they want to get a shot or not."

On Friday, Zheng Zhongwei, an official with ***China***'s National Health Commission, said the government had "gained the understanding and support" of the World Health Organization after ***China***'s cabinet approved the emergency use program. A spokesperson for the W.H.O. said on Saturday that ***China*** had issued a "domestic emergency use authorization," which are issued at the discretion of countries and are not subject to W.H.O. approval.

The ***vaccine*** candidates in Phase 3 trials have been previously tested on smaller groups of people. Phase 3 involves administering a candidate and a placebo to hundreds more, to see whether they are safe to take and effective in stopping the ***coronavirus***. Roughly 100,000 people are involved in those trials, based on Chinese company disclosures. Virtually all of them are in other countries, however, because the ***coronavirus*** has been largely tamed in ***China***.

Still, the Chinese government had already approved three ***vaccines*** for emergency use on others at home. In July, it said it would prioritize medical workers, epidemic prevention personnel, border inspection officials and people who "ensure basic city operations" to receive ***vaccines***.

Now, it appears that those groups could be expanding.

This month, the government of Shaoyang, a city in Zhejiang Province, asked local officials to identify more people who could qualify as "emergency users." People in schools, kindergartens and nursing homes were recommended for inclusion, as well as travelers heading to "medium- to high-risk areas."

Other government notices have asked local officials to identify people as candidates for getting ***vaccinations***, though it was not always clear whether they would be inoculated before or after ***vaccines*** had cleared Phase 3 trials.

Tough containment efforts appear to have tamed the virus in most parts of ***China***. Still, outbreaks in Beijing and the far west in recent months have spooked the country's leaders, who worry that lockdowns could disrupt the economic recovery. Chinese public health experts are also concerned that the arrival of winter and the need to keep people indoors might usher in another outbreak.

A senior Chinese official said this month that a ***vaccine*** could be made available to the public as early as November. That same day, a spokeswoman for the United Arab Emirates' Foreign Ministry said on Twitter that the government had authorized the Sinopharm ***vaccine*** to be given to its frontline workers after successful Phase 3 trials in the Emirates.

Raina MacIntyre, who heads the biosecurity program at the Kirby Institute of the University of New South Wales in Sydney, Australia, said she would not recommend the emergency use of vaccines before the conclusion of Phase 3 trials. AstraZeneca, the British-Swedish company, halted late-stage testing in the United States on a vaccine candidate this month after one volunteer fell seriously ill for unknown reasons.

Flawed vaccines can cause significant health problems. In 2017, children who were injected with Sanofi's dengue vaccine became sicker. Children vaccinated against respiratory syncytial virus, or R.S.V., in the 1960s also suffered side effects, resulting in trials being scrapped.

Broad inoculation campaigns also increase the risk of getting multiple vaccines, which could have adverse effects on a person's immune response.

"It may be three to six months before we get Phase 3 trial results -- it's not that long to wait," Dr. MacIntyre said. "You are potentially muddying the waters for the time when we do have Phase 3 trial data for the best possible vaccine."

Still, China may not want to wait.

In an interview with China Central Television, the state broadcaster, Mr. Zheng, the health official, said that when cold weather arrived, the government might consider expanding the scope of who qualified for emergency use, adding people who work in markets, transportation and the service industry.

"The goal is to first establish an immune barrier among special populations, so that the operations of the entire cities will have a stable guarantee," Mr. Zheng said.

The vaccine makers and local governments stress that participation is voluntary, and many people who take the vaccines pay a considerable amount to do so. According to government notices, the vaccines would cost about $148, putting them out of reach for many in a country where 600 million people make that much in a month.

It is not clear whether recipients have been fully warned about the risks of taking an unapproved vaccine.

Dr. Mulholland, of the Murdoch institute, said he would give an experimental coronavirus vaccine only to health care workers, especially in places like Brazil, which has one of the world's highest case counts, and continue monitoring them. "They can be educated on the potential risks," he said.

Jerome Kim, head of the International vaccine Institute, said he would like to know whether the Chinese authorities were following up on the vaccine recipients. He worries that people might engage in risky behavior if they believe they are protected by a vaccine of unknown efficacy.

"That has all sorts of negative consequences," Dr. Kim said. "They could be infected and not know it, or they could be spreading the infection because they are relatively asymptomatic if the vaccine partially works."

That possibility seems not to have fazed many in China.

On a recent Tuesday, Chen Deming, a former commerce minister, boasted to a trade and investment forum in Beijing that he did not need to wear a mask because he had taken a vaccine in Phase 3 trials. "Everybody, please relax," he said, drawing laughter and applause from the audience.

Later, in an interview on the sidelines of the event, Mr. Chen, who turns 71 this year, said that his vaccine was developed by Sinopharm and that he had developed antibodies to protect against the coronavirus. He said a third of the Commerce Ministry's staff had joined him in applying to receive the inoculation.

"Because I go abroad sometimes, I applied to take it," Mr. Chen told a New York Times reporter. Later, he added: "Do you want a shot, too?"

Keith Bradsher contributed reporting. Amber Wang, Claire Fu and Liu Yi contributed research.

https://www.nytimes.com/2020/09/26/business/china-coronavirus-vaccine.html

Graphic

PHOTO: The drug maker Sinovac said over 10,000 people in Beijing had received its **Covid-19** trial **vaccine**. (PHOTOGRAPH BY WU HONG/EPA, VIA SHUTTERSTOCK) (A8)

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43 China's Coronavirus vaccine Drive Empowers a Troubled Industry

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Highlight: By some measures, it is winning the race, with four companies already testing their vaccine candidates on humans.

Body

By some measures, it is winning the race, with four companies already testing their vaccine candidates on humans.

China wants to beat the world in the race to find a coronavirus vaccine — and, by some measures, it is doing just that.

Desperate to protect its people and to deflect growing international criticism of how it handled the outbreak, it has slashed red tape and offered resources to drug companies. Four Chinese companies have started testing their vaccine candidates on humans, more than the United States and Britain combined.

But China's leaders have empowered a vaccine industry that has long been mired in quality problems and scandals. Just two years ago, Chinese parents erupted in fury after they discovered ineffective vaccines had been given mostly to babies.

Finding a vaccine isn't enough. China's companies must also win over the trust of the public, who might be more inclined to choose a foreign-made vaccine over a Chinese one.

"The Chinese now do not have confidence in the vaccines produced in China," said Ray Yip, the former head of the Gates Foundation in China. "That's probably going to be the biggest headache. If they didn't have all those incidents, people will probably line up by the miles to get it."

The need is urgent. More than 247,000 people have died globally, by official figures as of Monday, and the true count is probably much higher. The coronavirus remains stubbornly difficult to stamp out — even China, which officially appears to have tamed the spread, has suffered from sporadic outbreaks.

China also wants to deflect accusations that its silencing of early warnings contributed to the global pandemic. Developing a vaccine for the world would, in addition, burnish its standing as a global scientific and medical power.

So China has made its vaccine a national priority, though it hasn't disclosed spending details. One senior official said a vaccine for emergency use could be ready by September. State media has made a celebrity out of Chen Wei, the Chinese military's top virologist, who is leading one of the vaccine efforts. The public is responding.

Huang Shiyue, an 18-year-old first-year medical student in Wuhan, left her apartment on a recent early Sunday morning for the first time in three months to take a taxi to a wellness center an hour away. There, she offered up her arm in the name of science.

But in an illustration of how difficult it will be to find a safe and effective treatment, Ms. Huang grew dizzy and sick.

"If I can help and benefit people with one little move," she said, "then I think this is a very worthwhile thing."

China's ***vaccine*** drive has put Beijing's considerable strengths and glaring weaknesses on display. With its firm hand on the levers of Chinese industry, Beijing can corral companies and scientists to reach national goals.

At the same time, ***China***'s ***vaccine*** companies have been accustomed to a closed political system that has a history of covering up safety scandals and protects them from foreign competition. Few invest heavily in research and development, and they have not discovered many products with global impact.

Instead, many invest more in selling and distribution, a large chunk of which includes managing relationships with local disease control centers. Experts say that creates incentives for corruption.

China's regulators also tend to look the other way when it comes to state-owned firms, which make up about 40 percent of the ***vaccine*** industry. Many ***vaccine*** makers operate with an expectation of impunity, knowing that even if they are found to have produced faulty products, they are unlikely to be shut down.

The ***vaccine*** that Ms. Huang received is being developed by CanSino Biologics, a Tianjin-based pharmaceutical firm, and the medical science arm of the People's Liberation Army. The CanSino ***vaccine*** was the first to enter Phase 2 trials, which in the hierarchy of drug testing means it is further along than the world's other candidates, though there is no guarantee that it will be proven effective. (It has been tested so far on 508 people; a candidate from Oxford University in Phase 1 trials, or earlier-stage testing, has been administered to *twice as many people*.)

One other Chinese institution also has a candidate in Phase 2 testing — the Wuhan Institute of Biological Products, an arm of state-run Sinopharm Group. Sinovac Biotech, a private company and the Beijing Institute of Biological Products, which also belongs to Sinopharm, have potential ***vaccines*** in Phase 1 trials.

The Wuhan institute was involved in a 2018 scandal in which defective ***vaccines*** for diphtheria, tetanus, whooping cough and other conditions were injected into hundreds of thousands of babies. ***China*** imposed a $1.3 billion fine on another virus maker involved, Changchun Changsheng. The scandal led to the firing of dozens of officials and pledges of a swift industry cleanup.

The government confiscated the Wuhan institute's "illegal income," fined the company and punished nine executives.

The Wuhan institute has been sued at least twice in ***China*** by plaintiffs who have alleged that the institute's ***vaccines*** have caused "abnormal reactions," according to court documents. In both cases, the court ruled that the Wuhan institute had to partially compensate the victims a total of roughly $71,500. Its executives have been accused at least three times of bribing officials at local centers for disease and control in various provinces to thank them for purchasing their ***vaccines***. The executives were convicted but no criminal charges were pursued against the company.

Sinovac Biotech had also been involved in a bribery scandal, according to court documents. From 2002 to 2014, a court in Beijing said, the general manager of Sinovac Biotech gave ***China***'s deputy director in charge of drug evaluations nearly $50,000 to help the firm with drug approvals. Sinovac was not charged. The general manager was a man surnamed Yin, the documents showed. Chinese media reports have said that person is the current chief executive, Yin Weidong, who held the title of general manager from 2001 to 2017.

Sinovac, the Wuhan institute, and its parent, ***China*** National Biotec Group, did not respond to requests for comment.

Despite the companies' earlier stumbles, the Chinese government has given them permission to accelerate trials. Regulators in the United States and other places have done the same for other companies. The Wuhan institute, Sinovac and the Beijing institute got combined approvals to run the first two phases, a decision questioned by several Chinese scientists, who felt that safety results from the first phase should be evaluated before the second phase was begun.

Ding Sheng, the dean of the pharmacy school at Tsinghua University in Beijing, said that some companies were "adopting unconventional methods" in the preclinical research stage, running tasks like the design process and animal modeling at the same time when they should be done consecutively, according to the People's Daily, the Communist Party's official newspaper.

"I understand the people's eager anticipation of a ***vaccine***," Dr. Ding was quoted as saying. "But from a scientific point of view, no matter how anxious we are, we cannot lower our standards." He did not respond to a request for comment.

Dr. Chen's academy issued calls on the internet for phase one volunteers. Ms. Huang successfully registered for the second round on April 10. The next day, she got a call and text message: Please come tomorrow.

"Of course, I was worried at the beginning," she said. "To say you're not at all worried is impossible, right?" She surfed the internet and called her teacher, who listed pros and cons. She sought advice from her parents.

Then she went. Workers ran an antibody test, to make sure she was not already immune to the ***coronavirus***, an H.I.V. test and a pregnancy test.

The participants were divided into low- and medium-dose groups and another placebo group, as part of a "double-blind" experiment. They were not told their group.

Fifteen minutes after Ms. Huang got her shot, she started to feel dizzy. Her stomach hurt. Her heart began beating fast. She got diarrhea.

Dr. Chen and other doctors checked her. Someone offered her hot water. She took a walk in the sun. Finally, they took her in an ambulance to a subway station, where she took a taxi home.

Ms. Huang said she feels fine at home.

Shi Zibo, a junior in college, also signed up to be a volunteer and got the shot on April 12. On the fourth day, he got a slight fever but said he has no other side effects.

"I felt very proud when I received the call," Mr. Shi said. "There are not many opportunities for me in to contribute to other people in this life, so I will not regret it, regardless of the final result."

Amber Wang and Liu Yi contributed research in Beijing.

PHOTOS: Sinovac Biotech's laboratory in Beijing. The company is working on a ***coronavirus*** ***vaccine***. It was also involved in a bribery scandal. (PHOTOGRAPH BY NICOLAS ASFOURI/AGENCE FRANCE-PRESSE — GETTY IMAGES); The Wuhan Institute of Virology in ***China***'s central Hubei province. Right, a nurse administering a ***vaccination*** to an infant at a Chinese Center for Disease Control and Prevention station in southern ***China***'s Jiangxi province, in 2018. The ***vaccination*** industry in ***China*** has been troubled by scandals. (PHOTOGRAPHS BY HECTOR RETAMAL/AGENCE FRANCE-PRESSE — GETTY IMAGES; CHINATOPIX, VIA ASSOCIATED PRESS) (B9)

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44 As the West Stumbles, 'Helmsman' Xi Pushes an Ambitious Plan

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Body

China's leader emerged from a key Communist Party meeting newly emboldened, outlining a road map for the country for years to come. Some have warned of overreach.

The United States is embroiled in a bitter presidential race and a surge in ***coronavirus*** infections. Europe is locking down again. In Beijing, by contrast, Xi Jinping is exuding confidence that he and ***China*** can emerge from the pandemic stronger and unbowed.

A Communist Party conclave concluded on Thursday with a rousing statement lauding Mr. Xi as the party's helmsman, affirming his broad mandate as the leader who will steer ***China*** through perilous waters for years to come. The meeting of the Central Committee, a council of senior officials, laid out ambitions for ***China*** to mature as an economic, military and cultural power despite rising uncertainty abroad.

With Mr. Xi as "the core navigator and helmsman," an official summary from the meeting read, "we will certainly be able to conquer the range of hardships and dangers that lie on the path forward."

Mr. Xi has used the meeting to show that he remains unchallenged and resurgent nine months after the ***coronavirus*** plunged ***China*** into its worst crisis in decades. Without mentioning the missteps that marred ***China***'s initial response to the virus outbreak, the committee's 200 or so voting members praised the country's "major strategic achievement" in largely stifling the outbreak.

The party elite's show of unity behind Mr. Xi shored up his political dominance and will help him as he pushes for technological, social and economic advances to make ***China*** and its ruling party more resilient in a post-pandemic world. ***China***, the party officials said, faces "new tensions and challenges engendered by intricately complicated international conditions."

"He is trying to convince the party that only he, Xi Jinping, has the political resources, the experience and the determination to pull ***China*** through," said Willy Wo-Lap Lam, an adjunct professor at the Chinese University of Hong Kong who has long studied Chinese politics.

As other leaders and nations turn inward, consumed by crises, Mr. Xi appears keen to press the message that the party's grip on power is secure and the country can play a greater role internationally. Party propaganda has asserted that ***China***'s success in extinguishing ***Covid-19*** infections shows its overall "institutional superiority," and Beijing has promised to share a potential ***vaccine*** for the ***coronavirus***.

Even so, Mr. Xi must tackle some of the most serious economic and geopolitical challenges ***China*** has faced in many years.

The ***coronavirus*** crisis has slowed ***China***'s economic growth, increased unemployment and hurt the country's global standing. Relations with the United States have reached a new low, brought down by disputes over trade, technology and human rights. Western governments have turned against Beijing over crackdowns on protest in the semiautonomous city of Hong Kong and on Muslim minorities in ***China***'s west. Chinese military moves have rattled neighbors.

"***China*** has done a pretty good job by itself in putting together a loose, global anti-***China*** coalition," said Bilahari Kausikan, a former diplomat from Singapore who is now chairman of the Middle East Institute at the National University of Singapore. "I cannot think of any serious country -- with a big economy or even some with small economies -- that does not have some concerns about ***China*** and Chinese behavior."

With Mr. Xi's position secure, a dramatic shift in Chinese policy seems unlikely. He is expected to push for another five-year term as the Communist Party's leader, beginning in 2022, meaning his highly personalized rule could last another decade or more.

By then, he would have ruled longer than any other Chinese leader except Mao Zedong. Mao was also praised as the "great helmsman," though in referring to Mr. Xi on Thursday, the committee used different characters for the term helmsman.

"This is a big show for Xi Jinping to try to convince the senior cadres that he deserves support to remain supreme leader well beyond 10 years," Mr. Lam, the analyst, said.

Mr. Xi's vision for ***China***'s rise rests on strengthening the Communist Party's reach into society and making technological advances to expand domestic consumption, upgrade industry, clean up the environment and protect the country from security threats. These goals formed the thrust of the party's plans for the next five years, a draft of which the Central Committee endorsed on Thursday.

"The dominant tone is that ***China*** has major opportunities for growth, for managing the process of decoupling in its own favor, and for setting the terms for the next stage of globalization," said Julian B. Gewirtz, a senior fellow for ***China*** studies at the Council on Foreign Relations in New York. "This is really an extraordinary tone to hear at a moment where it is not just the United States that is continuing to struggle with the pandemic."

For Mr. Xi, the party meeting highlighted how ***China***'s success in dealing with the ***coronavirus*** revived his political fortunes after setbacks early this year. Chinese officials initially played down the threat of the virus, and as infections multiplied, Mr. Xi faced a sharp surge of public anger.

Coming less than a week before the United States votes, the Chinese party meeting offered a stark contrast to the raucous wrangling of democratic politics. The Central Committee met behind closed doors, and if there was any internal dissension, propaganda overseers ensured that it did not leak.

After the meeting ended, Chinese television news showed Mr. Xi entering the meeting hall to sustained applause. The officials listening earnestly to his speech did not wear masks, a sign of ***China***'s confidence that it has controlled the virus.

"The contrast between the current state of the United States and ***China***, especially about Covid and the economy, has got to be a huge resource for Xi in terms of domestic support," said Susan L. Shirk, the chair of the 21st Century ***China*** Center at the University of California San Diego, who was a deputy assistant secretary of state in the Clinton administration.

"We're in the campaign period for the 20th Party Congress" in 2022, she said. "There is no successor in sight, and every indication is that he'll want to stay on for a third term."

Mr. Xi's move to end the two-term limit on the presidency has held off contention over a potential successor that would otherwise have been in full swing by now, eight years into his tenure. That 2018 decision ignited criticism about the danger of concentrating power in one supreme leader, but now seems to be accepted as reality. Few insiders believe that Mr. Xi will retire in two years.

Mr. Xi, 67, has not publicly said how long he wants to stay in office. For now, though, he has made no move to nurture, or at least identify publicly, a successor. He still must build support in the elite for staying on. Mr. Xi's recent rhetoric, suffused with warnings of risks to ***China***'s rise, appeared to form part of that effort, said Joseph Fewsmith, a professor at Boston University who studies Chinese politics.

"The case for remaining on can be built around a sense of impending crisis when the experienced hand has to stay," Professor Fewsmith said by telephone.

More pointedly, faced with escalating pressure from the United States, Mr. Xi used a speech this month marking 70 years since ***China***'s entry into the Korean War to warn that "the Chinese people don't go looking for trouble, but nor do they fear it."

The Central Committee said that ***China*** would make "major strides" in modernizing its military and would strengthen the training of troops for war readiness. ***China***'s national security apparatus -- already formidable -- would also be fortified, the committee also said.

Some scholars have argued that ***China***'s pugnacious approach to foreign affairs -- which has drawn accusations that Beijing uses hostage diplomacy and economic coercion -- has intensified its geopolitical challenges. But Mr. Xi's unassailable grip on power suggests few in the leadership would risk proposing a shift in strategy.

Mr. Xi has also urged ***China*** to step up technological "self-reliance," laying out a new economic strategy that, without closing the door to foreign investors, will try to make ***China*** less vulnerable to external shocks. The Trump administration has sought to restrict Chinese companies' access to American-held technology and prevent Chinese companies from rolling out their 5G smartphone services in the United States and other Western countries.

In the coming years, ***China*** should "make major breakthroughs in crucial, core technologies," the Central Committee said, "entering the front ranks of innovative countries."

Amber Wang contributed research from Beijing.Amber Wang contributed research from Beijing.

*https://www.nytimes.com/2020/10/29/world/asia/**china**-xi-communist-party-meeting.html*

Graphic

PHOTO: President Xi Jinping, left, used a meeting of the Chinese Communist Party's Central Committee to confirm his position as the nation's unchallenged leader. (PHOTOGRAPH BY KEVIN FRAYER/GETTY IMAGES)

Classification

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Publication-Type: Newspaper

Subject: CORONAVIRUSES (90%); INFECTIOUS DISEASE (90%); POLITICAL PARTIES (90%); PUBLIC HEALTH (90%); VIRUSES (90%); ***COVID-19*** ***CORONAVIRUS*** (89%); EPIDEMICS (89%); PANDEMICS (89%); EMERGING MARKETS (79%); BUSINESS NEWS (78%); INTERNATIONAL RELATIONS & NATIONAL SECURITY (78%); TALKS & MEETINGS (78%); COMMUNICABLE DISEASE CONTROL (77%); ECONOMIC CONDITIONS (77%); ECONOMIC GROWTH (74%); SOCIETY, SOCIAL ASSISTANCE & LIFESTYLE (74%); HEADS OF GOVERNMENT ELECTIONS (72%); ***vaccineS*** (72%); COLLEGE & UNIVERSITY PROFESSORS (60%); TRADE DISPUTES (50%)

Industry: ***vaccineS*** (72%); COLLEGE & UNIVERSITY PROFESSORS (60%)

Person: XI JINPING (89%)

Geographic: BEIJING, ***CHINA*** (74%); NORTH CENTRAL ***CHINA*** (91%); ***CHINA*** (97%); UNITED STATES (92%); HONG KONG (79%)

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*45 China Quietly Extends Reach in Caribbean, Unsettling Washington

The New York Times

November 9, 2020 Monday

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Section: Section A; Column 0; Foreign Desk; Pg. 6

Length: 1512 words

Byline: By Kirk Semple

Body

The region has strategic importance as a hub for logistics, banking and commerce. It is also very close to the United States.

MEXICO CITY -- ***China*** has offered Jamaica loans and expertise to build miles of new highways. Throughout the Caribbean, it has donated security equipment to military and police forces, and built a network of Chinese cultural centers. And it has dispatched large shipments of test kits, masks and ventilators to help governments respond to the pandemic.

The initiatives are part of a quiet but assertive push by ***China*** in recent years to expand its footprint and influence in the region through government grants and loans, investments by Chinese companies, and diplomatic, cultural and security efforts.

But while governments in the region have welcomed Beijing's interest, the Trump administration has viewed ***China***'s growing presence -- and its potential to challenge Washington's influence in the region -- with concern and suspicion.

The Caribbean markets are generally small, and most of the nations there lack the sizable reserves of minerals and other raw materials that often draw Chinese attention. But the region has strategic importance as a hub for logistics, banking and commerce, analyst say, and could have great security value in a military conflict because of its proximity to the United States.

"There are a lot of reinforcing reasons that go beyond balance sheets," said R. Evan Ellis, research professor of Latin American studies at the U.S. Army War College's Strategic Studies Institute. "***China*** understands intuitively the strategic importance of that space."

China's efforts in the region are part of its global strategy to forge deep economic ties and strong diplomatic relationships around the world, in part through the building of major infrastructure projects under its ambitious Belt and Road Initiative.

A crucial motivation for ***China***'s Caribbean strategy also is winning over the remaining nations that officially recognize Taiwan instead of ***China***, most of which are in the Caribbean and Latin America, said Richard L. Bernal, a professor at the University of the West Indies in Jamaica and former Jamaican ambassador to the United States.

China considers Taiwan to be part of its territory and has long sought to reduce the number of countries that recognize it. But recently Taiwan's international stature has grown with its aggressive response to the ***coronavirus*** pandemic.

''***China***'s objective is to gradually eliminate the recognition of Taiwan,'' Mr. Bernal said.

China's growing interest has come as much-needed help for Caribbean nations that have serious infrastructure needs but whose status as middle-income countries complicates their access to financing for development.

Low-interest loans by the Chinese government totaling more than $6 billion over 15 years have financed major infrastructure projects and other initiatives throughout the Caribbean, according to the Inter-American Dialogue, a research organization based in Washington. The total climbs by $62 billion with the addition of assistance to Venezuela, much of it given in return for long-term oil supplies.

During the same period, Chinese firms have invested in ports and maritime logistics, mining and oil concerns, the sugar and timber industries, tourist resorts and technology projects. Between 2002 and 2019, trade between ***China*** and the Caribbean rose eightfold, said Mr. Ellis, the professor at the U.S. Army War College.

China's global push for business and allies has generated criticism, particularly in the United States and Western Europe, which have called the Belt and Road Initiative predatory. In 2018, Sri Lanka, unable to repay Chinese loans, surrendered its major port to ***China***.

But analysts who closely follow Chinese activity in the Caribbean say that while there is some concern about the sustainability of some of the debt assumed by regional governments, they have seen no evidence of a debt trap as in the case of the Sri Lankan port.

''The loans are not only economic business but also a way of building good will,'' said Mr. Bernal, the professor at the University of the West Indies.

Jamaica, which has emerged as an anchor of Chinese activity in the Caribbean, has received more Chinese government loans than any other Caribbean island nation, according to the Inter-American Dialogue, which closely tracks Chinese government financing in the region.

Over the past 15 years, Beijing has lent Jamaica some $2.1 billion for building roads, bridges, a convention center and housing, according to the group. Grants have financed a children's hospital, schools and an office building for the Ministry of Foreign Affairs, among other projects, according to the Planning Institute of Jamaica.

And direct investments from Chinese firms in Jamaica poured more than $3 billion into projects like bauxite mining and sugar production, Chinese business leaders said, according to local news reports.

Last November, the Jamaican government announced that it would stop negotiating new loans from ***China*** as part of its effort to reduce debt quickly, but would continue to cooperate with the Chinese on major infrastructure projects through joint venture and public-private partnerships, among other arrangements.

But Jamaican officials say outstanding Chinese loans are not putting an extraordinary burden on the country: They amount to only about 4 percent of Jamaica's total loan portfolio and are scheduled to be repaid within a decade.

China has also widened its influence in the Caribbean through security cooperation, including the donation of equipment to military and police forces, and cultural outreach programs, like the expansion of its network of Confucius Institutes. These institutes provide language instruction and cultural programming but have been accused of disseminating Chinese government propaganda.

The pandemic allowed ***China*** to strengthen these relationships further by donating or selling personal protective equipment, in what has come to be called "mask diplomacy." The Chinese foreign minister, Wang Yi, pledged in July that ***China*** would extend $1 billion in loans for ***vaccines*** to Latin American and Caribbean countries.

Even as it has increased its presence in the region, ***China*** has avoided directly challenging the United States in the Caribbean through rhetoric or military and political initiatives, Mr. Ellis said.

Still, ***China***'s rise in the Caribbean pushed the Trump administration to forcefully promote its own development programs. These include "Growth in the Americas," an investment initiative begun last year that many analysts viewed as a direct response to ***China***'s diplomatic and trade efforts in the Caribbean and Latin America.

And in October, a Trump administration delegation visited Suriname, Guyana, Jamaica, Haiti and the Dominican Republic to tout American private sector investment.

The United States has also stepped up warnings to allies in the region about the risks of doing business with Beijing, underscoring what it says are potential hazards ranging from shoddy construction to predatory loans and espionage.

In recent weeks, the American ambassador to Jamaica, Donald Tapia, has cautioned that country against installing fifth-generation mobile networks made by Huawei and ZTE, two Chinese firms, warning in a Twitter post that "Huawei has a history of spying, stealing, and supporting authoritarian regimes."

Last November, Mr. Tapia, in an interview with the Jamaica Gleaner, called ***China*** "a dragon with two heads," the newspaper reported.

During a visit to Jamaica in January, Secretary of State Mike Pompeo said it was "tempting to accept easy money from places like ***China***."

"But what good is it if it feeds corruption and undermines your rule of law?" he asked. "What good are those investments if in fact they ruin your environment and don't create jobs for your people?"

The Chinese Embassy in Kingston, in a statement responding to Mr. Pompeo's remarks, said it had deepened its involvement with Caribbean states "on the basis of mutual respect, equality and mutual benefit." And it accused the United States of picking fights.

"It seems that some U.S. politicians cannot go anywhere without attacking ***China***, tarnishing ***China***'s reputation, starting fires and fanning the flames and sowing discords," the Chinese Embassy said. "They can go on talking the talk if they so wish, but we will continue walking the walk. The world will tell plainly who is stirring up trouble and who is trying to make a difference."

The deepening competition between the two superpowers has put Caribbean nations in an awkward position, and they do not want to be forced to pick sides, said Pepe Zhang, an associate director at the Atlantic Council's Adrienne Arsht Latin America Center.

"They want to be able to work with both the United States and ***China*** in areas that make sense," he said. "And I think that's something that will be even more true now that the region is going through a very difficult economic recession."

*https://www.nytimes.com/2020/11/08/world/americas/**china**-caribbean.html*

Graphic

PHOTOS: Medical equipment from ***China*** was unloaded at Port-au-Prince, Haiti, in May to combat ***Covid-19***. Such assistance has come to be called "mask diplomacy." (PHOTOGRAPH BY PIERRE MICHEL JEAN/AGENCE FRANCE-PRESSE -- GETTY IMAGES)

Prime Minister Andrew Holness of Jamaica, right, meeting with ***China***'s premier, Li Keqiang, in Beijing last year. Jamaica is an anchor of Chinese activity. (PHOTOGRAPH BY FLORENCE LO/REUTERS)

Classification

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Subject: RESEARCH INSTITUTES (89%); US ARMY (78%); ARMIES (77%); DIPLOMATIC SERVICES (77%); GRANTS & GIFTS (77%); INTERNATIONAL RELATIONS & NATIONAL SECURITY (77%); EMBASSIES & CONSULATES (74%); POLICE FORCES (73%); CORONAVIRUSES (71%); ***COVID-19*** ***CORONAVIRUS*** (71%); INFECTIOUS DISEASE (71%); PANDEMICS (71%); COLLEGE & UNIVERSITY PROFESSORS (69%); INTEREST RATES (69%); INTERNATIONAL ECONOMIC DEVELOPMENT (68%); ETHNIC & CULTURAL STUDIES (64%); VIRUSES (64%); ASSOCIATIONS & ORGANIZATIONS (50%)

Industry: TRANSPORTATION INFRASTRUCTURE (89%); US ARMY (78%); ARMIES (77%); ROAD & BRIDGE CONSTRUCTION (77%); COLLEGE & UNIVERSITY PROFESSORS (69%); INTEREST RATES (69%); HIGHWAYS & STREETS (57%)

Geographic: BEIJING, ***CHINA*** (79%); MEXICO CITY, MEXICO (79%); NORTH CENTRAL ***CHINA*** (79%); ***CHINA*** (98%); CARIBBEAN ISLANDS (97%); UNITED STATES (96%); TAIWAN (94%); JAMAICA (93%); LATIN AMERICA (79%); MEXICO (79%)

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46 Brazil Pauses Contentious Trial of Chinese vaccine

The New York Times

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Byline: By Sui-Lee Wee and Ernesto Londoño

Body

The government offered little explanation as to why it had stopped testing a promising ***coronavirus*** shot; an institute involved in the trial said a participant's death was unrelated to the ***vaccine***.

Brazil halted a late-stage trial of a Chinese ***vaccine*** on Monday that had been considered a global front-runner in the race to develop a protective shot for the ***coronavirus*** after a "serious adverse" reaction in a participant.

The decision provoked a political firestorm on Tuesday after President Jair Bolsonaro, who has been critical of ***China*** and spoken dismissively of its ***vaccine***, CoronaVac, called the suspension a political victory.

Instituto Butantan, the Brazilian institute assisting with the CoronaVac trial, called the suspension unwarranted, arguing that it had been triggered by the death of a trial participant, but that the death was unrelated to the ***vaccine***.

A police report obtained by The New York Times says the participant's death, which occurred Oct. 29, is being investigated as a suicide. A senior government official for the State of São Paulo, which runs Instituto Butantan, said that fact led health experts at the institute to conclude that it did not raise red flags about the safety of the ***vaccine***.

São Paulo state, the largest in Brazil, is led by Gov. João Doria, a political rival of Mr. Bolsonaro who has criticized the president's cavalier handling of the pandemic.

Gustavo Mendes, the director of pharmaceuticals at Anvisa, Brazil's health regulatory agency, said in an interview on Tuesday that regulators have yet to conclude that the volunteer's death was unrelated to the ***vaccine***.

"It was a precautionary measure," he said. "Unfortunately, it's being politicized." He added: "Halting a study until there is more information is what is expected of a regulatory agency."

CoronaVac, which is being developed by the Chinese company Sinovac, is one of 11 experimental ***vaccines*** produced by some of the world's foremost pharmaceutical companies that are currently in Phase 3 trials. As the world grapples with another major wave of ***coronavirus*** infections, the race for a ***vaccine*** has intensified and been made all the more competitive by fractious geopolitics.

On the same day that Brazil suspended the Sinovac trial, the American company Pfizer announced that an early analysis of its ***coronavirus*** ***vaccine*** trials suggested that its drug was more than 90 percent effective in preventing the virus that causes ***Covid-19***.

Sinovac's drug was seen in ***China*** as a leading candidate. But in Beijing's push to get a Chinese ***vaccine*** to be the first on the global market, officials stretched the definition of "emergency use." They have permitted tens of thousands of people to receive the Sinovac ***vaccine*** and two other locally made ***vaccines***, despite having not yet concluded Phase 3 trials.

Adverse effects are not unusual in Phase 3 trials. AstraZeneca and Johnson & Johnson both paused their trials after several volunteers fell seriously ill, resuming them six weeks later, in October, after concluding that the illnesses were not related to the ***vaccines***.

In a statement issued on Tuesday, Sinovac said Instituto Butantan had deemed the "serious event" not related to the ***vaccine***. The company said it was "confident in the safety" of its ***vaccine***.

The Chinese ***vaccine*** study has inflamed a political rivalry between Mr. Bolsonaro and Mr. Doria, who is widely expected to run for president in 2022. If the ***vaccine*** is approved, it would be manufactured by the institute.

Mr. Bolsonaro had voiced skepticism about the Chinese ***vaccine*** previously, and on Tuesday he gloated about the setback in a message on Facebook.

"This is the ***vaccine*** Doria wanted everyone in São Paulo to take," the president wrote. "Yet another victory for Bolsonaro."

Last month Mr. Bolsonaro reacted angrily when he learned the health ministry intended to buy 46 million doses of the ***vaccine***.

"I ordered that it be canceled," he said. "It appears no country in the world is interested in that Chinese ***vaccine***."

Mr. Doria's party, the Brazilian Social Democracy Party, said in a statement that the race to develop a ***vaccine*** "is not a political contest and cannot be treated like one."

It accused Mr. Bolsonaro of "putting his political aspirations above anything else, showing disregard for the lives of Brazilians."

It is rare for a drug that has not been fully tested to be so widely administered, and scientists from around the world have repeatedly warned that the Chinese government was risking the health of its people before the completion of late-stage trials.

Sinovac has said previously that more than 10,000 people in Beijing have been injected with its ***vaccine***. Separately, it said that nearly all its employees -- around 3,000 in total -- and their families had taken it. ***vaccine*** experts said it was important to conclude the third and final phase of human testing before making the drug available. Phase 3 trials involve tens of thousands of people and may detect uncommon but potentially severe side effects.

The company began Phase 3 trials in Brazil and in Indonesia in August, and in Turkey in September, testing its ***vaccine*** in about 27,000 people. Sinovac said it had hoped to complete the trials by the end of the year, but the suspension of the trial in Brazil could affect the process in other countries, potentially derailing that timeline.

The Indonesian state-owned pharmaceutical company Bio Farma, which is conducting trials for Sinovac, said that it had no plans to cancel its trials, according to Iin Susanti, head of Bio Farma's business planning and strategy division.

The suspended Brazilian trial is a reminder of the formidable challenges facing Chinese ***vaccine*** companies when they go abroad. Few of the companies have experience operating overseas, much less navigating potential political minefields. All of them had to test their ***vaccines*** in places with active outbreaks because the virus had largely been stamped out in ***China***.

In Brazil, the trials have been politically fraught as supporters of Mr. Bolsonaro, who has downplayed the threat and blamed ***China*** for the pandemic, have criticized them.

Prof. Raina MacIntyre, who heads the biosecurity program at the Kirby Institute of the University of New South Wales in Sydney, Australia, said serious side effects in a ***vaccine*** trial were "extremely rare" but added, "We can expect to see this scenario happen again with different ***vaccines***. If you've got 45,000 people in a trial, it's quite likely that one person will have a serious health event in that time."

Professor MacIntyre said that the pause would allow a safety monitoring board to investigate.

vaccine experts have said that they considered data from Sinovac's early-stage trials to be promising. Results from the company's Phase 1 trials showed no adverse effects, and Phase 2 trials showed 90 percent protection against SARS-CoV-2, the virus that causes ***Covid-19***.

Seeing a company from ***China*** develop a ***vaccine*** first has been a priority for the country's leader, Xi Jinping. Mr. Xi has staked his personal reputation on the effort, which is seen as a way to erase some of the blame that several countries have placed on ***China*** for its initial missteps when the virus first emerged in the city of Wuhan last year.

Sinovac's treatment is an inactivated ***vaccine***, meaning that it is made of a ***coronavirus*** that has either been weakened or killed by chemicals.

Tao Lina, a ***vaccine*** expert in Shanghai, said he believed that the Brazilian suspension was not based on science but on politics.

"The technology of inactivated ***vaccines*** is very mature, and the possibility of this incident being related to ***vaccines*** is very slim," said Mr. Tao, a former immunologist at the Shanghai Centers for Disease Control and Prevention. He said the Chinese government was unlikely to halt the emergency-use program because "it will cause a lot of panic."

Reporting was contributed by Manuela Andreoni, Letícia Casado, Elsie Chen and Muktita Suhartono. Amber Wang contributed research.

*https://www.nytimes.com/2020/11/10/world/asia/brazil-**china**-**vaccine**-**covid19**.html*

Graphic

PHOTO: Sinovac began Phase 3 trials of its drug in Brazil in August and aimed to finish by the end of the year. The study inflamed a political rivalry between Brazil's leader and a presidential contender. (PHOTOGRAPH BY SILVIO AVILA/AGENCE FRANCE-PRESSE -- GETTY IMAGES)

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Company: PFIZER INC (58%)

Ticker: PFZ (LSE) (58%); PFE (NYSE) (58%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (58%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (58%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (58%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (58%); SIC2834 PHARMACEUTICAL PREPARATIONS (58%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (58%); PHARMACEUTICALS & BIOTECHNOLOGY (92%); ***vaccineS*** (91%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); BIOLOGICS MFG (78%); ***COVID-19 CORONAVIRUS vaccine*** (78%); DRUG SAFETY (78%); EXPERIMENTAL DRUGS (78%); PHARMACEUTICALS PRODUCT DEVELOPMENT (78%)

Person: JAIR BOLSONARO (79%)

Geographic: BEIJING, ***CHINA*** (58%); NORTH CENTRAL ***CHINA*** (79%); BRAZIL (95%); ***CHINA*** (93%); UNITED STATES (79%)

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47 *Calls Grow to Brief Biden on Security*

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Byline: By David E. Sanger and Sheryl Gay Stolberg

Body

Some Senate Republicans said the president-elect should be given intelligence briefings, and transition team members found workarounds for the president's stonewalling.

WASHINGTON -- President Trump's refusal to allow President-elect Joseph R. Biden Jr. and his transition staff access to government offices, secure communications and classified briefings prompted growing warnings on Thursday, including from Republicans, that keeping Mr. Biden in the dark potentially endangers the country.

On Capitol Hill, several Senate Republicans insisted that Mr. Biden should at least be given access to the President's Daily Brief, the compendium of the nation's most closely guarded intelligence secrets and assessments of threats like terrorist plots and cyberattack vulnerabilities. Their call amounted to an acknowledgment that Mr. Biden would be declared the victor in the election.

"I don't think they need to know everything," Senator Roy Blunt of Missouri, a member of the Senate Republican leadership, said of Mr. Biden's advisers. "I think they do need to know some things, and national security would be one of them."

"President-elect Biden should be receiving intelligence briefings right now -- that is really important," said Senator Susan Collins, Republican of Maine, a member of the Intelligence Committee and one of the few Senate Republicans to publicly acknowledge Mr. Biden's victory. "It's probably the most important part of the transition."

Giving Mr. Biden and his top aides access to the daily briefing, as Mr. Trump got right after his election four years ago, would address only a fraction of the problem. Mr. Biden will confront an array of complex dilemmas: bruised relationships with foreign allies, a weak economy and a sluggish recovery, perhaps the most high-risk period yet of the ***coronavirus*** and a need to distribute a ***vaccine*** to 330 million Americans.

The president-elect's team is concerned that it is being shut out of planning for the ***vaccine*** distribution, a huge undertaking that the incoming administration expects to inherit the moment Mr. Biden is sworn in. His advisers said they have not had access to the details of Warp Speed, the project that has ***vaccine*** distribution planning well underway, and understand little about its workings.

It is focusing on logistical challenges and policy questions, one senior Biden adviser said, like how to prioritize who gets a ***vaccine*** and how to make distribution equitable along racial and socioeconomic lines -- a priority of Mr. Biden's, but one rarely discussed by Mr. Trump.

"Every day Senate Republicans continue to indulge the president in the delusion he didn't just lose the election, they are undermining faith in our democracy, putting our national security at risk and impeding the response to the ***Covid-19*** health and economic crises," said Senator Chuck Schumer of New York, the Democratic leader.

Mr. Trump's stonewalling is already creating modest risks in the president-elect's dealings with foreign leaders: Mr. Biden made his first contacts on unsecured telephone lines, without State Department translators or briefings about what those leaders might seek from him.

Aides to Mr. Biden said that so far, the risks were manageable. Mr. Biden's decades of experience in Washington, including 17 years as the chairman or ranking member of the Senate Foreign Relations Committee, means little will take him by surprise. But given the global tumult in the past four years, as one Biden adviser put it, "The risk is that we don't know what we don't know."

Deprived of access to secure government communications by the Trump administration, Mr. Biden's team of more than 500 former officials and outside experts has embraced workarounds, talking over encrypted apps like Signal to shield their conversations from the Chinese and meeting in outdoor coffee shops with government officials they once worked alongside.

The conversations are circumspect because of rules on both sides limiting their exchanges of information, participants said. But the Biden team will be relying on deep connections and old friendships that have kept up throughout the Trump administration, often with parts of the bureaucracy that Mr. Trump has referred to as the "deep state."

It may be weeks until Mr. Biden's so-called agency review teams, made up of longtime government officials with deep roots in the bureaucracy, are let into the government departments that a Biden administration will run starting at noon Jan. 20. Some issues can wait until a formal "ascertainment" is declared, giving them access to the offices and classified material that some parts of the administration have prepared, including the Department of Homeland Security and the intelligence agencies.

Combating ***Covid-19*** may be the most urgent issue for Mr. Biden. His team hopes to carry out a national testing strategy, but it will have to start from scratch because the Trump administration does not have one. Biden advisers are seeking guidance from groups including the Rockefeller Foundation, which has drafted a national testing plan and is partnering with states and cities to expand testing efforts.

And access to the Trump ***vaccine*** distribution plan will become increasingly important as Mr. Biden's inauguration approaches so his team can take over without any hiccups, said the senior adviser, who spoke on the condition of anonymity to discuss internal transition details.

Senator Lisa Murkowski, Republican of Alaska, said she believed the Trump administration should share ***vaccine*** distribution plans with Mr. Biden, ensuring that "as the president-elect is able to come in and bring with him a transition team, that there is that flow of information that we typically see when we have transitions."

Experts in both national security and health security see the pandemic as a national security threat. They note that ***China*** and Russia are expanding their sphere of influence by promising ***vaccines*** to other countries in need.

"The Biden team is going to be responsible for that on Jan. 20," said Dr. James Lawler, an expert in global health security at the University of Nebraska, who joined with a former Navy secretary and a former Trump homeland security adviser in an opinion article on Wednesday in The Washington Post. "It's as important as what we're doing with our strategic nuclear forces and what current threat assessments are around the world."

Other matters also have a short time fuse. The last remaining arms control treaty between the United States and Russia, called New START, expires days after the inauguration. Mr. Biden has expressed a willingness to renew it, but his national security staff has had no access to the detailed discussions between the national security adviser,

Robert C. O'Brien, and his Kremlin counterpart, or to a team of State Department negotiators who have dealt with Russia on questions like future inspections and verification.

An array of newer threats persist, as well, like terrorist plots or brewing cyberattacks. The 9/11 commission concluded that the short transition caused by the Florida recount in 2000 hampered the Bush administration's ability to deal with Qaeda plots. At the time, President-elect George W. Bush discussed the dangers of abbreviated briefings in an interview with The New York Times at his ranch eight days before his first inauguration.

In many ways, what is happening now, officials said, is a reverse of four years ago -- when President Barack Obama's team was ready with detailed briefings and simulations of potential crises (including a pandemic flu), and Mr. Trump's advisers were unwilling to receive them.

Mr. Trump's incoming national security adviser, Michael T. Flynn, who was fired within a month, did sit for reviews of urgent national security threats with Susan Rice, his predecessor. But other officials refused briefings, apparently not wanting Mr. Obama's worldview to taint theirs. Secretary of State John F. Kerry never met with his successor, Rex W. Tillerson. Ernest J. Moniz, the Obama energy secretary, never gave his full brief to Rick Perry, the former Texas governor, who was coming in to oversee, among other things, the remaking of America's nuclear weapons arsenal.

Now, Mr. Biden has loaded his transition team with many of the same officials who were ready to brief the Trump appointees. But they have not gotten far.

With Mr. Trump unwilling to recognize the election result and authorize the ascertainment that allows formal transition to begin, the White House Communications Agency is forbidden to run secure lines to Mr. Biden's house in Delaware. That creates a risk that some of his conversations could be vulnerable to foreign eavesdropping. His team cannot use the government transition email system, and intelligence agencies have warned that the transition operation is a prime target for Chinese, Russian, North Korean, Iranian and other hackers.

The refusal of the General Services Administration to recognize Mr. Biden as the president-elect has also all but halted transition work inside the Pentagon and intelligence agencies.

Even as congressional Republicans avoided acknowledging Mr. Biden's victory, they began to push back at the Trump administration's refusal to grant Mr. Biden classified intelligence briefings, in their first significant sign of recognition of Mr. Biden and the need for a transition.

"I see no problem," Senator Charles E. Grassley of Iowa, the chairman of the Senate Finance Committee, said on Thursday when asked about whether Mr. Biden should receive those briefings.

Senator Lindsey Graham, Republican of South Carolina, told reporters, "Yes, I think so," when pressed as well.

Senator James Lankford, Republican of Oklahoma and a member of a key Senate oversight committee, told reporters that without an update from the General Services Administration by Friday, he planned to push for answers on the process for beginning to share information with transition officials.

"Both sides had access to the intel information through the whole campaign," Mr. Lankford said, refusing to confirm that Mr. Biden is the president-elect because of the Trump campaign's outstanding legal challenges and the need for states to formally certify results. "Both sides need to have access to the information because we don't know who the president is going to be, so allow that part of this process to still continue just for the sake of national security."

The prolonged transition will have other consequences, like delaying the start of background checks for many senior and midlevel officials, said John B. Bellinger III, a former Bush administration official.

"We felt behind from the beginning," Mr. Bellinger said.

Senior national security officials awaiting completed background checks could not start their jobs until the spring and summer of 2001, a delay that made it difficult to hold senior-level meetings and make tough policy decisions, including regarding Al Qaeda and the Taliban, Mr. Bellinger said. Citing those transition delays, the 9/11 commission made recommendations to smooth presidential transitions and expedite clearances.

Fulsome briefing memos from the outgoing administration are also important, Mr. Bellinger said, even if a new administration is planning big policy changes.

"Incoming administration officials always want to fix policies they think are broken," he said. "But it is important for them to know what the outgoing administration was already doing and why problems that may look easy to fix from the outside may not be quite so easy."

Reporting was contributed by Julian E. Barnes, Emily Cochrane, Luke Broadwater and Zolan Kanno-Youngs.

https://www.nytimes.com/2020/11/12/us/politics/biden-trump-transition.html

Graphic

PHOTOS: A line for ***coronavirus*** testing in Manhattan, where new cases have spiked. The White House has shut President-elect Joseph R. Biden Jr. out of planning for distribution of a ***vaccine***, his aides said. (PHOTOGRAPHS BY HIROKO MASUIKE/THE NEW YORK TIMES

ERIN SCHAFF/THE NEW YORK TIMES

AMR ALFIKY/THE NEW YORK TIMES) (A18)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: LEGISLATIVE BODIES (90%); POLITICAL PARTIES (90%); US PRESIDENTIAL CANDIDATES 2020 (90%); US REPUBLICAN PARTY (90%); INTERNATIONAL RELATIONS & NATIONAL SECURITY (89%); NATIONAL SECURITY (89%); VIRUSES (89%); ***vaccineS*** (86%); BIDEN'S FIRST 100 DAYS (78%); DEMOCRACIES (78%); GOVERNMENT & PUBLIC ADMINISTRATION (78%); TYPES OF GOVERNMENT (78%); US CONGRESS (78%); INTELLIGENCE SERVICES (73%); CYBERCRIME (69%); ***COVID CORONAVIRUS*** (67%); ***COVID-19 CORONAVIRUS*** (67%); INFECTIOUS DISEASE (67%); CORONAVIRUSES (62%); ECONOMIC CRISIS (62%)

Industry: ***vaccineS*** (86%); CYBERCRIME (69%); INFORMATION SECURITY VULNERABILITIES (69%)

Person: JOE BIDEN (92%); DONALD TRUMP (79%); CHARLES SCHUMER (58%); ROY BLUNT (58%); SUSAN COLLINS (58%)

Geographic: MISSOURI, USA (79%); UNITED STATES (92%)

Load-Date: November 13, 2020

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48 China's Rush To Vaccinate Poses Risks

The New York Times

November 18, 2020 Wednesday

Late Edition - Final

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Section: Section B; Column 0; Business/Financial Desk; Pg. 1

Length: 1445 words

Byline: By Sui-Lee Wee and Elsie Chen

Body

Many say they are reassured because politicians and executives have been inoculated. But experts say the risks outweigh the benefits.

Ethan Zhang needed to get back to work. Work was in Ivory Coast, however, and since January the global ***coronavirus*** outbreak had stranded the 26-year-old translator in mainland ***China***.

Then friends told Mr. Zhang of a way he could get his hands on what might be the world's most coveted prize: a ***coronavirus*** ***vaccine***. Though ***China***'s ***vaccine*** candidates have not formally been proved safe or effective, officials have been injecting them into thousands of people across the country, ostensibly under an emergency-use policy. One such campaign, his friends said, was underway in the city of Yiwu in eastern ***China***.

Mr. Zhang took a plane to Yiwu from Beijing that night. He stood in line for four hours outside a hospital. He paid $30. He got his shot.

And he expressed little worry that the substance that had been injected into his arm is still in the testing phase, an attitude that is stirring worry among global health experts.

"I feel more relieved now that I have protection," Mr. Zhang said. "Since they've started using it on some people on an emergency-use basis, it shows that there's a certain guarantee."

China has made its unproven candidates widely available to demonstrate their safety and effectiveness to a country that has long been skeptical of ***vaccines*** after a spate of quality scandals. Government officials and top pharmaceutical executives speak proudly of being inoculated.

The campaign has succeeded perhaps too well. Yiwu's 500 doses were consumed within hours. Other cities are limiting doses or asking people to show proof that they are traveling. The overwhelming demand has inspired a cottage industry of scalpers -- called "yellow cows" in ***China***, the people who usually score the newest iPhones or hot railway tickets -- charging as much as $1,500 for an appointment.

Those users could be taking big risks. People who have taken ineffective ***vaccines*** might believe they are safe and engage in risky behavior. They can be barred from taking another, better ***vaccine*** because they have already been injected. In a few cases in the past, unproven ***vaccines*** have caused health risks.

The potential problems often go undiscussed. Copies of the ***vaccination*** consent forms for one candidate that were reviewed by The New York Times did not specify that the product was still in testing.

"These kinds of risks have not been clearly revealed," said Yanzhong Huang, a senior fellow for global health at the Council on Foreign Relations and an expert on health care in ***China***.

Any reports of deaths or illness could reignite mistrust in ***vaccines***. ***China*** spent years vowing to clean up its ***vaccine*** industry after scandals.

"We risk losing confidence in people if indeed adverse effects occur," said Kristine Macartney, director of the National Center for Immunization Research and Surveillance in Sydney, Australia.

It is unclear how many people have already received a ***vaccine*** candidate. ***China*** has made three of its four candidates in late-stage human testing, called Phase 3 trials, available to tens of thousands of employees at state-owned businesses, government officials and company executives since July. Once Phase 3 trials are complete, the companies would submit results to the regulators of the countries that they want to sell their ***vaccines*** in. The authorities would review and assess them for approval.

Local governments have indicated that they plan to make the current ***vaccines*** available to more people. Beijing says it is keeping tabs on those who have been given the ***vaccines*** but has not disclosed any details.

The contrast with the United States is stark. A growing number of polls have shown that many Americans would not take a ***coronavirus*** ***vaccine***, which could imperil efforts to stamp out the pandemic. According to a global online survey published in October in the journal Nature, respondents from ***China*** gave the highest proportion of positive responses when asked if they would take a "proven, safe and effective ***vaccine***."

"In ***China***, there's this trend of 'everyone is getting it, so I want it, too,'" said Jennifer Huang Bouey, a senior policy researcher at the RAND Corporation. "Their problem is different from the U.S. They probably have to think about how not to create a riot when getting a ***vaccine***, not so much how to try to roll it out."

Chinese officials have defended making ***vaccine*** candidates available. Zheng Zhongwei, a top official at ***China***'s National Health Commission, said last month that the move was a "very necessary means of protecting peoples' lives and health," given outbreaks abroad. Last week, Sinopharm's chairman, Liu Jingzhen, announced that some 100,000 people have taken the company's ***vaccine*** and none have shown any adverse reactions so far. He said that 56,000 of them had traveled abroad after taking the ***vaccine*** and none had been infected.

China's drive has taken nationalistic overtones, with many celebrating the fact that the country has candidates in late-stage trials.

Wang Mingtao, a 43-year-old employee in a gold mine company in Ghana, posted a video on Douyin, ***China***'s version of TikTok, of people lining up to get the ***vaccine*** at the Beijing headquarters of Sinopharm, the state-owned Chinese drugmaker, with the slogan: "My country is powerful."

Mr. Wang, who traveled to Beijing from the northern city of Xian, said he was not worried about taking an experimental ***vaccine***. He paid $150 for the ***vaccine***, made by a Sinopharm subsidiary, the Beijing Institute of Biological Products.

The doses are not always being administered the way they should. On Sept. 26, Mr. Wang received two shots, one on each arm. The two doses are meant to be given 14 or 28 days apart. Mr. Wang said he was in a rush to travel and did not want to come back to Beijing.

"The country says this ***vaccine*** is OK," he said, "so I think it is better to just take it."

Mr. Liu, Sinopharm's chairman, said that "under special circumstances," the two doses could be delivered at the same time, on each arm, according to the Guangming Daily newspaper. The two shots are supposed to be

administered days apart to generate a stronger immunity response, said Clarence Tam, an assistant professor at the National University of Singapore's Saw Swee Hock School of Public Health who researches ***vaccines***.

The early releases have helped highlight one potential problem: deploying an approved ***vaccine***. Demand is so high that the government and companies could struggle with distribution both at home and in other countries that Beijing has promised the treatment to.

Wendy Zhang, a 26-year-old medical worker from the eastern city of Jinan, said she had to wait 57 days to get her second shot of a ***vaccine*** in October because the candidates had run out. She said she had felt relieved after getting it.

"There has been no adverse reaction after the ***vaccination***, indicating that the safety of the ***vaccine*** developed by ***China*** is beyond doubt," Ms. Zhang said.

Eden Huang, a 19-year-old student who recently arrived in Amsterdam, tried to sign up four times when Sinopharm said it was allowing students to register their interest in getting a ***vaccine***. He also called various hospitals across Zhejiang Province but to no avail.

"I am very anxious," Mr. Huang said. "European governments do not take Covid as seriously as our Chinese government."

Mr. Huang said he was not worried about any safety issues, citing reports that the ***vaccines*** have been tested in more than 60,000 people in trials. "This ***vaccine*** would do me more good than harm," he said.

For those out of luck, there are always the scalpers. For a fee ranging from $600 to $1,500, they can book ***vaccine*** appointments, they say.

Many were cagey about how they were able to book these appointments. A scalper called Mr. Li, who declined to give his full name for fear of punishment from the authorities, said that he cooperated with companies and that he booked the appointments with Sinovac, a private firm with a ***vaccine*** in late-stage trials, through these companies.

"Some people have been especially grateful to me for helping them," Mr. Li said, though he fretted that he could be doing something illegal.

Others were more circumspect about getting the ***vaccine***.

In Shaoxing, a city that also recently offered people access to the ***vaccines***, He Meili, a taxi driver, said her company had told her and others that it could help arrange for them to get the treatments for $120.

"I'd like to wait and see," Ms. He said. "I'm still a little worried."

Liu Yi contributed research.

*https://www.nytimes.com/2020/11/17/business/**china-coronavirus-vaccine**-safety.html*

Graphic

PHOTOS: Samples of a potential Sinopharm ***vaccine*** for ***Covid-19*** in April. ***China***'s ***vaccine*** candidates have not yet been formally proved safe or effective. (PHOTOGRAPH BY ZHANG YUWEI/XINHUA, VIA ASSOCIATED PRESS)

Left, a volunteer getting a ***coronavirus*** ***vaccine*** in a clinical trial in Wuhan, ***China***, in April. Right, Liu Jingzhen, the chairman of Sinopharm, the state-owned Chinese drugmaker, has announced that about 100,000 people have taken the company's ***vaccine*** and that none have shown adverse reactions so far. (PHOTOGRAPHS BY TPG/GETTY IMAGES

CARLOS GARCIA RAWLINS/REUTERS) (B5)

Classification

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Publication-Type: Newspaper

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Industry: ***vaccineS*** (94%); ***VACCINATION*** & IMMUNIZATION (78%); PHARMACEUTICALS & BIOTECHNOLOGY (73%); BIOLOGICS MFG (70%); TRAVEL TICKETS (68%)

Geographic: BEIJING, ***CHINA*** (58%); EAST ***CHINA*** (73%); NORTH CENTRAL ***CHINA*** (73%); ***CHINA*** (97%)

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49 ***Coronavirus Update***

The New York Times

November 18, 2020 Wednesday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 4

Length: 1042 words

Byline: By James Barron

Body

A central element of the nation's response to the ***coronavirus*** pandemic -- a fragmented, state-by-state approach -- was called into question on Tuesday by Dr. Anthony S. Fauci, the government's top infectious disease expert, even as more governors announced new rules and restrictions.

Their moves signaled increasing distress as case counts continued their unflinching climb, as did the death toll: Both Wisconsin and Indiana reported single-day records on Tuesday. The seven-day average of deaths is roughly the same as it was on May 24, when the initial outbreak in the Northeast was tapering down but before cases in the South and Southwest flared after Memorial Day. But now that trend line is increasing, and in places that were largely spared in the first wave, new cases are straining hospitals. The number of new cases on Monday was more than eight times the number on May 24.

Dr. Fauci said that the nation needed "a uniform approach" to the pandemic, "not some disjointed one state says one thing, another state says another thing" model. "When you're dealing with an infectious disease outbreak, the infectious disease -- the virus in this case -- doesn't know the difference between the border of Louisiana and Mississippi or North and South Carolina," he said. "It's a country that's involved, so we need to respond as a nation."

His comments suggested that his thinking was more in line with that of President-elect Joseph R. Biden Jr., who has promised a stronger federal approach to the pandemic. President Trump has at times targeted Dr. Fauci, the director of the National Institute of Allergy and Infectious Diseases since 1984. Last month the president referred to him as a "disaster" and said that Americans were "tired of hearing Fauci and these idiots."

But for now, the governors and mayors are left on their own. Gov. Mike DeWine of Ohio, who on Monday tweeted that "we're not talking about shutting down, we're talking about slowing down," announced on Tuesday a three-week retail curfew -- no sales from 10 p.m. to 5 a.m. The curfew, along with increased mask-wearing, could cut contact between people by as much as 25 percent, he said.

Frustration with testing may increase. Quest Diagnostics, a large commercial laboratory, said the average turnaround time for ***coronavirus*** tests had edged up to more than two days. It said that from late August until last week, it had been processing tests in two days, with "priority patients" getting their results in as little as one day. Quest said it was now handling 50 percent more tests than during the last week of September.

XXX

There is desperation for a ***vaccine*** -- any ***vaccine***. In ***China***, people are scrambling for shots of unproven ***vaccine*** candidates. Some people travel to Beijing from outlying cities because those areas have relatively small quantities of ***vaccines*** to distribute. In the United States, Pfizer said it would work with four states to refine plans for delivering and administering its ***vaccine***. The company said the four states -- New Mexico, Rhode Island, Tennessee and Texas -- represented areas of different sizes and capacities for delivering ***vaccines*** against other viruses. But the manufacturing process can be complicated. Pfizer and Moderna, the other company with a promising late-stage candidate, have said they expect to have enough doses for only 22.5 million Americans by January.

The effectiveness of a ***vaccine*** will not matter, Dr. Fauci said, unless there is widespread inoculation. He said he hoped that 75 to 85 percent of Americans would get a ***vaccine***. That would bring the level of infection "so low that it's no longer a threat," he said.

But anti-***vaccine*** resistance remains strong in many places, although a Gallup poll released on Tuesday found that 58 percent of the people surveyed would be willing to get a ***coronavirus*** ***vaccine***, up from 50 percent in September. (The poll, conducted before Pfizer and Moderna announced early data about their ***vaccines***, included 2,985 adults.) To increase public trust, Senator Rob Portman, Republican of Ohio, said he would participate in the Phase 3 trial for a ***vaccine*** being developed by Johnson & Johnson.

XXX

A 76-year-old man in La Jolla, Calif., says he will get a ***coronavirus*** ***vaccine*** but not the way he got a polio ***vaccine*** when he was 9 -- lined up in the kitchen next to his two siblings. Their father had sterilized the needles and syringes by boiling them on the stove.

The father was Dr. Jonas Salk, who had developed the ***vaccine***. It all but eradicated polio, ending the widespread panic that had accompanied annual outbreaks in the late 1940s and early 1950s, when polio disabled more than 35,000 people a year.

The son, Dr. Peter L. Salk, said that the experimental shot in 1953 was an ordeal. "None of us enjoyed needles," he said in a telephone interview, referring to himself and his two brothers. "I can still see the sunlight coming in the window, and what fixed the experience in my mind was I just didn't feel the shot. The needle must have gone in exactly in the right place and missed the nerve."

At the time, the ***vaccine*** had gone through trials with small numbers of children. A trial with 1.8 million children did not begin until the next year, and the ***vaccine*** did not receive approval as safe and effective until a year after that -- a timetable that he said made the development of ***coronavirus*** ***vaccine*** candidates in just months "absolutely extraordinary." He said he had been concerned about pressure from the Trump administration to have a ***vaccine*** ready by Election Day. But he also said the administration's decision to back the development of potential ***vaccines*** through Operation Warp Speed, the federal effort to accelerate ***vaccine*** development, "was quite positive."

He has rigorously avoided going out since mid-March, ordering food and sundries online. Dr. Salk said he would get a ***coronavirus*** ***vaccine***, but he would not be first in line. Once he is vaccinated, he said, "I don't think I'm going to throw off my mask and go out into the world" immediately. "It's going to take some time, no matter what, to feel I can let down my guard."***Coronavirus*** Update wraps up the day's developments with information from across the virus report.

https://www.nytimes.com/2020/11/17/nyregion/17virus-print.html

Classification

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Company: QUEST DIAGNOSTICS INC (51%)

Ticker: DGX (NYSE) (51%)

Industry: NAICS621511 MEDICAL LABORATORIES (51%); NAICS511210 SOFTWARE PUBLISHERS (51%); SIC8731 COMMERCIAL PHYSICAL & BIOLOGICAL RESEARCH (51%); SIC8071 MEDICAL LABORATORIES (51%); SIC7372 PREPACKAGED SOFTWARE (51%); MEDICAL & DIAGNOSTIC LABORATORIES (92%); COMPUTER SOFTWARE (90%); SOFTWARE MAKERS (90%); HOSPITALS (78%); HEALTH DEPARTMENTS (73%); RETAIL & WHOLESALE TRADE (73%)

Person: ANTHONY FAUCI (79%); MIKE DEWINE (78%); JOE BIDEN (77%); DONALD TRUMP (50%)

Geographic: LOUISIANA, USA (79%); MISSISSIPPI, USA (79%); NORTH CAROLINA, USA (79%); OHIO, USA (79%); SOUTH CAROLINA, USA (79%); UNITED STATES (79%)

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50 ***China and U.S. Can Have Cooperative Competition***

The New York Times

November 25, 2020 Wednesday

Late Edition - Final

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Section: Section A; Column 0; Editorial Desk; Pg. 23

Length: 1454 words

Byline: By Fu Ying

Body

A former vice foreign minister of ***China*** proposes a way forward for the world's two leading powers.

Acting editorial page editor Kathleen Kingsbury wrote about the decision to publish this Op-Ed in Tuesday's edition of the Opinion Today newsletter.

BEIJING -- The domestic politics of major countries are never kept within their borders -- and the future policy orientation of the United States has become a hot topic for many people in ***China***.

There is no denying the fact that ***China***-U.S. relations have suffered serious damage over the past four years. Each country has expressed much complaint and concern about the other.

The United States believes that ***China*** craves world hegemony. ***China*** sees the United States as trying to block ***China***'s way forward and as hindering its people's pursuit of a better life.

It seems that both sides are convinced it is always the other party that is in the wrong; any initiative one of them undertakes is invariably seen by the other as an attempt to undermine it.

For example, ***China*** has proposed the Belt and Road Initiative as a global public good to promote more growth and greater connectivity, but America interprets the project as a strategy for geopolitical dominance.

As relations grew more tense in recent years, Washington started bullying Chinese high-tech companies and making things difficult for Chinese students. I have met many young Chinese entrepreneurs who studied in America and who today are puzzled to be treated like a security threat to the United States, after many years of a productive partnership between our two countries. The politicization of even people-to-people exchanges has left many wondering if what had long been mutually beneficial ties can be reinvigorated.

To refresh the relationship, each side must accurately assess the other's intentions. ***China*** does not want to replace U.S. dominance in the world. Nor does ***China*** need to worry about the United States changing ***China***'s system.

And it would be a tragedy of history if two countries of such power moved toward confrontation based on misperceptions. That would only work against their own fundamental interests, and many businesses and people would pay the price.

Both governments have heavy domestic agendas to attend to, and so even if competition between ***China*** and the United States is unavoidable, it needs to be managed well, cooperatively. It is possible for the two countries to develop a relationship of "coopetition" (cooperation + competition) by addressing each other's concerns.

In the fields of economics and technology, rules and laws must prevail. It is important that Beijing listen to and address the legitimate concerns of American companies in ***China***, such as their calls for better intellectual property protection, cybersecurity and privacy. ***China*** is making strong efforts in all these areas by improving its laws and their enforcement. The Standing Committee of the National People's Congress recently adopted amendments to ***China***'s copyright law, raising the cost of violations, among other things.

Washington, for its part, should ensure a level playing field for Chinese enterprises to operate in the United States. America's fear of Huawei's cutting-edge advantages should not be expressed through government bullying: This not only hurts the company, it also limits many people's access to technological progress. The U.S. government should instead be encouraging its companies to work and compete with Huawei.

Its attempt to block the popular social media platform TikTok on national security grounds also seems unfair since the United States has not publicly proved its allegations of security violations and the company has vowed to abide by all U.S. laws and regulations.

Washington's so-called national security argument against Chinese companies seems hypocritical to the Chinese, considering that ***China***, over the course of four decades or more of reform and opening up, welcomed all kinds of Western technologies and American companies into ***China*** -- all the while maintaining its own national security.

And yet if the two sides engage in equal and candid negotiations, they should be able to build a solid basis for long-term relations that are beneficial to both.

On the political front, it is high time that the United States drop its habit of interfering in other countries' internal affairs. One hopes that Washington will learn from its unsuccessful interventions the world over, for example in Afghanistan, Iraq and Libya. America's concerns that foreign forces might interfere with its presidential elections should serve as a good reminder of why other countries are so sensitive about U.S. intervention in their own domestic affairs.

China finds it offensive when the United States points a finger at the Chinese system or takes action against Beijing for its policies on domestic matters. But ***China*** also needs to be more proactive in providing the rest of the world firsthand information about what the country stands for and why it is doing what it is doing.

A calmer atmosphere can be cultivated when ***China*** and the United States respect each other and acknowledge that the other has a different political system that is working in its own way.

In the security field, both countries shoulder responsibilities for ensuring that the peace and tranquillity that the Asia-Pacific region has enjoyed over the years continues to last. The United States should be respectful of ***China***'s sense of national unity and avoid challenging ***China*** on the issue of Taiwan or by meddling in the territorial disputes of the South ***China*** Sea.

Admittedly, ***China***'s growing navy has put some pressure on the United States in the western Pacific. The U.S. Navy, which has long claimed to be the dominant force in the region, finds the presence of a strong local military power today to be unsettling; its activities close to territories over which ***China*** claims sovereignty are met with growing objections from the Chinese military.

The United States' insensitivity toward ***China***'s concerns over Taiwan and territorial disputes in the South ***China*** Sea can only make Beijing suspect Washington's motivations: Does America want to help Taiwan go independent? Is it siding with the other claimants in the region in order to humiliate ***China*** as the imperialists did in the past?

To avoid any misunderstandings and unexpected conflicts, the two militaries should talk at the strategic level in order to build mechanisms to effectively manage potential crises and find other ways to coexist peacefully.

This is not impossible. In the late 1990s, ***China*** and the United States established a consultation regime about maritime security. Later, they set up both guidelines for handling unplanned encounters at sea and in the air and a hotline to defuse any possible crises. In recent years, they established formal mechanisms to notify each other of major military activities.

Now they need to have candid talks to better understand each other's intentions and cultivate trust.

Finally, a host of global issues call for close cooperation between ***China*** and the United States -- the most urgent being the fight against the ***coronavirus*** pandemic.

Scientists from both countries have a solid track record of professional cooperation in responding to past health crises, and they should be encouraged to maximize again the potential for exchange and joint research. Both ***China*** and America are resourceful in ***vaccine*** development. If they cooperate to make ***vaccines*** more affordable and accessible, the whole world will benefit.

Climate change is another area that needs urgent attention. The world expects ***China*** and the United States to play a leading role, and the two countries have a lot to work on together. Other global topics -- such as economic stability, digital security and artificial intelligence governance, to mention but a few -- all cry out for united efforts as well.

To tackle these challenges, ***China*** and the United States should join hands and cooperate with all other concerned parties. Only then can multilateralism continue to bring hope for the betterment of humankind.

Fu Ying, a former ambassador and vice foreign minister of ***China***, is the director of the Center for International Security and Strategy and an adjunct professor at Tsinghua University. She is a vice chairwoman of the Foreign Affairs Committee of the 13th National People's Congress.

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*https://www.nytimes.com/2020/11/24/opinion/**china**-us-biden.html*

Graphic

PHOTO: (PHOTOGRAPH BY Ng Han Guan/Associated Press FOR THE NEW YORK TIMES)

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Industry: INFORMATION TECHNOLOGY INDUSTRY (78%); INFORMATION SECURITY & PRIVACY (64%)

Geographic: BEIJING, ***CHINA*** (73%); NORTH CENTRAL ***CHINA*** (92%); ***CHINA*** (99%); UNITED STATES (96%)

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51 *Britain Gives Approval To vaccine From Pfizer In a First for the West*

The New York Times

December 3, 2020 Thursday

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Length: 1723 words

Byline: By Benjamin Mueller

Body

The emergency approval, ahead of the United States and the European Union, clears the way for Britain to begin mass inoculations. "Help is on its way," one official said.

LONDON -- Britain gave emergency authorization on Wednesday to Pfizer's ***coronavirus*** ***vaccine***, leaping ahead of the United States to become the first Western country to allow mass inoculations against a disease that has killed more than 1.4 million people worldwide.

The decision cleared the way for a ***vaccination*** campaign with little precedent in modern medicine, encompassing not only ultracold dry ice but also a crusade against anti-***vaccine*** misinformation.

Britain's beating the United States to authorization -- on a ***vaccine*** codeveloped by an American company, no less -- intensified pressure on U.S. regulators, who are under fire from the White House for not moving faster to get doses to people. But it also fueled concerns that Britain was acting in haste for political reasons or trying to muscle its way to the front of the line for deliveries.

European regulators on Wednesday cast doubt on the rigor of Britain's review and said that the authorization was limited to specific batches of the ***vaccine***, a claim that Pfizer denied and British officials did not address.

Britain's move provoked a spirited debate among American scientists about whether U.S. regulators, who are known to be unusually meticulous, could afford to hold off any longer on authorizing a ***vaccine*** against a virus that is claiming more than 10,000 lives a day worldwide.

American regulators have argued that they lag behind -- if only by a matter of days -- because they are virtually alone in reanalyzing thousands of pages of raw data from ***vaccine*** trials before approval. Backers of that approach say it is the only way to minimize unintended damage, in lives and in public trust, from ***vaccines*** not working.

British and European regulators lean more heavily on the companies' own analyses, auditing their figures occasionally but otherwise grounding their decisions on ***vaccine*** makers' reports. While the more cautious American approach can be valuable, some scientists said the Europeans subject ***vaccine*** makers to considerable scrutiny, and it is imperative to move quickly to curb the suffering wrought by the pandemic.

"When you say it's OK to wait another week or two, you're saying it's OK that many thousands of people are going to die," said Dr. Walid F. Gellad, who leads the Center for Pharmaceutical Policy and Prescribing at the University of Pittsburgh.

No country until Wednesday had authorized a fully tested ***coronavirus*** ***vaccine***; Russia and ***China*** approved ***vaccines*** without waiting for large-scale efficacy tests.

The British government, battered by its handling of the pandemic, exulted in the authorization.

"Help is on its way with this ***vaccine*** -- and we can now say that with certainty, rather than with all the caveats," the British health secretary, Matt Hancock, said Wednesday.

While the go-ahead bodes well for Britain, which broke from the European Union's regulatory orbit to approve the ***vaccine*** early, it will have no effect on the distribution of the hundreds of millions of doses that the United States and other wealthy countries have procured in prepaid contracts.

It also offers little relief to poorer countries that could not afford to buy supplies in advance and may struggle to pay for both the ***vaccines*** and the exceptional demands of distributing them.

Roughly 800,000 doses of the Pfizer ***vaccine***, developed with BioNTech, a smaller German firm, were being packaged at the company's Belgian manufacturing plant on Wednesday for shipment to Britain. How and when they will arrive is a secret for security reasons, the company said.

The complicated logistics of moving, defrosting and preparing the ***vaccine*** meant it was going to be given only at 50 British hospitals to begin with. The ***vaccine*** must be transported at South Pole-like temperatures, and in trays of 975 doses.

First to be vaccinated will be doctors and nurses in the country's National Health Service, along with nursing home workers and people 80 and over with previously scheduled doctors' appointments. A government advisory committee has suggested that older or more vulnerable health workers, and doctors and nurses who work with fragile patients, would be among the first in line.

But the government has not said when other employees of the National Health Service would be eligible for ***vaccines***. Essential workers, like teachers, transport workers and first responders, would not be vaccinated until after people 50 and over and those with underlying health problems received shots.

The advisory committee plans had made nursing home residents a top priority, but they will have to wait until the government begins distributing ***vaccines*** beyond hospitals. Pfizer and BioNTech have suggested that is possible, given that the ***vaccine*** can be stored for five days in a normal refrigerator.

Eventually, people will get their shots in mass ***vaccination*** centers being set up by the military at soccer stadiums and racecourses, or at doctors' offices and pharmacies.

"We've been waiting and hoping for the day when the searchlights of science would pick out our invisible enemy, and give us the power to stop that enemy from making us ill," Prime Mister Boris Johnson said on Wednesday. "And now the scientists have done it."

For Britain, which has suffered one of Europe's highest per capita death tolls from the virus, the decision by its drug regulator was the latest evidence of a ***vaccination*** strategy that has been the most aggressive in the West.

Britain remains under the authority of the European Union's drug regulator until it consummates its split from the bloc on Dec. 31. But the government recently strengthened an old law that allows it to step out from under the bloc's regulatory umbrella in public health emergencies. That allowed it to fast-track a review of the Pfizer ***vaccine***, which was 95 percent effective in a late-stage clinical trial.

Britain had pre-ordered 40 million doses of the ***vaccine*** and 315 million doses of competing ***vaccines***, spreading its bets to assure it can inoculate the country's 67 million people.

British ministers cast the speed of the Pfizer approval as an early example of the new flexibility the country will have once it fully untethers itself from European regulation. Yet Brexit has also exacted costs, starving Britain's drug regulator of money it used to draw from contracts with the European Union.

British regulators are also vetting a ***vaccine*** developed by the University of Oxford and AstraZeneca, a British-Swedish company. It is cheaper and easier to store than Pfizer's, so much of the world could rely on it, but its regulatory path forward in the United States is unclear after scientists and industry analysts questioned promising early results.

The chemistry underlying Pfizer's ***vaccine*** had never before produced an approved shot, but scientists have experimented with it for years, testing ***vaccines*** that did not make it to market. In order to coax cells to make a viral protein, called a spike, and elicit an immune response, this class of ***vaccine*** delivers genetic instructions, known as messenger RNA, encased in tiny fat globules.

BioNTech made a prophetic bet on the technology and joined forces with Pfizer, one of the world's largest drug companies; they ended up delivering stunning results, on a timeline that was unheard-of before this year.

The U.S. Food and Drug Administration plans to decide on emergency authorization for the Pfizer ***vaccine*** shortly after a meeting of an advisory panel on Dec. 10. American officials have said ***vaccinations*** could begin within 24 hours after approval.

Another American company, Moderna, and the National Institutes of Health have also developed a messenger RNA ***vaccine*** that has proved effective in large trials. The F.D.A. will consider their application for emergency authorization shortly after Pfizer's.

The European Medicines Agency, which regulates ***vaccines*** across the European Union, is expected to make a decision about the Pfizer ***vaccine*** later in December.

Pfizer has said it expects to be able to produce up to 50 million doses this year, about half of them going to the United States. Since each person needs two doses, a month apart, up to 25 million people worldwide could begin ***vaccination*** before 2021.

The United States has bought 100 million doses in advance from Pfizer, and the European Union 200 million doses.

The approval arrived at a perilous moment in the pandemic in Britain, where the virus has killed nearly 70,000 people, and hundreds more die each day. A third of England's hospital systems were caring for more ***Covid-19*** patients in recent weeks than at the height of the first wave in the spring.

A monthlong shutdown of restaurants and pubs has stanched the spread of the virus, but that is being replaced by a less stringent system of localized restrictions, with allowances for Christmastime travel that scientists fear will seed another uptick in infections.

In a clinical trial, the Pfizer-BioNTech ***vaccine*** proved highly effective among older adults, who are more vulnerable to developing severe ***Covid-19*** and who do not respond strongly to some types of ***vaccines***. It caused no serious side effects.

As ***vaccines*** become widely available, the scientific feat of developing them will give way to the social and political problem of convincing people to take them. In Britain, the source of some of the most virulent modern disinformation about ***vaccines***, just over half of people have said in surveys they would definitely accept an inoculation.

Safety concerns have been accentuated by the speed of ***vaccine*** testing and approval, despite Britain's regulators saying repeatedly they were not taking shortcuts.

Beyond those challenges, manufacturers will quickly need to eventually make billions of doses and move them to hospitals, clinics and pharmacies.

The Pfizer ***vaccine*** makes this effort especially complex. It has to be stored at around minus 70 degrees Celsius (minus 94 Fahrenheit) until shortly before injection, requiring transportation in boxes stuffed with dry ice.

Matina Stevis-Gridneff contributed reporting from Brussels, Katie Thomas from Chicago and Rebecca Robbins from Bellingham, Wash.

*https://www.nytimes.com/2020/12/02/world/europe/pfizer-**coronavirus**-**vaccine**-approved-uk.html*

Graphic

PHOTO: A restaurant in Manchester, England, this week. A monthlong shutdown of restaurants and pubs has helped slow the pandemic's second wave in Britain. (PHOTOGRAPH BY MARY TURNER FOR THE NEW YORK TIMES) (A6)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: ***vaccineS*** (94%); APPROVALS (90%); DRUG & MEDICAL DEVICES APPROVAL (90%); EUROPEAN UNION (90%); HERBAL MEDICINE (90%); ***VACCINATION*** & IMMUNIZATION (90%); CORONAVIRUSES (89%); EPIDEMICS (89%); INFECTIOUS DISEASE (89%); PUBLIC HEALTH (89%); VIRUSES (89%); PUBLIC POLICY (78%); ANTI-***vaccine*** MOVEMENT (73%)

Company: PFIZER INC (92%)

Organization: EUROPEAN UNION (84%)

Ticker: PFZ (LSE) (92%); PFE (NYSE) (92%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (92%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (92%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (92%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (92%); SIC2834 PHARMACEUTICAL PREPARATIONS (92%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (92%); ***vaccineS*** (94%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); CHEMICALS (90%); CHEMICALS MFG (90%); DRUG & MEDICAL DEVICES APPROVAL (90%); HERBAL MEDICINE (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); ***VACCINATION*** & IMMUNIZATION (90%); BIOLOGICS MFG (89%); MANUFACTURING (89%); PHARMACEUTICALS & BIOTECHNOLOGY REGULATION & POLICY (76%); ANTI-***vaccine*** MOVEMENT (73%)

Geographic: LONDON, ENGLAND (78%); UNITED STATES (96%); UNITED KINGDOM (94%); EUROPE (92%); ***CHINA*** (79%); EUROPEAN UNION MEMBER STATES (79%); RUSSIAN FEDERATION (69%)

Load-Date: December 3, 2020

End of Document

52 China on Pace To Beat U.S. In Providing vaccine Help

The New York Times

December 3, 2020 Thursday

The New York Times on the Web

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Section: Section ; Column 0; National Desk

Length: 648 words

Byline: By Carol Rosenberg

Body

China, which has been expanding its presence in the region, is likely to beat the United States in its own backyard with **vaccine** diplomacy as Washington looks "at taking care of the U.S. first."

This article was produced in partnership with the Pulitzer Center on Crisis Reporting.

WASHINGTON -- **China**, already competing for influence in this hemisphere through a multibillion-dollar network of investment and infrastructure deals, is likely to beat the United States in its own backyard with **vaccine** diplomacy, according to the military's top commander for Central and South America.

Adm. Craig S. Faller, who leads the military's Southern Command, acknowledged on Wednesday that **China** is actively making "deals to try to get the **vaccine** deployed and employed" around the globe to stop the **coronavirus**, as the United States, through the governmentwide Operation Warp Speed program, is "looking at taking care of the U.S. first."

While neither country has an approved **vaccine**, **China** has begun inoculating citizens under what appears to be an emergency use strategy. Its Sinovac Biotech developer has collaborated with Brazil on late-stage trials. Another Chinese developer, CanSino Biologics, has a clinical trial underway in Mexico and signed an advance purchase agreement with the government there to supply 35 million doses of a single-dose immunization.

"Look, we're in a global pandemic and I've taken the approach here that any help is legitimate help is welcome help," Admiral Faller said in a video meeting with members of the Defense Writers Group. "So I don't make any judgment on that. If the **vaccine** works, folks need to do what they need to do as a nation."

A major focus of the Southern Command is providing humanitarian assistance, including health care, and foreign disaster relief in the region to strengthen relations and stave off a destabilizing migrant crisis. During this year's hurricane season, which just ended, U.S. forces took part in rescue operations and provided relief supplies in Central America while American military medics tested troops for the **coronavirus** as they deployed and returned.

From his headquarters in Doral, Fla., Admiral Faller monitors the activities of "external state actors" in the region and seeks to counter their influence in what he calls a global "great power competition" that is "alive and well in the hemisphere."

Of particular concern, he said, is ***China***'s port deals around the Panama Canal, "a significant global choke point" in the event of "a major global conflict," as well as Beijing's efforts to seek deepwater port deals in such places as Mexico and the Bahamas.

China has been steadily expanding its presence in the region with loans across Latin America, Chinese-government-subsidized projects that include a space mission control station in Patagonia and, recently, shipments of medical supplies to help cope with the pandemic.

It has become a major trading partner in the region through its Belt and Road Initiative -- but the admiral also asserted on Wednesday that ***China*** had been trying to "undermine local elections, pay off mayors" and offer deals that undercut private U.S. industry through unfair competition.

The Southern Command has detected one upside of the pandemic, in the area of narcotics trafficking. The Pentagon has for years participated with the U.S. Coast Guard and other ally nations in efforts to interdict the drug trade.

"There's less drugs moving," Admiral Faller said. "We have seen an impact of Covid to the amount of narcotics flow and activity as borders shut down and precursor chemicals became more difficult."

At the same time, he said, the U.S. military and partner nations "stepped up" cooperation in efforts to interdict drugs moving toward the United States.This article was produced in partnership with the Pulitzer Center on Crisis Reporting.

*https://www.nytimes.com/2020/12/02/us/politics/**coronavirus**-southern-command-**china**-latin-america.html*

Graphic

PHOTO: Nurses checked passengers' temperatures on a bus heading to Venezuela from Bogotá, Colombia, in May. (PHOTOGRAPH BY Federico Rios for The New York Times FOR THE NEW YORK TIMES)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: ***vaccineS*** (91%); DISASTER RELIEF (85%); AGREEMENTS (78%); EPIDEMICS (78%); INFECTIOUS DISEASE (78%); ***VACCINATION*** & IMMUNIZATION (78%); VIRUSES (78%); SAFETY, ACCIDENTS & DISASTERS (77%); ARMED FORCES (75%); CORONAVIRUSES (73%); PANDEMICS (73%); MIGRATION ISSUES (72%); TALKS & MEETINGS (72%); WRITERS (72%); NATURAL DISASTERS (71%); MILITARY MEDICAL PERSONNEL (70%); RELIEF ORGANIZATIONS (67%)

Company: SINOVAC BIOTECH LTD (55%)

Ticker: SVA (NASDAQ) (55%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (55%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (55%); ***vaccineS*** (91%); MANUFACTURING (90%); PHARMACEUTICALS & BIOTECHNOLOGY (90%); BIOPHARMACEUTICALS (78%); ***VACCINATION*** & IMMUNIZATION (78%); ARMED FORCES (75%); WRITERS (72%); MILITARY MEDICAL PERSONNEL (70%); HARBORS & PORTS (60%)

Geographic: BEIJING, ***CHINA*** (79%); FLORIDA, USA (79%); NORTH CENTRAL ***CHINA*** (79%); UNITED STATES (97%); ***CHINA*** (94%); MEXICO (92%); BAHAMAS (79%); BRAZIL (79%); LATIN AMERICA (79%); PANAMA (79%); SOUTH AMERICA (79%); CENTRAL AMERICA (72%)

Load-Date: December 3, 2020

End of Document

53 *Cyberattacks Are Discovered On vaccine Supply Network*

The New York Times

December 4, 2020 Friday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 1

Length: 1171 words

Byline: By David E. Sanger and Sharon LaFraniere

Body

IBM has found that companies and governments have been targeted by unknown attackers, prompting a warning from the Homeland Security Department.

A series of cyberattacks is underway aimed at the companies and government organizations that will be distributing ***coronavirus*** ***vaccines*** around the world, IBM's cybersecurity division has found, though it is unclear whether the goal is to steal the technology for keeping the ***vaccines*** refrigerated in transit or to sabotage the movements.

The findings were alarming enough that the Department of Homeland Security issued its own warning on Thursday about the threat.

Both the IBM researchers and the department's Cybersecurity and Infrastructure Security Agency said the attacks appear intended to steal the network log-in credentials of corporate executives and officials at global organizations involved in the refrigeration process necessary to protect ***vaccine*** doses.

Josh Corman, a ***coronavirus*** strategist at the cybersecurity agency, said in a statement that the IBM report was a reminder of the need for "cybersecurity diligence at each step in the ***vaccine*** supply chain." He urged organizations "involved in ***vaccine*** storage and transport to harden attack surfaces, particularly in cold storage operation."

Researchers for IBM Security X-Force, the company's cybersecurity arm, said they believed that the attacks were sophisticated enough that they pointed to a government-sponsored initiative, not a rogue criminal operation aimed purely at monetary gain. But they could not identify which country might be behind them.

No matter who conducted the attacks, they underscore how everything about ***coronavirus*** ***vaccines*** -- how to make them, test them and move them -- has become vital information around the globe. A year ago, nations including Russia and ***China*** were focusing their covert efforts on stealing secrets about hypersonic missiles and artificial intelligence advances; six months ago, intelligence agencies shifted their focus to obtaining, or defending, proprietary ***vaccine*** research.

With several ***vaccines*** on the verge of moving from clinical trials into wider use, the IBM discovery suggests that the main target of state-employed hackers is now the infrastructure of delivering the ***vaccines*** to billions of people around the globe.

The cyberattackers "were working to get access to how the vaccine is shipped, stored, kept cold and delivered," said Nick Rossmann, who leads IBM's global threat intelligence team. "We think whoever is behind this wanted to be able to understand the entire cold chain process."

There is no indication so far that the attackers were aiming at Pfizer or Moderna, whose vaccines are expected to be the first ones approved for emergency use in the United States. A spokeswoman for Pfizer said Wednesday that the company's cold storage equipment was designed by security-conscious experts and custom-built to match the specific requirements of Pfizer's vaccine, which must be stored at extremely cold temperatures.

Many of the approaches came in the form of "spear phishing" emails that impersonated an executive at a major Chinese company, Haier Biomedical, which is a legitimate participant in the distribution chain. The email says "we want to place an order with your company," and includes a draft contract containing malware that would give the attackers access to the network.

Outside experts said they doubted the attacks came from China, which has been accused of trying to steal vaccine information from universities, hospitals and medical researchers, because it would be unlike Chinese hackers to impersonate executives at a major Chinese firm.

If they are correct, the lead suspects would be hackers in Russia and North Korea, both of which have also been accused by the United States of conducting attacks to steal information about the process of manufacturing and distributing vaccines. Sometimes it is hard to tell the difference between official hacking operations for the Russian or North Korean governments and those run for private gain.

The motive is also unclear. The attackers may simply be looking to steal technology to move large amounts of vaccine across long distances at extraordinarily low temperatures, which would constitute a classic form of intellectual property theft.

But some cybersecurity experts say they suspect something more nefarious: efforts to interfere with the distribution, or ransomware, in which the vaccines would be essentially held hostage by hackers who have gotten into the system that runs the distribution network and locked it up -- and who demand a large payment to unlock it.

"There is no intelligence advantage in spying on a refrigerator," said James Lewis, who runs the cybersecurity programs at the Center for Strategic and International Studies in Washington. "My suspicion is that they are setting up for a ransomware play. But we won't know how these stolen credentials will be used until after the vaccine distribution begins."

The IBM researchers provided an account of their efforts in an interview before the company posted its findings. They said the attackers sent out various requests for price and product information, some purportedly on behalf of Gavi, the vaccine Alliance, a public-private partnership that helps provide vaccines to developing countries.

Many of the targets were in Asia, but some were European, including the European Commission's Directorate General for Taxation and Customs Union. IBM noted that the organization has "direct ties to multiple national government networks," showing that the attackers had a sophisticated understanding of how to identify targets that could get them into many nations.

But other organizations were also targeted, like Taiwan, South Korea, Germany and Italy. Some were involved in the solar panel-driven cooling systems for the vaccine.

The attackers' emails were addressed to companies that provide key components of the cold chain process. Those include ice-lined boxes for vaccines and the solar panels that can power refrigerated vaccine containers -- an important feature in poor countries where electricity can be scarce.

The researchers said the effort seemed aimed at stealing credentials that could have ultimately led the attackers to a trove of information, including timetables for vaccine distribution, lists of vaccine recipients and where doses are being shipped.

IBM could not determine whether the attacks were successful, the company said. The researchers said the attackers targeted one Gavi program started in 2015, before the advent of the coronavirus, to upgrade cold chain equipment for vaccines in dozen of nations.

UNICEF, which is planning vaccine delivery for poorer countries, appears to have been another target. Najwa Mekki, a spokeswoman for the organization, said the IBM researchers alerted officials to the threat to the cold chain system, and "we notified our supply networks and alerted relevant teams to the need to increase vigilance."

https://www.nytimes.com/2020/12/03/us/politics/vaccine-cyberattacks.html

Graphic

PHOTO: The European Commission's Directorate General for Taxation and Custom in Brussels was one of the targets of the attacks. (PHOTOGRAPH BY JOHANNA GERON/REUTERS) (A9)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: vaccineS (94%); CYBERCRIME (92%); ASSOCIATIONS & ORGANIZATIONS (90%); HERBAL MEDICINE (90%); NATIONAL SECURITY (90%); SPECIAL INVESTIGATIVE FORCES (90%); US FEDERAL GOVERNMENT (90%); ESPIONAGE (89%); INFECTIOUS DISEASE (89%); VIRUSES (89%); CRIME, LAW ENFORCEMENT & CORRECTIONS (78%); MEDICAL RESEARCH (78%); CORONAVIRUSES (77%); CLINICAL TRIALS (73%); INTELLIGENCE SERVICES (73%); EXTREME TEMPERATURES (66%); ARTIFICIAL INTELLIGENCE (62%)

Company: PFIZER INC (85%)

Organization: US DEPARTMENT OF HOMELAND SECURITY (91%); EUROPEAN COMMISSION (59%)

Ticker: PFZ (LSE) (85%); PFE (NYSE) (85%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (85%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (85%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (85%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (85%); SIC2834 PHARMACEUTICAL PREPARATIONS (85%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (85%); ***vaccineS*** (94%); CYBERCRIME (92%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); CHEMICALS (90%); CHEMICALS MFG (90%); COMPUTER NETWORK SECURITY (90%); DRUG AVAILABILITY (90%); HERBAL MEDICINE (90%); INFORMATION SECURITY & PRIVACY (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); PHARMACEUTICALS PRODUCT DEVELOPMENT (78%); CLINICAL TRIALS (73%); ARTIFICIAL INTELLIGENCE (62%)

Geographic: UNITED STATES (92%); ***CHINA*** (79%); RUSSIAN FEDERATION (71%)

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End of Document

54 Chinese vaccine Gets Approval From U.A.E.

The New York Times

December 10, 2020 Thursday

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Section: Section A; Column 0; Foreign Desk; Pg. 11

Length: 1203 words

Byline: By Sui-Lee Wee

Body

The announcement by the United Arab Emirates that it approved a Chinese ***vaccine*** was met with silence from ***China***, and raised more questions.

The United Arab Emirates issued the first government approval of a Chinese ***coronavirus*** ***vaccine*** on Wednesday, citing preliminary data showing that it was 86 percent effective, a move that could bring Chinese ***vaccines*** a step closer to widespread use.

The announcement by the Emirates' Ministry of Health and Prevention was the first official indicator of a Chinese ***vaccine***'s potential to help stop the pandemic. If results from elsewhere show similar findings, the Chinese ***vaccines*** could offer a lifeline to developing countries that cannot afford ***vaccines*** from the United States that are likely to be more expensive and more difficult to transport.

But Chinese officials and Sinopharm, the state-owned maker of the ***vaccine***, were silent on Wednesday on the Emirati disclosures. And scientists noted that the announcement was lacking in data and other critical details.

The news that a Chinese ***vaccine*** is 86 percent effective -- exceeding the 50 percent threshold set by many governments -- is a boost to ***China***'s biomedical ambitions. But it falls short of the performance reported by the American drug makers Pfizer and Moderna, which said earlier that their ***vaccines*** were more than 90 percent effective at protecting against the ***coronavirus***.

The Emirates, which is among 10 countries where Sinopharm is testing its two ***vaccines***, said it had reviewed an interim analysis of data from late-stage clinical trials by Sinopharm that also showed the ***vaccine*** was 100 percent effective in preventing moderate and severe cases of the disease. There were no serious safety concerns, it said.

"The announcement is a significant vote of confidence by the U.A.E.'s health authorities in the safety and efficacy of this ***vaccine***," the ministry said in a release carried by the state-run Emirates News Agency. The government did not say whether it had conducted an independent analysis of the raw data.

The data from the Emirates bodes well for Sinopharm's ***vaccines*** to obtain full regulatory approval in ***China***, which Sinopharm sought even before the completion of final trials. The company is also conducting trials in Bahrain, Jordan, Peru, Argentina and elsewhere.

"I think it could hit the market in ***China*** very soon, and there will be news within the next one to two weeks," said Tao Lina, a ***vaccine*** expert in ***China*** and a former immunologist at the Shanghai Center for Disease Control and Prevention.

The vaccine could also help bring China closer to fulfilling a pledge by China's top leader, Xi Jinping, to make the vaccine a "global public good."

But even as the announcement by the Emirates raised hopes about the promise of Chinese vaccines, it also pointed to a frustrating lack of clarity that has dogged China's coronavirus vaccine development for months.

Sinopharm would not confirm or comment on the Emirates news even hours after it came out. A spokeswoman for the company hung up the phone when reached and did not respond to messages and calls afterward.

The news release from the Emirati government provided few other key details, such as the number of Covid-19 cases that were analyzed or the ages of the volunteers, making it unclear to scientists how Sinopharm came to its conclusions.

"The devil is in the details," said Beate Kampmann, director of the vaccine Center at the London School of Hygiene and Tropical Medicine. "It's very difficult to judge this without seeing the number of cases. The main thing is, the trial results need to be made public."

Jin Dongyan, a virologist at the University of Hong Kong, called the information in the Emirates' disclosure "mediocre," saying more transparency from the vaccine maker was needed.

"If they make everything secretly, like a black box, that does not help," Professor Jin said. "That would just create confusion and mistrust and could be counterproductive."

The need for clarity on the safety and efficacy of China's vaccines has taken on more urgency after Sinopharm revealed it had already vaccinated roughly a million people even before the completion of clinical trials. The campaign has alarmed overseas scientists who say it exposes people to undue risks.

Chinese officials have repeatedly assured the public that the country's coronavirus vaccines are safe, while providing few details. Last month, Liu Jingzhen, the chairman of Sinopharm, said no one among the people who had received the company's vaccines had experienced any adverse reactions. He said that "only a few had mild symptoms."

In October, Zheng Zhongwei, a senior health official, said the government had established a "follow-up program" to track the people who had been vaccinated, though he gave no details.

Sinovac Biotech, a Beijing-based private vaccine maker, has already begun exporting its vaccines to countries like Indonesia and Brazil. Sinopharm, which has another vaccine in late-stage testing, has said it is preparing to deliver 500 million doses worldwide, according to the state-run newspaper Science and Technology Daily.

It is unclear whether the Emirates will start using the Chinese vaccine -- which Sinopharm developed with the Beijing Institute of Biological Products -- for mass inoculations. The government had already approved the vaccine for emergency use in September for frontline workers at risk of contracting Covid-19.

Some other countries where Sinopharm is conducting trials are counting on Chinese vaccines to help protect their populations. Morocco says it is preparing to vaccinate 80 percent of its adults, relying initially on a Sinopharm vaccine, though it would wait for China to approve the vaccine, according to Médias24, a Moroccan news website.

The Chinese vaccines are also appealing to developing countries because they could be easier to distribute. Sinopharm has said its vaccines need be refrigerated at temperatures of only 2 to 8 degrees Celsius (or 35 to 46 degrees Fahrenheit) and could remain stable for up to three years. In contrast, Pfizer and Moderna's vaccines, which are made with genetic materials that fall apart when they thaw, require industrial freezers, making transportation and storage more challenging.

Sinopharm's vaccines are both made from coronaviruses that have been killed or weakened, a technique that has been used for decades in the influenza and polio vaccines, for example. By comparison, Moderna's and Pfizer's vaccines use a technology that has never before been approved for widespread use.

Another advantage of the inactivated vaccines being developed by Sinopharm is that they tend to have fewer adverse effects after immunization, according to Florian Krammer, an immunologist at the Icahn School of Medicine at Mount Sinai in New York. He said more clarity on the trials in the Emirates would be welcome, but expressed confidence in the vaccine's initial results.

"It would be great to see some of that data," Professor Krammer said in an email. "But 86 percent is a respectable number -- there is absolutely nothing wrong with that. I would take such a vaccine."

Aida Alami and Elsie Chen contributed reporting.

https://www.nytimes.com/2020/12/09/business/china-coronavirus-vaccine-united-arab-emirates.html

Graphic

PHOTO: A Sinopharm vaccine production plant in Beijing. The company is running trials in 10 countries. (PHOTOGRAPH BY ZHANG YUWEI/XINHUA, VIA ASSOCIATED PRESS)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: vaccineS (96%); APPROVALS (90%); CORONAVIRUSES (90%); COVID-19 CORONAVIRUS (90%); DRUG & MEDICAL DEVICES APPROVAL (90%); HERBAL MEDICINE (90%); INFECTIOUS DISEASE (90%); VIRUSES (90%); HEALTH DEPARTMENTS (89%); PUBLIC HEALTH (89%); PUBLIC HEALTH ADMINISTRATION (89%); DISEASES & DISORDERS (78%); DRUG DESIGN & DISCOVERY (78%); DRUG SAFETY (78%); EPIDEMICS (78%); PREVENTION & WELLNESS (78%); BIOMEDICINE (77%); SAFETY, ACCIDENTS & DISASTERS (77%); EPIDEMIOLOGY (75%); CLINICAL TRIALS (73%); DEVELOPING COUNTRIES (73%); IMMUNOLOGY (68%)

Company: PFIZER INC (90%); CHINA NATIONAL PHARMACEUTICAL GROUP CORP (56%)

Ticker: PFZ (LSE) (90%); PFE (NYSE) (90%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (90%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (90%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (90%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (90%); SIC2834 PHARMACEUTICAL PREPARATIONS (90%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (90%); ***vaccineS*** (96%); PHARMACEUTICALS & BIOTECHNOLOGY (93%); PHARMACEUTICAL PREPARATION MFG (92%); PHARMACEUTICALS INDUSTRY (91%); CHEMICALS (90%); CHEMICALS MFG (90%); DRUG & MEDICAL DEVICES APPROVAL (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); BIOLOGICS MFG (89%); HEALTH DEPARTMENTS (89%); DRUG DESIGN & DISCOVERY (78%); DRUG EFFICACY (78%); DRUG SAFETY (78%); PHARMACEUTICALS PRODUCT DEVELOPMENT (78%); EPIDEMIOLOGY (75%); CLINICAL TRIALS (73%); IMMUNOLOGY (68%)

Person: XI JINPING (58%)

Geographic: SHANGHAI, ***CHINA*** (79%); EAST ***CHINA*** (79%); ***CHINA*** (98%); UNITED ARAB EMIRATES (96%); UNITED STATES (92%); BAHRAIN (79%)

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55 Canada Approves Covid vaccine, Becoming 2nd in West to Reach Milestone

The New York Times

December 10, 2020 Thursday

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Section: Section A; Column 0; Foreign Desk; Pg. 8

Length: 1009 words

Byline: By Ian Austen

Body

Canada approved the same ***coronavirus*** inoculation codeveloped by Pfizer that Britain authorized last week, and that American regulators will consider on Thursday.

OTTAWA -- Canada on Wednesday become only the second Western country to approve a ***coronavirus*** ***vaccine***, a week after Britain did so and a day before U.S. regulators will meet to consider taking that step, opening the possibility that Canadians will start being inoculated next week.

The regulatory agency Health Canada approved the same ***vaccine***, created by the American company Pfizer and a German firm, BioNTech, that was authorized in Britain and is up for a decision in the United States. Canada's move marks another milestone in the global fight against a pandemic that has killed more than 1.5 million people, continues to spread rapidly and has driven the world into a deep economic crisis.

Health Canada said that it had completed a rigorous, independent review of the data from clinical trials on the ***vaccine***'s safety and effectiveness, which involved tens of thousands of people -- the same kind of scrutiny applied by the U.S. Food and Drug Administration. British regulators, in giving emergency approval, relied largely on Pfizer's own analysis of that data, the standard approach in much of the world. Bahrain approved the same ***vaccine*** on Friday.

"It's a testament to the work of regulators internationally," said Dr. Supriya Sharma, the chief medical adviser at Health Canada, the regulator. "It's an exceptional day for Canada."

The go-ahead means that Canadians could receive the ***vaccine*** -- which requires two doses, weeks apart -- before Americans do, though Pfizer is based in the United States. That is likely to aggravate President Trump, who has demanded faster action by the F.D.A. and was angry that Britain, which began inoculating people on Tuesday, had acted before the United States.

The first shipments to Canada, which will total 249,000 doses by the end of the month, will come from a plant in Belgium, officials said.

Other ***vaccines*** are close behind in the approval processes in Europe and North America, and still others are in development. ***vaccines*** developed in Russia and ***China*** are already in use -- the United Arab Emirates gave full approval to a Chinese inoculation on Wednesday -- though clinical trials on them are still underway.

Canada, which has a population of 38 million, has agreed to buy up to 76 million doses from Pfizer, and 414 million doses of other potential vaccines from other companies, but the rollout will take months. Similarly, Britain has arranged for far more doses than it will need, in case some vaccines are delayed or do not pan out.

The Trump administration has only ordered enough to inoculate about 15 percent of the U.S. population, and in July passed up an offer from Pfizer to buy more in advance.

Maj.-Gen. Dany Fortin, the Canadian military officer overseeing the distribution of the vaccine to provincial health care systems, said that Pfizer would start shipping it from a plant in Belgium on Friday. That could make it possible, he said, for Canadians to begin receiving shots as early as next Wednesday.

The vaccine must be kept at extremely cold temperatures until within a few days of use, making transportation and storage a challenge. Once it reaches Canada, it cannot be used right away because it must be thawed and prepared for injection.

Canada has 14 depots across the country with special freezers for the vaccine. General Fortin said it would initially be distributed to all 10 provinces, which would then be responsible for injecting people. Officials said the far northern territories, which are not equipped to handle the logistical challenges that go with the Pfizer-BioNTech shot, would have to wait for another vaccine.

It will be up to Canada's provincial governments to decide who will be vaccinated first. Dr. Howard Njoo, the country's deputy chief public health officer, said a federal panel has recommended that the first injections go to people over the age of 80, residents and workers of long-term care homes, health workers and Indigenous communities.

François Legault, the premier of Quebec, said his province would first target long-term care homes, which have been the main source of Covid-related deaths in the province.

Dr. Sharma said that the vaccine had been subjected to the same degree of scrutiny as any previous drug or vaccine. But to accelerate the process, Health Canada reviewed data from clinical trials and manufacturing tests as the data was being generated, allowing for a "rolling review." In the past, the department only opened reviews when all trials and tests were complete.

She said that the final data needed for approval arrived late Tuesday evening and was reviewed overnight, which allowed the approval to go forward.

For now, Health Canada has approved the vaccine only for people over the age of 16; it is waiting for further data from Pfizer before approving it for children.

Canada's review, Dr. Sharma said, supported Pfizer's finding that the vaccine was 95 percent effective. It remains unclear how long the resulting immunity lasts.

Canada is currently reviewing three other vaccines for approval. One developed by another American company, Moderna, and the National Institutes of Health, is the farthest along, Dr. Sharma said -- as it is in the United States.

Other officials have predicted that Canada will administer 2 million doses of the Moderna-N.I.H. vaccine plus 4 million doses of the Pfizer-BioNTech vaccine during the first three months of 2021.

When asked why her group was able to approve the vaccine ahead of the F.D.A. in the United States, Dr. Sharma said, apparently jokingly, "we're just better."

She added, "We're not in a race with any other regulator, we're trying to beat the virus."

Prime Minister Justin Trudeau urged Canadians to continue to respect public health rules. "It's a good news day for Canadians but we are not through this yet," he said. "We have a tough winter to go through."

*https://www.nytimes.com/2020/12/09/world/americas/canada-**vaccine**-approve.html*

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Company: PFIZER INC (92%)

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Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (92%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (92%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (92%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (92%); SIC2834 PHARMACEUTICAL PREPARATIONS (92%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (92%); ***vaccineS*** (93%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); CHEMICALS (90%); CHEMICALS MFG (90%); CLINICAL TRIALS (90%); ***COVID-19 CORONAVIRUS vaccine*** (90%); DRUG & MEDICAL DEVICES APPROVAL (90%); HERBAL MEDICINE (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); ***VACCINATION*** & IMMUNIZATION (90%); MANUFACTURING (89%); PHARMACEUTICALS PRODUCT DEVELOPMENT (89%); DRUG SAFETY (77%)

Geographic: OTTAWA, ON, CANADA (59%); CANADA (97%); UNITED STATES (97%); NORTH AMERICA (92%); ***CHINA*** (79%); EUROPE (79%); UNITED ARAB EMIRATES (79%); UNITED KINGDOM (79%); GERMANY (72%); RUSSIAN FEDERATION (67%); BELGIUM (58%)

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56 Scandal Shrouds The 'King of vaccines'

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Byline: By Sui-Lee Wee and Javier C. Hernández

Body

As a government regulator sidled into a car, the Chinese pharmaceutical executive handed over a paper bag stuffed with $44,000 in cash.

The executive, Du Weimin, was eager to get his company's ***vaccines*** approved, and he needed help. The official took the money and vowed to try his best, according to court documents from 2016.

Several months later, Mr. Du got the greenlight to begin clinical trials for two ***vaccines***. They were ultimately approved, generating tens of millions of dollars in revenue.

The government official was jailed for taking bribes from Mr. Du and several other ***vaccine*** makers. Mr. Du was never charged.

Instead, he built an empire. His company, Shenzhen Kangtai Biological Products, is one of ***China***'s largest ***vaccine*** makers. And Mr. Du, dubbed the "king of ***vaccines***," is one of the richest men in ***China***.

Capitalizing on that success, Mr. Du and his company are now at the forefront of the global race to produce a ***coronavirus*** ***vaccine***, a national priority for ***China***'s ruling Communist Party. Kangtai will be the exclusive manufacturer in mainland ***China*** for the ***vaccine*** made by the British-Swedish pharmaceutical giant AstraZeneca, and the companies could work together on deals for other countries. The Chinese company is also in early trials for its own candidate.

Mr. Du's success, against the backdrop of scandal, is not an outlier in ***China***. It is the norm.

As the Chinese government has pushed to develop ***vaccine*** companies of global renown, the state has fostered and protected an industry plagued by corruption and controversy.

Drug companies, eager to get their products into the hands of consumers, have used financial incentives to sway poorly compensated government workers for regulatory approvals. Hundreds of Chinese officials have been accused in recent years of taking bribes in cases involving ***vaccine*** companies, according to a review of court records. The companies and executives implicated rarely face punishment.

Oversight has been weak, contributing to a spate of scandals over substandard ***vaccines***. While the government after each incident has vowed to do more to clean up the industry, regulators have rarely provided much information about what went wrong. Companies have often emerged unscathed after making an apology or paying a fine, and in nearly all instances, they have been allowed to continue operating.

Dr. Ray Yip, a former head of the Bill and Melinda Gates Foundation in ***China***, said he considers Kangtai to be among the top tiers of the country's ***vaccine*** companies, adding that he "has no problem" with the manufacturing and technology standards of most players.

"The problem for many of them is their business practice," said Dr. Yip, who also led the ***China*** office of the U.S. Centers for Disease Control and Prevention. "They all want to sell to the local governments, so they have to do kickbacks, they have to bribe. That's the Achilles' heel of ***China***'s ***vaccine*** business."

Kangtai did not respond to multiple requests for comment.

In a statement, AstraZeneca said it "conducts appropriate and thorough due diligence prior to entering an agreement with any entity."

"Safety, efficacy and quality of the ***vaccine*** is of utmost importance, and AstraZeneca has partnered with capable, established organizations to help ensure broad and equitable global access, at no profit during the pandemic," the company said.

The lack of transparency, compounded by dubious business practices, has rattled public confidence in Chinese-made ***vaccines***, even though they have been proved safe. Many well-off parents shun them, preferring their Western counterparts.

In 2013, 17 infants died after injections with Kangtai's hepatitis B ***vaccine***. Regulators cleared Kangtai of wrongdoing, and the ***vaccine*** continues to be used safely. But the government didn't provide substantial details about its investigation into the deaths or Kangtai's safety practices; the company had negative articles retracted.

Distraught parents around the world blame ***vaccine*** makers for their children's illnesses or their untimely deaths, often without scientific evidence. But in ***China***, the government muzzles many families, further feeding suspicions about Chinese-made ***vaccines***.

Activists who have called for greater scrutiny of pharmaceutical companies, including Kangtai, have been harassed, intimidated and detained. Worried about the threat to social stability, Chinese officials have tried to stop them from organizing, by shuttering social media groups and monitoring their communications.

Yanzhong Huang, a senior fellow for global health at the Council on Foreign Relations, said the 2013 scandal "raises legitimate concerns" about Kangtai.

"The stakes are very high," Dr. Huang said. "Imagine if a similar scandal is reported again in ***China***. It's not just going to undermine the confidence of the company manufacturing the ***vaccine***, it's also going to hurt the reputation of AstraZeneca itself and their ***vaccine***, too."

'The King of ***vaccines***'

As the chief executive of a small ***vaccine*** maker in the early 2000s, Mr. Du was looking to grow. He set his sights abroad, visiting pharmaceutical companies and biotechnology research institutes in Western countries, including the United States, Britain and France.

Mr. Du, then in his mid-30s, came away from his meetings with an urgent conclusion, he recalled in interviews with Chinese news outlets. It was a mistake for ***China*** to continue relying on foreign ***vaccines***, Mr. Du had determined. They were expensive. And he worried that ***China***'s dependence on other countries posed "hidden dangers to national security."

"***vaccines*** for the Chinese people must firmly be in the hands of the Chinese," Mr. Du told a state-owned newspaper, the Jiangxi Daily, in 2014.

His timing was good. After years of relying on multinational companies for crucial medicine, the Chinese government wanted to cultivate a homegrown ***vaccine*** industry, for many of the same reasons.

State-run companies had long dominated the business in ***China***, going back to the Mao era. As demand increased, entrepreneurs like Mr. Du saw an opportunity to build companies that could compete on the global stage.

Many embraced partnerships with overseas ***vaccine*** makers, a strategy that ***China*** followed in other areas like technology and auto manufacturing. The international companies gained access to the Chinese market, while the Chinese companies secured valuable knowledge about production techniques and technology.

Such deals would help catapult Mr. Du, the son of farmers from a poor mountainous area of Jiangxi Province, into the big leagues.

After helping found Beijing Minhai Biotechnology in 2004, he teamed up with the French pharmaceutical giant Sanofi Pasteur on a rabies ***vaccine***. At the time, the Chinese government was leading a concerted effort to limit the spread of the disease, which killed more than 2,600 people in ***China*** that year.

In 2008, Mr. Du moved to expand his business by investing in Kangtai. The company was founded in 1992 with help from the American drugmaker Merck. Together, they produced a hepatitis B ***vaccine***, as part of a joint venture aimed at improving health standards in ***China***.

His dealmaking would create an industry giant. Local media called him "the warrior of the ***vaccine*** kingdom."

His net worth was an estimated $7.4 billion until May, when Mr. Du transferred $3.5 billion worth of shares in his company to his ex-wife, Yuan Liping, in what Chinese news outlets described as ***China***'s most expensive divorce ever. Ms. Yuan, a Canadian citizen, is now one of Canada's richest women.

"From starting his company to getting rich to getting divorced," ***China*** Times, a mainland news site, wrote about the tycoon, "the mysteries that he holds can only be solved with time."

Corporate Hardball

The timing seemed suspicious.

In 2010, the state-run ***China*** Youth Daily newspaper reported that regulators had delayed telling the public that about 180,000 doses of a rabies ***vaccine*** were ineffective. The ***vaccine*** was made by Jiangsu Yanshen, then owned by Mr. Du of Kangtai.

During the delay, which lasted nine months, Mr. Du sold a roughly 51 percent stake in the company to the Simcere Pharmaceutical Group, another drug manufacturer, according to the Economic Observer website, a financial news outlet.

An investigative journalist, Du Taoxin, started digging. Industry insiders, he said, confirmed the reports, telling him that regulators held off on the announcement so that Du Weimin could sell the shares and not be held liable for the scandal.

It lined up with a report in the state-backed ***China*** National Radio. The article similarly named Mr. Du and found that the authorities had withheld the information so that Simcere would have to bear the reputational costs of the scandal.

After reports of the faulty ***vaccines***, Simcere issued a statement saying that the quality issues occurred before it invested in Jiangsu Yanshen, emphasizing that it bore "no responsibility for the incident." Mr. Du, the pharmaceutical executive, would not comment.

In August 2014, the journalist published his article under the headline "China's Drug Regulators Caught Up in 'Whistleblowing Scandals,' Unveiling the Truth Behind vaccine Cases."

Many of the industry's problems are born out of a symbiotic relationship with the government. China's vaccines are administered through local communicable disease control centers. Those centers take a cut of the profit for certain types of vaccines, creating an incentive for corruption.

From 2018 to 2020, there were 59 corruption lawsuits involving vaccine companies, according to an analysis by The New York Times. Fifty-four of them involved bribing local officials.

Kangtai sued the journalist, Du Taoxin, and his newspaper, Democracy and the Rule of Law, claiming defamation.

The journalist and his newspaper tried to defend the work, submitting what they viewed as other evidence of media pressure.

Guangdong Satellite, a state-backed television station, had apologized in September 2014 for "hurting the feelings" of Mr. Du Weimin after a prominent Chinese economist criticized the tycoon's company in a program. The station retracted its story.

The 21st Century Business Herald, an influential business newspaper, had deleted seven articles that it published relating to Mr. Du's company and the deaths of newborns who were given Kangtai's hepatitis B vaccines in 2013, according to court documents. They had closely covered several of the deaths and reported that Mr. Du's family had previously immigrated to Canada.

As part of his defense, the journalist noted the article by China National Radio on the same topic. It's unclear why those media outlets didn't face legal action.

The vaccine tycoon was represented by Zhang He. Mr. Zhang had also served as the lawyer for Yin Hongzhang, the drug regulator who was convicted of accepting bribes from Mr. Du.

The journalist pointed to the bribery case as proof he had not defamed the executive in his article. Du Weimin acknowledged, in court documents, that he was the Mr. Du who had bribed Mr. Yin.

But the judge said that information was not pertinent to the case. The judge, in forming his ruling, also cited the journalist's refusal to disclose the identities of his anonymous sources.

On November 2016, Du Taoxin was convicted of "hurting the reputation" of Du Weimin. The court said Mr. Du's articles had "led to a decline in the society's evaluation of Du Weimin and infringed on his reputation."

He had to pay Mr. Du $300, and his newspaper had to delete the article.

The sentence was meted out on Chinese Journalists' Day. Mr. Du quit journalism a year later.

"vaccines seem to be an untouchable issue," said Mr. Du. "No matter how I persisted in chasing the truth, it always seemed elusive. I had all the evidence, but I knew that this was a lawsuit that could never be won."

Preferential Treatment

A group of Chinese families have led a small but spirited effort in recent years to regulate the nation's vaccine industry more strictly. The government, which views political organizing as a threat to the Communist Party, has sought to silence their campaign.

Officials have harassed and detained mothers, fathers and grandmothers, charging them with "disrupting public order" or "picking quarrels and provoking trouble." In October, the authorities in the central province of Henan

detained He Fangmei, one of the most outspoken critics of Chinese ***vaccine*** companies in ***China***, according to her friends, who spoke on the condition of anonymity given the legal sensitivity.

Lawyers representing ***vaccine*** activists have faced severe punishments. Many of the online groups families use to share grievances and coordinate protests on the Chinese social messaging app WeChat have been shut down.

Liao Fangsheng tried to petition the central government after his son, Pengyong, was found to have viral encephalitis. Mr. Liao said his son was a happy and healthy 18-month-old before he took a ***vaccine*** made by Kangtai.

Two or three days after the inoculation, Pengyong developed a low-grade fever and then fell into a coma for 17 days. In December 2019, the local health commission said it was a "coincidence" that the boy had become ill after taking the ***vaccine***.

Mr. Liao didn't have any scientific evidence, but he remained convinced that the ***vaccine*** was connected. He traveled to Beijing to the National Health Commission and the petition bureau, where people go to seek help for their grievances. They directed him to other government departments, what he described as "buck-passing."

After he tried to seek help outside the Chinese Communist Party's leadership compound, he was detained for a week in his hometown in southeastern Jiangxi Province. The authorities said he was "disrupting the order of a workplace," according to a copy of the detention notice.

"They all wear one pair of trousers, their superiors protect their subordinates," said Mr. Liao. "No one looks at any of the materials I hand over. There is no space for me to talk. Where do you think the law is? Where is the government?"

The Chinese government may have reason to shield the industry from criticism. In a country of 1.4 billion people, rumors can quickly spread, undermining ***China***'s effort to protect the health of the nation. But the dearth of information and lack of legal recourse can also breed a deep distrust.

In 2010, dozens of elementary school students from southern Guangdong Province experienced headaches, vomiting and limb weakness after they were injected with Kangtai's hepatitis B ***vaccine***.

A provincial health official attributed the problems to a "mass-based psychogenic reaction," according to the state-run ***China*** News Service.

The official, Peng Guowen, director of the institute of immunization of the Guangdong Provincial Center for Disease Control and Prevention, said that most of the symptoms such as dizziness or abdominal pain were "subjective" and that none of the students developed fever. He blamed rumors that had spread among the news media and society about the safety of ***vaccines***, saying they had "aggravated" the students' anxiety and caused the vomiting.

In a separate news conference, a reporter asked how the government could conclude that the students' adverse reactions had nothing to do with the ***vaccine*** before the test results were out. Officials did not answer, according to The Southern Metropolis Daily.

In 2013, after reports emerged that 17 infants had died after they took the same ***vaccine***, the Chinese media and the public called Mr. Du a "baby-killer." The government stopped the sale of the ***vaccines*** in December for over a month.

It lifted the suspension after it concluded that the company was not to blame. The release about the official investigation provided little detail. It mainly took note of the deaths and listed their causes, which included pneumonia, heart disease and diarrhea, according to a government statement.

China has been less forthcoming about questions of ***vaccine*** safety than other countries. In the United States, the federal government often commissions in-depth assessments after manufacturers report problems with ***vaccines***. In South Korea, where a string of deaths recently undermined confidence in a flu ***vaccine***, the government released detailed data on the deaths as it worked to restore public trust.

As ***China*** now tries to burnish its global standing as a scientific and medical power, the reputation of its ***vaccine*** makers is all the more important.

For decades, the industry has focused on selling products in ***China***, believing that the domestic market was big enough to sustain the business. Few companies have discovered products with worldwide impact.

Only five Chinese ***vaccines*** have been preapproved for export by the World Health Organization. By contrast, India has 47 ***vaccines*** that have passed those requirements.

To ***China***, the pandemic offers a chance to transform the industry into a global player -- and it's investing heavily in champions like Kangtai.

The local government in the southern city of Shenzhen gave the company a 20,000-square-meter piece of land, which is now the base for Kangtai's ***coronavirus*** ***vaccine*** plant. Kangtai has also received government funding as part of the country's effort to fight the pandemic.

AstraZeneca and the University of Oxford announced late last month that their ***vaccine*** appeared effective, although the level of effectiveness is disputed. Under the deal with AstraZeneca, Kangtai will produce 200 million doses for mainland ***China***.

In late September, Kangtai announced that it would start testing its own ***coronavirus*** ***vaccine*** on people in ***China*** after results showed that it protected mice and monkeys.

In an interview with ***China*** Central Television, the state broadcaster, Zheng Haifa, a top scientist at Kangtai, said the company was working to achieve a breakthrough in developing a ***vaccine*** "as soon as possible" to meet the demands of ***China***'s top leader, Xi Jinping, who has called on the nation's pharmaceutical companies to lead an all-out effort to produce a ***vaccine***.

Mr. Zheng said the company's mission was simple: "to provide safe and effective protection for the lives and health of people."

Katie Thomas contributed reporting. Elsie Chen, Amber Wang, Liu Yi and Albee Zhang contributed research.

*https://www.nytimes.com/2020/12/07/business/**china**-**vaccine**-astrazeneca.html*

Graphic

PHOTOS: PHOTO (PHOTOGRAPH BY NICOLAS ORTEGA) (BU1)

Du Taoxin, an investigative journalist, was convicted of defamation after he wrote an article criticizing Du Weimin and Chinese drug regulators. He has left journalism. (PHOTOGRAPH BY GIULIA MARCHI FOR THE NEW YORK TIMES) (BU6)

Right, Du Weimin, chairman of Shenzhen Kangtai Biological Products, is one of the richest men in ***China***. Above, Kangtai produces about one-quarter of the world's supply of ***vaccines***. Top, Kangtai has offices in Shenzhen, ***China***. (PHOTOGRAPHS BY YU GA/VISUAL ***CHINA***

IMAGINECHINA, VIA ASSOCIATED PRESS) (BU6-BU7)

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Ticker: AZN (STO) (84%); AZN (NYSE) (84%); AZN (LSE) (84%)

Industry: NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (84%); SIC2834 PHARMACEUTICAL PREPARATIONS (84%); ***vaccineS*** (96%); PHARMACEUTICALS & BIOTECHNOLOGY (94%); PHARMACEUTICAL PREPARATION MFG (92%); PHARMACEUTICALS INDUSTRY (91%); BIOLOGICS MFG (90%); DRUG & MEDICAL DEVICES APPROVAL (90%); MANUFACTURING (90%); HEALTH DEPARTMENTS (78%); PHARMACEUTICALS PRODUCT DEVELOPMENT (78%); CLINICAL TRIALS (76%); EPIDEMIOLOGY (62%)

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57 China's Nationalists Sneer at U.S. Troubles

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Byline: By Chris Buckley

Body

China's Communist Party is pushing the narrative that the pandemic has proved the superiority of its authoritarian model. The muscular message is finding fans at home.

In one Beijing artist's recent depiction of the world in 2098, ***China*** is a high-tech superpower and the United States is humbled. Americans have embraced communism and Manhattan, draped with the hammer-and-sickle flags of the ''People's Union of America,'' has become a quaint tourist precinct.

This triumphant vision has resonated among Chinese.

The sci-fi digital illustrations by the artist, Fan Wennan, caught fire on Chinese social media in recent months, reflecting a resurgent nationalism. ***China***'s authoritarian system, proponents say, is not just different from the West's democracies, it is also proving itself superior. It is a long-running theme, but ***China***'s success against the pandemic has given it a sharp boost.

''America isn't that heavenly kingdom depicted since decades ago,'' said Mr. Fan, who is in his early twenties. ''There's nothing special about it. If you have to say there's anything special about it now, it's how messed up it can be at times.''

China's Communist Party, under its leader, Xi Jinping, has promoted the idea that the country is on a trajectory to power past Western rivals.

China stamped out the ***coronavirus***, the messaging goes, with a resolve beyond the reach of flailing Western democracies. Beijing has rolled out homegrown ***vaccines*** to more than a million people, despite the safety concerns of scientists. ***China***'s economy has revived, defying fears of a deep slump from the pandemic.

''In this fight against the pandemic, there will be victorious powers and defeated ones,'' Wang Xiangsui, a retired Chinese senior colonel who teaches at a university in Beijing, averred this month. ''We're a victor power, while the United States is still mired and, I think, may well become a defeated power.''

The firm leadership of Mr. Xi and the party has earned ***China*** its recent success, say newspapers, television programs and social media.

''Time to wake up from blind faith in the Western system,'' said a commentary in the state-run ***China*** Education News last week. ''Vicious partisan fighting has worsened in certain Western countries, social fissures have deepened, and a severe social crisis is brewing.''

The theme of ***China*** as triumphantly vindicated against critics also has real public appeal these days, including among the youth, as reflected in a stream of online commentary and the work of artists like Mr. Fan, who has described his style as ''People's Punk.'' In Mr. Fan's depiction of communist Manhattan, displayed on the ArtStation website, a caption describes a tour guide as saying that Asia and Europe are where the future is.

''To take in the changes of history and feel the afterglow of the imperialist era,'' the guide says, ''head to North America.''

China's current swaggering mood could add to the challenges facing Joseph R. Biden Jr. when he takes office as president. President Trump's defeat in the election has done little to ease Chinese suspicion of the United States, said Liu Jianqiu, a businessman and online commentator, in a telephone interview.

''I think ***China*** has gained the psychological edge,'' said Mr. Liu, in his 40s, who described the pandemic as a turning point in his attitudes. ''The performance of the West was completely out of my expectations and shifted my thinking even more -- the facts prove that the American system really has no superiority.''

Combative national pride surged in ***China*** in the run-up to the Beijing Olympics in 2008, and after the United States bombing of the Chinese embassy in Belgrade in 1999. Now there is a sharper sense that the Western powers are in perhaps irreversible decline, and that the pandemic has confirmed ***China***'s ascent.

''Most ordinary Chinese people previously were more admiring of the United States, but in recent years, the advantages of the Chinese system have become clearer to them,'' said Jin Canrong, an international relations professor at Renmin University in Beijing who has become a popular commentator under the nickname ''Commissar Jin.'' ''There's greater self-confidence.''

[Video: Watch on YouTube.]

China's diplomats and its state-run media have responded to criticism from Western governments with scornful disdain. Chinese supporters of a more muscular foreign policy call for hitting back against Western critics, especially in the wake of the pandemic.

Le Yucheng, a Chinese vice minister of foreign affairs, said in a speech last week that ***China*** was not spoiling for fights, but he also warned other governments not to underestimate its resolve to push back against criticism.

''Faced with this suppression and containment without scruples,'' Mr. Le said, ''we'll never swallow our pride or stoop to compromise.''

Critics worry that hubris could lead ***China*** to overestimate its strengths and misjudge how far it can push the United States and other Western countries.

''These ideas aren't sealed off in the halls of Zhongnanhai,'' the Communist Party leaders' headquarters in Beijing, said Julian Gewirtz, a senior fellow at the Council on Foreign Relations who has written about Chinese perceptions of American decline.

''Their triumphalism is shaping both popular nationalism and official diplomacy,'' he wrote in an email. ''It is fueling ever-sharper demands for deference to ***China***'s wishes.''

Online, Chinese commentators have plumbed the depths of history to capture the current moment. Some likened the United States to the crumbling British Empire of the last century, overstretched and exhausted.

Others are reaching back further, comparing America to ***China***'s own Ming dynasty, which crumbled in the 1600s under the weight of corruption, insurrections and invasions. In this view that spread online this year, ***China*** should take the role of the ''barbarian'' Manchu armies who -- in the commentators' vivid, not-always-accurate retelling -- swept over the Asian steppes, breached the Great Wall, and crushed the Ming rulers.

Modern-day ***China*** must act like the Manchu forces, advocates of the analogy say, and prepare to "break through" a ring of geopolitical hostility by dominating vital seas around ***China***.

Geremie R. BarmÃ©, a Sinologist in New Zealand who has followed the rise of "break-through studies" -- rÃ¹guÄnxuÃ© in Chinese -- says the historical comparisons reflect anxiety "about ***China***'s great nation status and its place in the world."

"The underpinning is that ***China*** is morally superior -- we the Chinese people under the Communist Party -- because we have none of the failings of America," he said.

China's leader, Mr. Xi, has not commented on the recent pronouncements of American decline. But he sees ***China*** and the United States as locked in ideological rivalry. Since coming to power in 2012, he has called for Chinese schools, textbooks and websites to inoculate youth against Western values that could erode party rule and the country's "cultural self-confidence."

"Our schooling must never nurture wreckers or gravediggers of socialism," Mr. Xi said in a speech in 2018 that was recently published in a book of his comments on ideology.

Some warn that ***China*** risks underestimating the strengths of the United States. In recent months, Chinese scholars have debated how Beijing should handle the post-Covid world, with a good number urging restraint as the best way to win lasting influence.

"***China***'s high-volume nationalism at home is making the United States feel that ***China*** is getting aggressive," Xiao Gongqin, a historian in Shanghai wrote in an essay that was published last month, prompting wide discussion.

The United States is far from the only country feeling the lash of official and public anger from ***China***. Australia has drawn ***China***'s ire for criticizing Beijing, initiating laws aimed at reducing Chinese government influence-building efforts in Australia, and urging an investigation into the origin of the pandemic -- a touchy subject in Beijing.

Last month, a Chinese foreign ministry spokesman tweeted a Chinese artist's fabricated image of an Australian soldier poised to slit the throat of an Afghan child. Australia's prime minister, Scott Morrison, demanded an apology from ***China*** over the image, which was a reference to an inquiry by the Australian military that found that its troops had unlawfully killed more than three dozen Afghan civilians.

The Chinese foreign ministry scoffed at Mr. Morrison's demand, and the artist who created the image, Fu Yu, created another one mocking the Australian leader. Mr. Fu, who works under the name Wuhe Qilin, had made a reputation with his scathing images of the United States as a blood-soaked, irrational medieval realm.

"Chinese values and American values are totally at odds," Mr. Fu said late last month on a Chinese online talk show broadcast last week. "These values are in fundamental conflict."

Amber Wang contributed research.

*https://www.nytimes.com/2020/12/13/world/asia/**china**-nationalists-covid.html*

Graphic

PHOTOS: Left, lab workers at a drive-through testing site Indianapolis, Indiana. Above, in the Great Hall of the People in Beijing. Many Chinese see vindication for their country. (PHOTOGRAPHS BY LEE KLAFCZYNSKI FOR THE NEW YORK TIMES

KEVIN FRAYER/GETTY IMAGES)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: ARTISTS & PERFORMERS (90%); TYPES OF GOVERNMENT (90%); EPIDEMICS (89%); SOCIAL MEDIA (89%); DEMOCRACIES (78%); POLITICAL PARTIES (78%); CORONAVIRUSES (73%); INFECTIOUS DISEASE (73%); DRAWING & ILLUSTRATION (72%); SAFETY, ACCIDENTS & DISASTERS (69%); ***vaccineS*** (67%); VIRUSES (64%); ECONOMY & ECONOMIC INDICATORS (50%)

Industry: ARTISTS & PERFORMERS (90%); SOCIAL MEDIA (89%); DRAWING & ILLUSTRATION (72%); ***vaccineS*** (67%); TELEVISION PROGRAMMING (50%)

Person: XI JINPING (79%)

Geographic: BEIJING, ***CHINA*** (89%); NORTH CENTRAL ***CHINA*** (91%); ***CHINA*** (96%); UNITED STATES (94%)

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58 Rush by Rich Countries To Reserve Early Doses Leaves the Poor Behind

The New York Times

December 16, 2020 Wednesday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 6

Length: 2116 words

Byline: By Megan Twohey, Keith Collins and Katie Thomas

Body

The U.S., Britain, Canada and others are hedging their bets, reserving doses that far outnumber their populations, as many poorer nations struggle to secure enough.

As a growing number of ***coronavirus*** ***vaccines*** advance through clinical trials, wealthy countries are fueling an extraordinary gap in access around the world, laying claim to more than half the doses that could come on the market by the end of next year.

While many poor nations may be able to vaccinate at most 20 percent of their populations in 2021, some of the world's richest countries have reserved enough doses to immunize their own multiple times over.

With no guarantee that any particular ***vaccine*** would come through, these countries hedged their bets on a number of candidates. But if all the doses they have claimed are delivered, the European Union could inoculate its residents twice, Britain and the United States could do so four times over, and Canada six times over, according to a New York Times analysis of data on ***vaccine*** contracts collected by Duke University, Unicef and Airfinity, a science analytics company.

"The high-income countries have gotten to the front of the line and cleared the shelves," said Andrea Taylor, a Duke researcher who is studying the contracts.

The United States has provided billions of dollars to back the research, development and manufacturing of five of the most promising ***vaccines*** against ***Covid-19***, pushing them forward at a speed and scale that would otherwise have been impossible. But the support came with a condition: that Americans would get priority access to doses made in their country.

Other wealthy nations joined the United States in placing large preorders, often with options to expand the deals and acquire even more -- undermining many countries' ability to make timely purchases.

The United States has secured 100 million doses from Pfizer, with the option of buying 500 million more, and 200 million from Moderna, with an additional 300 million on offer. It has also preordered 810 million doses from AstraZeneca, Johnson & Johnson, Novavax and Sanofi combined; expansion deals could push that number to 1.5 billion.

Britain has claimed 357 million doses from all of those companies, along with a small company, Valneva, with options to buy 152 million more.

The European Union has secured 1.3 billion from most of the same companies, as well as the German company CureVac; it can have another 660 million doses if it chooses.

Nearly all of these ***vaccines*** have been developed as two-dose treatments. How quickly the wealthy countries will achieve full coverage is uncertain, in large part because the candidates are in varied stages of progress.

Pfizer's ***vaccine***, developed with BioNTech, is now authorized in Britain, Bahrain, Canada, Mexico, Saudi Arabia and the United States. Moderna's is expected soon to follow. AstraZeneca, working with the University of Oxford, is likely to seek approval in Britain, India and several other countries in the coming weeks, armed with data from outside the United States, where it has suffered setbacks with regulators.

Valneva has not yet entered clinical trials. Sanofi, working with GlaxoSmithKline, recently changed its approval timetable to the end of next year after clinical results showed a poor performance in older people.

But the outlook for most of the developing world is dire. Because of manufacturing limits, it could take until 2024 for many low-income countries to obtain enough ***vaccines*** to fully immunize their populations.

Local ***vaccine*** manufacturing may be critical for lower-income countries

Not all of the less wealthy nations will face severe shortages. Some have secured a substantial number of doses that could come on the market next year by leveraging their own drug-manufacturing strengths.

India is on track to produce more doses of ***coronavirus*** ***vaccines*** next year than any other country. The Serum Institute of India, which has contracts for large quantities of the AstraZeneca and Novavax ***vaccines***, has promised the Indian government half of its output.

"India gets priority because it's my home country," Adar Poonawalla, the company's chief executive, said in an interview.

And the billionaire Carlos Slim has helped fund a deal for 150 million doses of the AstraZeneca ***vaccine*** in Latin America, drawing on manufacturing capacities in Argentina and his native Mexico.

The AstraZeneca ***vaccine*** is well suited to poorer countries because it is inexpensive and easy to store. Far more doses of AstraZeneca's ***vaccine*** have been promised than of any other candidate: 3.21 billion, over half of them committed to poor and middle-income countries. The company has partnered with 10 manufacturers around the world.

Johnson & Johnson, whose ***vaccine*** is being tested as a single dose, making it another contender in the developing world, has pledged up to 500 million shots to low-income countries, without specifying which nations would get them.

China, which has the third-biggest ***vaccine*** manufacturing capacity in the world, has indicated that it intends to make its ***vaccines*** available to developing countries. Last week, the United Arab Emirates issued the first government approval of Sinopharm, citing preliminary data showing that it was 86 percent effective.

To address ***vaccine*** inequity, the World Health Organization and two nonprofits supported by Bill Gates launched an effort to secure a billion doses for 92 poor countries. A billion more would go to dozens of middle- and high-income nations.

Similar to the U.S. government's investment but on a much smaller scale, the effort, known as Covax, has backed the development and manufacturing of ***vaccine*** candidates, including those of AstraZeneca and Novavax. In return, those two companies have promised Covax hundreds of millions of doses.

But the initiative has struggled to raise enough money to meet its target; even if it did, a billion doses would be enough for less than 20 percent of each poor country's population.

Rich countries are also jostling for early doses

Though wealthy nations have reserved a vast number of ***vaccines***, they have to wait in line to get their orders fulfilled. Manufacturers will need time to ramp up production after getting regulatory approval, and countries will not receive all their doses at once.

"Just because you've purchased 100 million doses doesn't mean you'll get 100 million doses in December," said Kendall Hoyt, an assistant professor of medicine at Dartmouth who has studied the global rollout of ***vaccines***.

In their contracts, companies have promised various time frames. Some public announcements specify that doses will arrive in early 2021, while others are more vague, indicating by the end of next year. And because the contracts are private, it has been hard for governments -- and the public -- to set realistic expectations.

Julia Barnes-Weise, head of the Global Healthcare Innovation Alliance Accelerator, who consults on these agreements, said it was "mind-boggling" that the global supply of ***Covid-19*** ***vaccines*** depended on how these confidential agreements were negotiated.

Take Pfizer, which has said that it will manufacture 1.3 billion doses in 2021. The U.S. government bought 100 million, then was caught off guard when it was later told that it would have to wait until June to receive an additional 100 million included as an option under its contract.

And while Pfizer's ***vaccines*** are already flowing to Britain, Canada and the United States, it is unclear when they will arrive in other countries. Mexico, according to an announcement, could get its first ***vaccines*** any time in the next 12 months.

Clemens Auer, a chief negotiator for the European Union, said an in an email that its contract with Pfizer for 200 million doses came with a "fixed delivery timetable," but that he was keeping the details from the public. "Details don't matter much," he said, given the high volume of promising ***vaccines*** the E.U. had secured.

In Canada, the government has faced questioning over its contract with Moderna. The country secured an agreement in August for 20 million doses, with an option for an additional 36 million. The United States announced a deal for up to 500 million doses shortly after, and Britain and the European Union announced their own deals last month.

So when Moderna said recently that its first 20 million would go to the United States, Canadian politicians were accused of letting their country lose its place. It wasn't widely known that as a condition for receiving U.S. financial support, Moderna had promised Americans its first doses.

In Canadian Parliament, Erin O'Toole, the Conservative leader, introduced a motion requiring the government to post fulfillment dates for its orders, saying that citizens "deserve to know when they can expect each ***vaccine*** type."

Doses may be promised, but production is not guaranteed

Even if other promising candidates, like Johnson & Johnson's, soon get approval and take pressure off Pfizer and Moderna, there's no guarantee the companies will be able to satisfy their commitments next year.

"People think, just because we've demonstrated in Phase 3 clinical trials that we have safe and effective ***vaccines***, that the spigots are about to be turned completely on," said Dr. Richard Hatchett, head of the Coalition for Epidemic Preparedness, one of the global nonprofits leading the Covax program with the W.H.O. "The challenges of scaling up manufacturing are significant, and they are fraught."

Some companies have already revised their projections based on manufacturing issues. Pfizer initially said it would produce 100 million doses by the end of this year, only to cut that number in half. Novavax delayed clinical trials in part because it couldn't make enough doses.

In other cases, ***vaccine*** makers or their partners may have promised more doses than can be produced: 3.21 billion doses of the AstraZeneca ***vaccine*** have been committed, but manufacturing deals are in place for only 2.86 billion, according to Airfinity. Johnson & Johnson has pledged 1.30 billion but secured manufacturing for only 1.10 billion.

Pfizer's and Moderna's commitments are on par with their production abilities, but there appears to be little room for growth.

The companies' commitments include not just preorders, but also expansion deals, which may not all come to fruition. Like the countries, the companies are also hedging their bets.

Rich countries are being told to share rather than hoard

As stark disparities in ***vaccine*** access become more visible, there is mounting pressure on wealthy countries to alter their plans.

Australia, Britain, Canada and the European Union have all made financial commitments to Covax. Now, they are being encouraged to stagger the delivery of their own doses so the developing world won't be stuck at the end of the line.

"The worst possible outcome is you're offering ***vaccines*** to a whole country's population before we're able to offer it to the highest-risk ones in other countries," said Dr. Bruce Aylward, a senior adviser to the W.H.O.'s director-general who is working on the global ***vaccine*** initiative.

Rich countries, which may well end up with more doses than they need, are also being asked to donate ***vaccines***. Canada has already begun discussions about how it might do that.

So far, the United States has been glaringly absent from efforts to address ***vaccine*** inequities. It has provided no assistance to Covax, and President Trump has promoted ***vaccine*** nationalism at every turn.

But he signed an executive order this month stating that once the federal government determines there is a sufficient supply for Americans, it will facilitate international access to its ***vaccines*** "for allies, partners and others."

And with President-elect Joseph R. Biden Jr. a month from taking office, Covax officials hope the United States will do more. Mr. Biden has already pledged to reverse his predecessor's withdrawal from the W.H.O.

But even if rich countries donate their excess ***vaccines***, the rest of the world will not have all the doses it needs by the end of next year.

Some experts predict it will be 2024 before there is enough ***vaccine***. Others, like Dr. Hatchett, think that as more people get sick and acquire natural immunity, the need for the ***vaccine*** will diminish and the supply will be adequate by late 2022.

Either way, many more people will die along the way.

And if it turns out this is a ***vaccine*** that is required every year, like the flu shot, that will change the projections entirely, said Dr. Krishna Udayakumar, director of the Duke Global Health Innovation Center.

"Then all bets are off," he said.

https://www.nytimes.com/2020/12/15/us/coronavirus-vaccine-doses-reserved.html

Graphic

PHOTO: (PHOTOGRAPH BY The New York Times FOR THE NEW YORK TIMES)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: vaccineS (94%); COVID-19 CORONAVIRUS vaccine (90%); HERBAL MEDICINE (90%); INFECTIOUS DISEASE (90%); MANUFACTURING OUTPUT (90%); MEDICAL DEVICES (90%); MEDICAL DIAGNOSTICS, SCREENING & TESTING (90%); EUROPEAN UNION (89%); INTERNATIONAL ASSISTANCE (78%); RESEARCH & DEVELOPMENT (78%); CORONAVIRUSES (77%); COVID-19 CORONAVIRUS (77%); DRUG DESIGN & DISCOVERY (77%); VIRUSES (77%); ORTHOPEDICS (76%); DIAGNOSTIC IMAGING (75%); WEALTHY PEOPLE (75%); PROSTHETICS & ORTHOTICS (69%)

Company: JOHNSON & JOHNSON (63%); SANOFI SA (58%); PFIZER INC (58%); VALNEVA SE (52%); ASTRAZENECA PLC (52%)

Organization: DUKE UNIVERSITY (82%); EUROPEAN UNION (56%)

Ticker: JNJ (NYSE) (63%); SNY (NYSE) (58%); SANF (BIT) (58%); SAN (PAR) (58%); GCVRZ (NASDAQ) (58%); PFZ (LSE) (58%); PFE (NYSE) (58%); VLA (WBAG) (52%); VLA (PAR) (52%); AZN (STO) (52%); AZN (NYSE) (52%); AZN (LSE) (52%)

Industry: NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (63%); SIC2834 PHARMACEUTICAL PREPARATIONS (63%); NAICS339115 OPHTHALMIC GOODS MANUFACTURING (63%); NAICS339113 SURGICAL APPLIANCE & SUPPLIES MANUFACTURING (63%); NAICS339112 SURGICAL & MEDICAL INSTRUMENT MANUFACTURING (63%); NAICS334510 ELECTROMEDICAL & ELECTROTHERAPEUTIC APPARATUS MANUFACTURING (63%); NAICS325620 TOILET PREPARATION

MANUFACTURING (63%); NAICS325611 SOAP & OTHER DETERGENT MANUFACTURING (63%); NAICS325413 IN-VITRO DIAGNOSTIC SUBSTANCE MANUFACTURING (63%); SIC3851 OPHTHALMIC GOODS (63%); SIC3842 ORTHOPEDIC, PROSTHETIC, & SURGICAL APPLIANCES & SUPPLIES (63%); SIC3841 SURGICAL & MEDICAL INSTRUMENTS & APPARATUS (63%); SIC3829 MEASURING & CONTROLLING DEVICES, NEC (63%); SIC3089 PLASTICS PRODUCTS, NEC (63%); SIC3069 FABRICATED RUBBER PRODUCTS, NEC (63%); SIC2844 PERFUMES, COSMETICS, & OTHER TOILET PREPARATIONS (63%); SIC2841 SOAPS & OTHER DETERGENTS, EXCEPT SPECIALTY CLEANERS (63%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (63%); SIC2835 IN VITRO & IN VIVO DIAGNOSTIC SUBSTANCES (63%); SIC2499 WOOD PRODUCTS, NEC (63%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (58%); NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (58%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (58%); ***vaccineS*** (94%); MANUFACTURING (92%); COSMETICS & TOILETRIES (91%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); PHARMACEUTICALS INDUSTRY (91%); SOAPS & DETERGENTS MFG (91%); TOILETRIES MFG (91%); BIOELECTRONIC MEDICINE (90%); CHEMICALS (90%); CHEMICALS MFG (90%); ***COVID-19*** ***CORONAVIRUS*** ***vaccine*** (90%); HERBAL MEDICINE (90%); IN VITRO DIAGNOSTICS MFG (90%); MANUFACTURING OUTPUT (90%); MEDICAL DEVICES (90%); OPHTHALMIC GOODS (90%); OPHTHALMIC GOODS MFG (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS PRODUCT DEVELOPMENT (90%); SOAPS & DETERGENTS (90%); SURGICAL & MEDICAL INSTRUMENT MFG (90%); BIOLOGICS MFG (77%); DRUG DESIGN & DISCOVERY (77%); COSMETICS (76%); ORTHOPEDICS (76%); RUBBER & SILICONE PRODUCTS (76%); DIAGNOSTIC IMAGING (75%); DATA ANALYTICS (74%); PROSTHETICS & ORTHOTICS (69%); PLASTICS (68%)

Geographic: UNITED STATES (94%); CANADA (93%); UNITED KINGDOM (92%); EUROPEAN UNION MEMBER STATES (90%); MEXICO (79%); NORTH AMERICA (79%); SAUDI ARABIA (79%); GERMANY (77%)

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End of Document

59 *The clinical trials of a Chinese vaccine resume in Peru after a volunteer's illness is deemed unrelated.*

The New York Times

December 16, 2020 Wednesday 00:08 EST

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Section: WORLD

Length: 446 words

Byline: Katherine J. Wu and Mitra Taj

Highlight: A volunteer's illness is unlikely to be related to the shot, researchers said.

Body

Researchers in Peru announced on Wednesday that they would resume clinical trials for an experimental ***coronavirus*** ***vaccine*** manufactured by the Chinese company Sinopharm after concluding that *a volunteer's illness last week* was unlikely to be related to the injection.

The trial participant had experienced a feeling of weakness in both legs that made walking difficult, prompting health officials to halt the study on Friday to investigate. It was not clear whether the volunteer had received a ***vaccine*** from Sinopharm, which contains a modified version of the ***coronavirus*** that cannot cause disease, or a placebo. Sinopharm is testing two such ***vaccines*** in Peru in the same trial of 12,000 people.

Experts have repeatedly stressed that such pauses are crucial for researchers to evaluate unexpected illnesses or side effects that occur in clinical trial volunteers. Such events could be tied to the ***vaccines*** being tested or they could be a coincidence, completely unrelated to the injection. On Saturday, Peru's minister of health, Pilar Mazzetti, reiterated the country's priority for safety in developing tools to combat the ***coronavirus***.

Feelings of weakness in the limbs can sometimes be caused by Guillain-Barre syndrome, a rare condition in which the immune system attacks the nervous system that has occasionally been linked to ***vaccines***.

But Dr. Germán Málaga, a physician at Cayetano Heredia University who is coordinating the Sinopharm trial, described the volunteer, 64, who fell ill as having chronic and poorly controlled diabetes. He added that the person more likely had experienced another ailment related to that condition.

Dr. Málaga added that Guillain-Barre syndrome had not yet been confirmed or ruled out as a diagnosis. The volunteer is "in good condition," he said, and had not experienced "a serious episode."

Sinopharm's ***vaccines*** have been granted limited or full approval in several countries, including the United Arab Emirates, Bahrain and ***China***, and are estimated to have been administered to about a million people. Some people receiving the injections have reported headaches, mild "skin secretions" and diarrhea, but side effects seem relatively rare.

The clinical trials of a Chinese **vaccine** resume in Peru after a volunteer's illness is deemed unrelated.

Peru's trial is slated to wrap up within a few weeks, Dr. Málaga said. Data on the ***vaccine***'s efficacy is still pending and negotiations with Sinopharm continue. The country is expected to purchase several million doses of Sinopharm's ***vaccines***, with the first injections scheduled for next year.

PHOTO: A volunteer receiving the experimental ***coronavirus*** ***vaccine*** manufactured by the Chinese company Sinopharm in Lima. (PHOTOGRAPH BY Ernesto Benavides/Agence France-Presse — Getty Images FOR THE NEW YORK TIMES)

Classification

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Document-Type: Live Blog Post

Publication-Type: Web Blog

Subject: ***vaccineS*** (96%); VIRUSES (91%); CLINICAL TRIALS (90%); CORONAVIRUSES (90%); DISEASES & DISORDERS (90%); EXPERIMENTAL DRUGS (90%); IMMUNE SYSTEM DISORDERS (90%); INFECTIOUS DISEASE (90%); AUTOIMMUNE DISORDERS (89%); NEUROLOGICAL DISORDERS & INJURIES (89%); PHOTOGRAPHY (89%); INVESTIGATIONS (79%); DISEASE IMMUNITY (78%); HEALTH DEPARTMENTS (78%); EMOTIONS (77%); PUBLIC OFFICIALS (76%); PUBLIC HEALTH ADMINISTRATION (73%); DIABETES (70%); internal-essential (%)

Company: ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (90%); AGENCE FRANCE-PRESSE (50%); GETTY IMAGES INC (50%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (90%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (90%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (90%); SIC7375 INFORMATION RETRIEVAL SERVICES (50%); NAICS541922 COMMERCIAL PHOTOGRAPHY (50%); NAICS541430 GRAPHIC DESIGN SERVICES (50%); NAICS518210 DATA PROCESSING, HOSTING & RELATED SERVICES (50%); SIC7374 COMPUTER PROCESSING & DATA PREPARATION & PROCESSING SERVICES (50%); SIC7336 COMMERCIAL ART & GRAPHIC DESIGN SERVICES (50%); ***vaccineS*** (96%); GRAPHIC DESIGN SERVICES (93%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); PROFESSIONAL SERVICES (91%); BIOLOGICS MFG (90%); CLINICAL TRIALS (90%); EXPERIMENTAL DRUGS (90%); INFORMATION MANAGEMENT (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); PHARMACEUTICALS PRODUCT DEVELOPMENT (90%); PHOTOGRAPHY (89%); HEALTH DEPARTMENTS (78%); ORPHAN DRUGS (78%)

The clinical trials of a Chinese **vaccine** resume in Peru after a volunteer's illness is deemed unrelated.

Geographic: LIMA, PERU (58%); PERU (91%); UNITED ARAB EMIRATES (79%)

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60 Coronavirus Update

The New York Times

December 18, 2020 Friday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 4

Length: 1040 words

Byline: By James Barron

Body

There was hope on Thursday -- a second ***coronavirus*** ***vaccine*** moved closer to distribution as a panel of experts recommended its approval, and Congress was close to a deal on a $900 billion pandemic relief package. But there was also despair -- the virus is spreading all but unchecked in California despite strict stay-at-home orders, and the economic pain has only deepened.

The ***vaccine*** review was the next-to-last stop for the ***vaccine*** developed by the pharmaceutical giant Moderna on the way to expected approval by the Food and Drug Administration. The panel reviewing it was the same group that had recommended the ***vaccine*** that was developed by Pfizer and BioNTech last week and later given emergency authorization by the F.D.A.

More shipments of that ***vaccine*** went out on Thursday, and pharmacists have been finding something unexpected as they unpack the shipping containers: supersizing. Opening the glass vials that were supposed to contain five doses, they discovered that there was enough ***vaccine*** for an additional dose or two. The news prompted a flurry of excited exchanges on Twitter and pharmacy message boards as hospital workers considered the tantalizing possibility that the limited supply of desperately needed medicine might inoculate more people. Some "overfill" in vials containing several doses of a drug is normal, they said, but this was more generous than usual.

The case counts on Wednesday and Thursday made one thing clear: Americans will need every drop.

Wednesday was the worst day for new cases and deaths since the pandemic began -- 3,607 deaths from the virus were added to the total. The victims came from places as disparate as Los Angeles County, Calif., and Lee County, Va. Five states set records, including Nevada, with 57. "That's another 57 Nevadans who will be missed by loved ones this holiday season," Gov. Steve Sisolak wrote in a Twitter post.

New cases nationwide totaled 244,365, also a record, with California, Maine and Tennessee each reporting single-day highs. In California, hospitals are overwhelmed, particularly in the hard-hit San Joaquin Valley, where many low-wage essential workers live without sufficient access to health care even in the best of times. And in Los Angeles County, officials said that, on average, two people died of the virus every hour. The numbers were all the more demoralizing because they have continued to climb as the state imposed new restrictions. Some experts now say that large-scale lockdowns may be the only solution, because the virus is too prevalent in too many communities.

Unemployment claims are also heading in the wrong direction. Another 935,000 more people filed claims for benefits last week, the latest indication of the pandemic's toll on the economy. Last week's total was 20,000 fewer

than the week before but still far higher than during past recessions, and an additional 455,000 workers filed for assistance under a federal program for part-time and self-employed workers. (On a seasonally adjusted basis, the number of new state claims was 885,000, up 23,000 from the previous week.)

"Businesses are closing, and as a result, we are seeing job losses mount," said Rubeela Farooqi, chief U.S. economist at High Frequency Economics, a research and consulting firm, "and that's exactly what we were fearful of going into the winter." The unemployment figures underscored the 1.1 percent drop in retail sales last month, more than economists had predicted. And October suddenly looked worse, because the Commerce Department revised the sales figure it had reported a month ago, an increase of 0.3 percent, to a decline of 0.1 percent.

Friday will be ***vaccination*** day for Vice President Mike Pence. He and his wife, Karen Pence, will receive the Pfizer-BioNTech ***vaccine***.

China is buying 100 million doses of the same ***vaccine*** -- an initial shipment, BioNTech and its Chinese partner, Shanghai Fosun Pharmaceutical, said. They did not say how many doses would be shipped to ***China*** in all. Nor did they say when Chinese regulators would grant the expected but necessary approvals.

Beijing apparently wants to ensure that its residents have access to a safe ***vaccine***. Scandals about other ***vaccines*** in ***China*** have stoked fears about domestically manufactured ***vaccines***, and ***China***'s rapidly growing middle class tends to prefer foreign-made ***vaccines*** to homegrown ones, five of which are in late-stage testing. Complete efficacy data has not been posted for any of the country's ***vaccines***. But the ***vaccine*** developed by the state-owned company Sinopharm has been fully approved by two countries that participated in trials, the United Arab Emirates and Bahrain. Both cited preliminary data showing that the ***vaccine*** was 86 percent effective, easily exceeding the 50 percent threshold set by many governments. Sinopharm has not commented on either announcement.

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Sweden, which stayed open when other countries locked down, is rethinking its laissez-faire response. It has never advised its citizens to wear masks, but last month the authorities called for limiting some public gatherings and closing some schools. And bars, restaurants and ski lifts remain open.

Prime Minister Stefan Lofven said on Monday that the country's experts had underestimated the likelihood of a second wave, and on Thursday, King Carl XVI Gustaf lamented the death toll. "I believe we have failed," he said in an excerpt from an end-of-year special with the royal family that was posted on the broadcaster SVT's website. "We have a large number of people who have died, and that is awful."

Sweden has reported nearly 7,400 deaths during the pandemic. In neighboring Finland, Norway and Denmark -- which imposed tougher restrictions, closing borders, schools and restaurants -- deaths have been a fraction of the number in Sweden. As for infections, Sweden's caseload per capita is close to that of the United States.

A government-appointed commission issued its first report Tuesday. It said that the current government and earlier administrations were responsible for weaknesses in care that have led to a high number of deaths among older people.***Coronavirus*** Update wraps up the day's developments with information from across the virus report.

https://www.nytimes.com/2020/12/17/nyregion/17virus-print.html

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61 E.U. Sets in Motion a Plan to Vaccinate Nearly Half a Billion People

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Byline: By Melissa Eddy and Marc Santora

Body

An ambitious plan to inoculate more than 450 million people comes at a precarious moment for the continent, with many countries struggling with their worst outbreaks since the start of the pandemic.

BERLIN -- From nursing homes in France to hospitals in Poland, older Europeans and the workers who care for them rolled up their sleeves on Sunday to receive ***coronavirus*** ***vaccine*** shots in a campaign to protect more than 450 million people across the European Union.

The inoculations offered a rare respite as the continent struggles with one of its most precarious moments since the ***coronavirus*** pandemic began.

Despite national lockdowns, restrictions on movement, shuttering of restaurants and cancellations of Christmas gatherings, the virus has stalked Europe into the dark winter months. The spread of a more contagious variant of the virus in Britain has raised such alarm that much of continental Europe rushed to close its borders to travelers coming from the country, effectively plunging the nation as a whole into quarantine.

In Germany, a nursing home in the eastern state of Saxony-Anhalt chose not to wait for Sunday's planned rollout of the ***vaccination*** campaign across the European Union, inoculating a 101-year-old woman and dozens of other residents and staff members on Saturday, hours after the doses arrived. People were also vaccinated on Saturday in Hungary and Slovakia.

Early Sunday, dozens of minivans carrying coolers filled with dry ice to keep the doses of the Pfizer-BioNTech ***vaccine*** from rising above minus 70 degrees Celsius fanned out to nursing homes across the German capital as part of the wave of immunizations. The rollout comes as Europe's largest nation is confronting its deadliest period since the start of the pandemic.

With nearly 1,000 deaths recorded in Germany every day in the week before Christmas, a crematory in the eastern state of Saxony operated around the clock, straight through the holiday, to keep up.

"I've never had to see it this bad before," said Eveline Müller, the director of the facility, in the town of Görlitz.

More than 350,000 people in the 27 nations that make up the European Union have died from ***Covid-19*** since the first fatality was recorded in France on Feb. 15. And for many countries, the worst days have come in recent weeks. In Poland, November was the deadliest month since the end of World War II.

While doctors have learned how to better care for ***Covid-19*** patients, an effective medical treatment remains elusive. So the rapid development of ***vaccines*** is being hailed not only as a remarkable scientific achievement, but also as hope for a world knocked off its axis.

Yet the joy that greeted the news of successful ***vaccine*** candidates in November has been tempered as the rollouts in Britain and the United States have underscored the challenges ahead.

Vaccination campaigns in Russia and ***China***, meanwhile, are using products that have not cleared the same regulatory hurdles as those created by Pfizer-BioNTech and Moderna, the ***vaccines*** currently being rolled out in the West.

Mexico became the first country in Latin America to start inoculating its population on Friday. And regulators in India are expected to soon approve the use of a ***vaccine*** developed by AstraZeneca and the University of Oxford.

By the new year, the largest inoculation effort in human history is expected to be in full swing. But supply shortages, logistical hurdles, misinformation, public skepticism and the sheer scale of the effort ensure that it will be an uphill struggle against a virus that is constantly evolving.

While experts said there was no indication that any known variant would render ***vaccines*** less effective in individuals, they said further study was needed. And the higher the rate of infection, the greater the urgency to have people vaccinated.

The new variant is spreading in Britain with such ferocity that there is a growing debate about whether to give more people a single dose of the Pfizer-BioNTech ***vaccine*** -- offering roughly 50 percent effectiveness at preventing illness -- rather than giving a smaller number of people the two doses required for protection levels estimated at 95 percent.

Still, the rollout of the ***vaccine*** across Europe was celebrated.

"Today, we start turning the page on a difficult year," Ursula von der Leyen, the European Commission president, wrote on Twitter. "The #***COVID19*** ***vaccine*** has been delivered to all EU countries."

The Greeks are calling their ***vaccination*** campaign "Operation Freedom." As in much of Europe, skepticism there about ***coronavirus*** ***vaccines*** runs deep, and the slogan is aimed at swaying undecided people.

For Italians -- whose suffering at the outset of the pandemic served as a warning for the world, and whose current death toll is again among the worst in Europe -- a 29-year-old nurse stepped up to take the first shot.

"It's the beginning of the end," said the nurse, Claudia Alivernini, after she got her early-morning inoculation at Rome's Spallanzani hospital.

"We health workers believe in science, we believe in this ***vaccine***, it's important to be vaccinated, for ourselves, for those near us, for our dear ones, the collectivity and our patients," she said.

The Italian prime minister, Giuseppe Conte, celebrated the moment.

"Today Italy reawakens. It's #vaccineDay," he wrote on Twitter. "This date will remain with us forever."

For some countries, the first ***vaccinations*** offer a chance at redemption of sorts for failings during the pandemic's first wave.

In the spring, as the virus swept into nursing homes in France, the crisis remained in the shadows until deaths reached a scale that could no longer be ignored. There was therefore symbolic resonance when nursing home residents were chosen to receive the first inoculations in the country.

In Spain, where more than 16,000 people died in nursing homes in the first three months of the pandemic, the inoculation campaign was also slated to kick off in a nursing home in the city of Guadalajara.

The European Union's member states made a show of solidarity by waiting for the bloc's regulatory board, the European Medical Association, to approve the ***vaccine*** before beginning coordinated national campaigns. But how those will play out in individual countries is likely to be disparate.

All E.U. member states have national health care systems, so people will be vaccinated free of charge. But just as hospitals in poorer member states like Bulgaria and Romania were overwhelmed in the latest wave of the virus, the networks in those countries will face challenges in distributing ***vaccines***.

While each nation is determining how to carry out its campaign, in general the first phase will focus on people most at risk of exposure and those most likely to have serious health conditions -- health care workers and the oldest citizens.

Most member states have said they expect the ***vaccine*** to reach the general public by spring, and a return to some sense of normalcy could hardly come too soon.

In October, France was among the first nations in Europe to introduce a second lockdown, and although it has started lifting restrictions, the reopening has not come as fast as many had hoped.

Museums, theaters and cinemas, which were initially expected to reopen on Dec. 15, remain closed, and a curfew from 8 p.m. to 6 a.m. is in place around the country. The lights in the trees along the Champs-Élysées in Paris still sparkle every night, but no holiday shoppers or tourists are there to bask in their glow.

Chairs stacked up in empty bars, restaurants and cafes are reminders of the absence that has marked 2020.

Nathalie and Adrien Delgado, a Parisian couple in their 50s, said they would get vaccinated as soon as possible. "It is an act of citizenship," said Ms. Delgado, who was celebrating Christmas in Paris with the couple's two children instead of visiting her mother. "It is not even for me, but it is the only way to stop the virus."

Others were not so sure.

Sandra Frutuoso, a 27-year-old housekeeper who had also canceled plans to visit her family in Portugal, said she feared the disease -- her husband was infected and has since recovered -- but would not get vaccinated "before a long time."

"They created it too fast," she said. "I am worried that the side effects could be worse than the Covid itself for someone my age."

Germans' willingness to be immunized has also dropped in recent months, and the government hopes that acceptance will grow as the ***vaccines*** roll out.

Asked last week how long it might be before life could return to normal, Ugur Sahin, a co-founder of BioNTech, cautioned that even with the immunization, the virus would linger for the rest of the decade.

"We need a new definition of 'normal,'" he told reporters, though he added that with sufficient ***vaccinations***, lockdowns could draw to a close as early as next year.

"This year we won't have an impact on infection numbers," Mr. Sahin said, "but we have to be sure that next year we have enough ***vaccines*** so that it will be normal."

Melissa Eddy reported from Berlin, and Marc Santora from London. Reporting was contributed by Aurelien Breeden from Paris, Niki Kitsantonis from London, Elisabetta Povoledo from Rome, Raphael Minder from Madrid

and Monika Pronczuk from Brussels.Melissa Eddy reported from Berlin, and Marc Santora from London. Reporting was contributed by Aurelien Breeden from Paris, Niki Kitsantonis from London, Elisabetta Povoledo from Rome, Raphael Minder from Madrid and Monika Pronczuk from Brussels.

*https://www.nytimes.com/2020/12/27/world/europe/**covid-19**-eu-**vaccine**.html*

Graphic

PHOTOS: Clockwise from top: Brigitte Werner, 70, being vaccinated on Sunday outside Munich

doses of ***vaccine*** arriving outside Munich

and people lining up for ***vaccinations*** in Berlin. (PHOTOGRAPHS BY LAETITIA VANCON FOR THE NEW YORK TIMES

LENA MUCHA FOR THE NEW YORK TIMES)

Preparing doses on Sunday at Amedeo di Savoia Hospital in Turin, Italy. Health care workers were the first to receive the ***vaccine***. (PHOTOGRAPH BY FABIO BUCCIARELLI FOR THE NEW YORK TIMES)

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Company: PFIZER INC (57%)

Organization: EUROPEAN UNION (83%)

Ticker: PFZ (LSE) (57%); PFE (NYSE) (57%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (57%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (57%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (57%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (57%); SIC2834 PHARMACEUTICAL PREPARATIONS (57%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (57%); ***vaccineS*** (93%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); ***VACCINATION*** & IMMUNIZATION (91%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); NURSING & RESIDENTIAL CARE FACILITIES (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); MANUFACTURING (89%); NURSING HOMES (89%); ***COVID-19 CORONAVIRUS vaccine*** (78%); BIOLOGICS MFG (77%); DRUG DESIGN & DISCOVERY (71%); RESTAURANTS (69%); MOTOR VEHICLES (50%)

Geographic: BERLIN, GERMANY (79%); SACHSEN, GERMANY (79%); SACHSEN-ANHALT, GERMANY (79%); EUROPE (96%); EUROPEAN UNION MEMBER STATES (93%); FRANCE (92%); POLAND (91%); GERMANY (90%); ***CHINA*** (79%); SLOVAKIA (79%); UNITED STATES (79%); HUNGARY (78%); RUSSIAN FEDERATION (50%)

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62 *Chinese Goal: Quick vaccine For 50 Million*

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Body

Across the country, local governments plan to inoculate 50 million people against the ***coronavirus*** by early next year. But the ***vaccines*** have not officially been approved.

Hospitals all over ***China*** have almost everything necessary for a mass ***coronavirus*** ***vaccination*** drive: Millions of doses. Refrigerators to store them. Health care workers trained to administer them.

Everything, that is, except much proof that their ***vaccines*** work.

Unlike their Western competitors, most Chinese companies have not disclosed data from late-stage clinical trials that would show whether their ***vaccines*** are effective; just one, the state-owned Sinopharm, has released findings, which it did on Wednesday. Regulators in ***China*** have not officially approved any of them.

That has not deterred local governments across the country, which have begun an ambitious ***vaccination*** campaign. The goal is to inoculate 50 million people -- roughly the population of Colombia -- by the middle of February, before the Lunar New Year holiday, when hundreds of millions of people are expected to travel.

China, where the virus first emerged a year ago, is going to great -- and scientifically unorthodox -- lengths to prevent a resurgence of the outbreak. While Beijing has not officially announced the ***vaccine*** target, the government has signaled the rollout will be managed in much the same way as the outbreak, through a top-down approach that can mobilize thousands of workers to produce, ship and administer the shots. Local officials were told that the drive was a "political mission."

The campaign will focus on what ***China*** calls "key priority groups," including doctors, hotel employees, border inspection personnel, food storage and transportation workers, as well as travelers. Irene Zhang, a 24-year-old student, got a ***vaccine*** on Dec. 22 in the city of Hangzhou ahead of going to Britain next month for graduate school.

"Because my situation is pretty urgent and all the students around me going abroad have taken it, I feel it's relatively reliable," Ms. Zhang said.

Even before this current campaign, more than one million people had lined up to get vaccinated, bewildering scientists who have warned that taking unproven ***vaccines*** poses potential health risks. Their efforts now, which are wider in scope, are being rolled out in a similarly ad hoc fashion.

In southern Guangdong Province, 180,000 people -- mostly workers involved in food storage and transportation, quarantine facilities and border inspection -- had been inoculated as of Dec. 22. In the eastern province of Zhejiang, 281,800 people had been vaccinated. In Wuhan, where the ***coronavirus*** was first detected, the government said it had designated 48 ***vaccination*** clinics for its emergency program, which started on Thursday.

The United States and Britain only started inoculations after reviewing and approving final-stage trial data that shows the efficacy of these ***vaccines***. By contrast, ***China***, which has five ***vaccines*** in Phase 3 trials, has provided little information before moving ahead with its campaign.

Instead, Chinese officials have largely issued broad statements with few details, assuring the public that the ***vaccines*** are safe and effective. Three of the ***vaccines*** have been approved only for emergency use. Last month, Liu Jingzhen, the chairman of Sinopharm, which has two ***vaccines*** in late-stage trials, said that none of the roughly one million people vaccinated so far had had any adverse reactions and that "only a few had mild symptoms."

On Wednesday, Sinopharm said that one of its ***vaccine*** candidates, made by its Beijing Institute of Biological Products arm, had proved to be 79 percent effective in interim Phase 3 trials. Sinopharm said it had applied for Chinese regulatory approval for the ***vaccine*** to be used en masse.

The data and approval are expected to come within weeks. While there have been promising signs, they have come with caveats.

The United Arab Emirates said this month that the vaccine made by Sinopharm was effective, although it offered few details on how the conclusions were reached. Bahrain announced much the same, without indicating which of the two Sinopharm vaccines it was referring to.

Turkey said a vaccine made by Sinovac, a private Beijing-based vaccine maker, has an efficacy rate of 91.25 percent, a finding that was based on preliminary results from a small clinical trial. Officials in Brazil said the Sinovac vaccine had an efficacy rate of more than 50 percent but put off releasing detailed data.

The scale and speed of the vaccination drive are the outgrowth of a centralized public health infrastructure in an authoritarian system. During the crisis, China showed how it can mobilize thousands of workers to reach millions of people; it tested 11 million people in Wuhan in 10 days.

Chinese vaccine makers have worked to ramp up their production, both for the country's own needs and for global exports. The Chinese government has promised to produce 610 million doses by the end of the year and expects to make more than one billion doses next year.

"When they say 50 million, they probably will do it," said Jennifer Huang Bouey, a senior policy researcher at the RAND Corporation and an epidemiologist. "The question is how much it would cost and what is the effect."

The all-out effort has taken months of preparation. Since June, hospitals in Guangdong Province have started construction on vaccination clinics, equipped them with refrigerators and installed refrigerated storage systems.

Sinopharm conducted drills this month. In the trial run, workers loaded boxes with the vaccines and ice packs, while company officials tracked the vaccines' temperature in real time during shipment.

China has some advantages in its rollout. Unlike the Pfizer vaccine, those made by Sinopharm and Sinovac are based on traditional methods that use inactivated or weakened forms of the virus, making them easier to store and distribute.

But the pitfalls are plenty, as the U.S. experience has shown. In the United States, just over two million people have received a Covid-19 vaccine, far short of the 20 million goal the government had set for this month. Hospitals had to prepare the frozen shots and find employees to staff the clinics.

As China has geared up, local officials have been surveying the number of people in the "key priority groups." They had to "ensure there were no omissions," according to a government document from Xinchang County in Zhejiang Province.

Just two months ago, it appeared that demand could outstrip supply. The eastern city of Yiwu had offered 500 doses, which were used within hours.

Ms. Zhang, the student, said she had initially been hesitant to get a vaccine because everyone around her had told her to "wait and see." Still, she tried to sign up in Yiwu but failed to secure a spot.

Then, on Dec. 21, Ms. Zhang heard that Hangzhou was going to start its own vaccination drive. She took a high-speed train that night and signed a rental contract with her friend in the city since the local authorities required proof of residence. The next day, she paid $35 and got the shot from Sinovac.

At the hospital, four or five people were waiting to get the vaccine, according to Ms. Zhang. The process took one hour, which included registering, getting the shot and waiting for 30 minutes to see if there were any adverse reactions.

"Everything was very calm and orderly," she said. Before she left, the doctor warned her: Don't take a shower. Don't stay up late. Don't eat foods that could irritate your stomach.

The government has stressed that the ***vaccination*** drive is voluntary, and people will have to pay for the inoculations. Yanzhong Huang, a senior fellow for global health at the Council on Foreign Relations and an expert on health care in ***China***, noted that the two-dose regimen could cost about $70, putting it out of reach for the rural poor.

China could also have problems trying to persuade people to take the ***vaccine***. Scientists warn that the lack of transparency could raise fears about taking a new ***vaccine***, especially in an industry that has a history of quality scandals.

Tao Lina, a ***vaccine*** expert and a former immunologist at the Shanghai Center for Disease Control and Prevention, said he knew of several health care workers who had declined the shots. "In the minds of doctors, they feel that any drug that has not passed Phase 3 trials is unreliable," Mr. Tao said.

Mr. Tao, who got a Sinopharm ***vaccine*** on Monday, said he felt confident that the ***vaccines*** were safe and effective, echoing officials' comments that there have been no reports of serious adverse reactions. But he added that the companies could do better in their messaging.

"If you say that it's safe, then you should show all kinds of evidence to show that it's safe," he said.

Hminem Zhang, a 27-year-old sales employee in an internet company, said he wanted to get a ***vaccine*** because he traveled for work and feared a run on the shots if there was a resurgence of the virus. But he worries about the Chinese-made ones because "not many people have received it," he said.

"I want to wait another month or two for some official data to come out," said Mr. Zhang, who is based in the southwestern municipality of Chongqing. "And then, if there is no news about any side effects, I will get a shot."

Liu Yi, Amber Wang and Elsie Chen contributed research. Liu Yi, Amber Wang and Elsie Chen contributed research.

*https://www.nytimes.com/2020/12/29/business/**china-coronavirus-vaccine**.html*

Graphic

PHOTO: Sinovac has produced millions of doses of its ***vaccine*** but has yet to receive government approval. (PHOTOGRAPH BY THOMAS PETER/REUTERS) (A8)

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Company: ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (57%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (57%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (57%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (57%); ***vaccineS*** (97%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); ***VACCINATION*** & IMMUNIZATION (90%); HOSPITALS (89%); CLINICAL TRIALS (78%); HEALTH CARE (78%); PHARMACEUTICALS PRODUCT DEVELOPMENT (78%); HEALTH CARE PROFESSIONALS (77%); HOTEL STAFF (72%); FOOD INSPECTION (68%); HOTELS & MOTELS (68%); GRADUATE & PROFESSIONAL SCHOOLS (62%)

Geographic: BEIJING, ***CHINA*** (79%); WUHAN, HUBEI, ***CHINA*** (79%); CENTRAL ***CHINA*** (79%); EAST ***CHINA*** (79%); GUANGDONG, ***CHINA*** (79%); NORTH CENTRAL ***CHINA*** (79%); SOUTH ***CHINA*** (79%); ZHEJIANG, ***CHINA*** (79%); ***CHINA*** (98%); UNITED STATES (79%)

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63 China Swiftly Approves Sinopharm vaccine*China Swiftly Approves Sinopharm vaccine*

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Body

Sinopharm, a state-controlled company, said its candidate had a 79 percent efficacy rate in interim late-stage trials. But crucial questions remained unanswered.

The Chinese government said on Thursday that it had approved a homegrown ***coronavirus*** ***vaccine*** after an early analysis of clinical trial results showed that it was effective. The announcements sent a positive signal for the global rollout of Chinese ***vaccines*** but lacked crucial details.

The manufacturer, a state-controlled firm called Sinopharm, said on Wednesday that a ***vaccine*** candidate made by its Beijing Institute of Biological Products arm had an efficacy rate of 79 percent based on an interim analysis of Phase 3 trials. Sinopharm said it had filed an application with Chinese regulators to allow the ***vaccine*** to be used broadly, and on Thursday the government said the ***vaccine*** had been granted conditional approval.

If supported, the interim results will bolster claims that Chinese officials have made in recent days that the country's ***vaccines*** are safe and effective. Even before the government issued its official approval, the authorities had already moved ahead with mass ***vaccinations***, defying industry norms. They plan to vaccinate 50 million people in ***China*** by mid-February, when hundreds of millions are expected to travel for the Lunar New Year holiday.

But Sinopharm's announcement provided no breakdown of results and left many questions unanswered, adding to a lack of clarity that has dogged ***China***'s ***coronavirus*** ***vaccine*** development for months. Wu Yonglin, Sinopharm's president, said on Thursday that the company would publish details of the trials in major academic journals later.

China's drive to develop a homegrown ***vaccine*** speaks to the country's technological and diplomatic ambitions. A successful ***vaccine*** would support the country's claim as a peer and rival to the United States and other developed countries in biomedical sciences.

The Sinopharm ***vaccine***'s results show that it is less effective than others that have been approved in other countries. Still, the results are well above the 50 percent threshold that makes a ***vaccine*** effective in the eyes of the medical establishment.

Two other ***coronavirus*** ***vaccines***, made by Moderna and Pfizer-BioNTech, have been shown to have an efficacy rate of about 95 percent. The Pfizer-BioNTech ***vaccine*** has received authorization in more than 40 countries. Moderna's ***vaccine*** has been authorized in the United States, and other countries are evaluating its trial results.

Russia has announced that its Sputnik V vaccine has an efficacy rate of 91 percent and has begun a mass vaccination campaign.

Beijing has leaned heavily on the promise of its vaccines to strengthen ties with developing countries deemed vital to China's interests. Officials have toured the world pledging to provide Chinese vaccines as a "global public good," a charm offensive that the United States may seek to counter, particularly when the campaign encroaches on its backyard.

The political stakes in the race for a vaccine are particularly high for China's authoritarian Communist Party, which has been criticized for stifling information and playing down the virus when it first emerged in the city of Wuhan late last year.

A successful vaccine, if quickly made available to the world, could help repair the party's image globally and that of its leader, Xi Jinping. The Chinese companies have said their vaccine would be cheaper and easier to transport, which if proven could give them significant appeal in the developing world.

Chinese vaccines may still be greeted with other questions. Scientists said that the headline figures released by Sinopharm were encouraging but that the lack of supporting data made it difficult for the results to be independently assessed.

Sinopharm on Wednesday did not disclose the size of the trial population or provide detailed information about any serious side effects, data points that scientists look for in such releases. On Thursday, Mr. Wu, Sinopharm's president, said at a news briefing that more than 60,000 people had been vaccinated as part of the trials.

"With each of these vaccines we're dealing with bits and pieces of information, but the Chinese companies have provided even less information than the Russian companies have," said Dr. Kim Mulholland, a pediatrician at the Murdoch Children's Research Institute in Melbourne, Australia.

"At least with the Russian vaccines we were told the number of cases and the basis of evidence for why their vaccine was effective," said Dr. Mulholland, who has been involved in the oversight of many vaccine trials, including ones for a Covid-19 vaccine.

Michael Baker, a professor with the department of global health at the University of Otago in Wellington who is an adviser to the New Zealand government, said that while the initial figures from Sinopharm looked promising, without more information it was difficult to know for sure.

"It's pretty light on the details," he said. "One question is: What markets do they propose to use these vaccines in? Because if they want to have a global market, they're obviously going to have to supply all those details."

Details about the efficacy of another Chinese vaccine candidate, made by Sinovac, a private Beijing-based vaccine maker, have also been released in a piecemeal fashion.

The absence of detailed information on the safety and efficacy of Chinese vaccines has not stopped officials in the country from administering them to the public. Officials in several provinces and cities say they are focusing on what China calls "key priority groups" -- doctors, hotel employees, border inspection personnel and workers in food storage and transportation, as well as travelers -- in an ongoing inoculation drive.

Chinese officials and companies had already administered Chinese-made vaccines, mostly made by Sinopharm, to more than a million people in China. The campaign drew criticism from overseas scientists who said they were concerned that the authorities did not closely monitor people after they received injections outside clinical trials.

To China, a vaccine that can help protect its 1.4 billion people is crucial to its plans to revitalize the economy.

The country has largely stamped out the coronavirus with a combination of restrictions on foreign arrivals, mass testing and tight lockdowns of neighborhoods whenever any cases are detected. But officials remain concerned that the winter could bring a new wave of infections and hope that a widely available vaccine can help prepare the country for when regular travel and trade resume.

Already, new local outbreaks were being reported in Beijing and the northern city of Shenyang this week, prompting the imposition of new measures. In Shenyang, officials declared that the city was in "wartime status" as they rolled out restrictions on large-scale gatherings including group meals, training sessions and end-of-year parties.

Sinovac and Sinopharm use inactivated coronaviruses to make their vaccines -- a tried-and-true method dating back over 130 years. The companies use chemicals to disable the virus's genes so that it cannot replicate. Yet the inactivated coronavirus can still cause the body's immune system to produce antibodies against it. By comparison, Moderna and Pfizer are taking a revolutionary gene-based approach that had never before been approved for widespread use.

Experts say there are drawbacks to inactivated vaccines like the ones being made by Sinovac and Sinopharm. They require starting off with large batches of live coronavirus samples, which can pose a biosecurity risk. Once the live samples are inactivated, it takes an extra manufacturing step to ensure that none of them survive the treatment.

Another advantage of the vaccines produced by Moderna and Pfizer is that they are faster to make and said to be more stable than traditional vaccines. Pfizer projects that it will be able to produce up to 1.3 billion doses in 2021, while Moderna expects to be able to make 500 million to one billion doses.

The Chinese government has promised to produce 610 million doses by the end of the year and expects to make more than one billion doses next year. Several large countries like Brazil and Indonesia, where Chinese companies have been conducting trials, have each received shipments of more than a million doses of Sinovac vaccines. Turkey has ordered 50 million doses.

People who were previously vaccinated in China have said the two-dose regimen costs about $60 to $150. According to people who have received the Sinovac vaccine, the company is charging about $30 a dose. Sinopharm has said the cost of two doses should be lower than $150. Zeng Yixin, the deputy minister of the National Health Commission, said on Thursday that the vaccine would be provided to the Chinese public for free, a reversal of previous statements by Chinese officials.

Reporting and research were contributed byElsie Chen, Claire Fuand Amber Wang.Reporting and research were contributed byElsie Chen, Claire Fuand Amber Wang.

https://www.nytimes.com/2020/12/30/business/china-vaccine.html

Graphic

PHOTO: Inoculating a volunteer earlier this month with the Sinopharm vaccine during its trial in Peru. (PHOTOGRAPH BY ERNESTO BENAVIDES/AGENCE FRANCE-PRESSE -- GETTY IMAGES)

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Company: ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (90%); PFIZER INC (58%)

Ticker: PFZ (LSE) (58%); PFE (NYSE) (58%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (90%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (90%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (90%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (58%); SIC2834 PHARMACEUTICAL PREPARATIONS (58%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (58%); ***vaccineS*** (95%); PHARMACEUTICALS & BIOTECHNOLOGY (93%); PHARMACEUTICALS INDUSTRY (91%); CHEMICALS (90%); CHEMICALS MFG (90%); DRUG & MEDICAL DEVICES APPROVAL (90%); DRUG EFFICACY (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS PRODUCT DEVELOPMENT (90%); ***VACCINATION*** & IMMUNIZATION (90%); DRUG DESIGN & DISCOVERY (89%); BIOLOGICS MFG (78%); CLINICAL TRIALS (78%); DRUG SAFETY (78%); TEST MARKETING (78%)

Geographic: BEIJING, ***CHINA*** (73%); NORTH CENTRAL ***CHINA*** (92%); ***CHINA*** (97%); UNITED STATES (93%); RUSSIAN FEDERATION (76%)

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64 U.K. Authorizes vaccine Created By AstraZeneca

The New York Times

December 31, 2020 Thursday

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Byline: By Benjamin Mueller and Rebecca Robbins

Body

Health officials hope to soon vaccinate up to two million people per week as the country's hospitals are overwhelmed by cases of a new, more contagious ***coronavirus*** variant.

LONDON -- Britain on Wednesday became the first country to give emergency authorization to the ***coronavirus vaccine*** developed by AstraZeneca and the University of Oxford, clearing the path for a cheap and easy-to-store shot that much of the world will rely on to help end the pandemic.

In a departure from prevailing strategies around the world, the British government also decided to begin giving as many people as possible a first ***vaccine*** dose rather than holding back supplies for quick second shots, greatly expanding the number of people who will be inoculated.

That decision put Britain at the vanguard of a far-reaching and uncertain experiment in speeding up ***vaccinations***, one that some scientists say could alleviate the suffering wrought by a pandemic that has been killing hundreds of people each day in Britain and thousands more around the world.

The global effort to accelerate ***vaccinations***, coming as a new, more contagious variant of the virus is spreading, gathered steam in many places on Wednesday.

China said clinical trial results showed high efficacy for one of its ***vaccine*** candidates, an announcement that hastened the global rollout of hundreds of millions of doses of Chinese ***vaccines*** but was short on crucial details. Russia's Sputnik V ***vaccine***, long criticized for being introduced prematurely, also began use this week in Argentina, Belarus, Hungary and Serbia, the first other countries to begin injecting it en masse. And Argentina quickly followed Britain in authorizing the Oxford-AstraZeneca shot, with India expected to do the same soon.

Britain's two moves on Wednesday -- authorizing an easy-to-make, easy-to-deliver ***vaccine***, and delaying second ***vaccine*** doses -- offered one blueprint for how to ramp up inoculation campaigns that have so far been entangled in logistical and manufacturing problems there and in much of the West.

The Oxford-AstraZeneca shot is poised to become the world's dominant form of inoculation. At $3 to $4 a dose, it is a fraction of the cost of some other ***vaccines***. And it can be shipped and stored in normal refrigerators for six months, rather than in the ultracold freezers required by the Pfizer-BioNTech and Moderna ***vaccines***, making it easier to administer in poorer and harder-to-reach areas.

Delaying second vaccine doses, too, could double the number of people eligible for shots in the coming weeks and eventually lighten the toll of the virus not only in Britain but also in countries facing years of vaccine shortages, some scientists said. While any one person may be better off with the full two doses, they said, society as a whole benefits if more people are given the partial protection of a single dose for the time being.

"We're talking about potentially vaccinating in the billions more people in a given year, versus the alternative, which is to go with two doses and let them sit in a freezer," said Michael Mina, an epidemiologist at Harvard who was one of the earliest proponents of delaying second doses. "There may be a trade-off for each of those individuals, but at the population level, you may end up saving many more lives."

Still, other scientists believe that Britain overshot the available evidence, potentially leaving older people and health-care workers without the full protection of two vaccine doses amid dreadful wintertime surges. Britain did without the public meetings or voluminous briefings that have preceded American regulatory decisions. No trials have explicitly tested the long-term efficacy of a single shot.

And what limited evidence exists about the protection afforded by a single dose clashed with scientists' fears that antibody responses would wane over time, potentially falling below a protective threshold.

"What is the longevity of any protective immunity for one dose, versus two doses?" said John Moore, a professor of microbiology and immunology at Weill Cornell Medical College. "Where's the data?"

Britain will delay the second, booster doses not only of the Oxford-AstraZeneca vaccine but also the Pfizer-BioNTech shot. That vaccine, in use in the country for several weeks, has been shown in clinical trials to have considerable efficacy after a single dose. Pfizer, though, cautioned on Wednesday that the single-dose efficacy data does not extend beyond when people receive their second shots, three weeks after the first. The company said that two doses "are required to provide the maximum protection against the disease."

For Britain, where hospitals are overwhelmed by a deluge of cases of a new and more contagious coronavirus variant, the rollout of more vaccines offered a distant hope of a reprieve. Starting on Monday, the health service is preparing to vaccinate as many as two million people per week at makeshift sites in soccer stadiums and racecourses, though the first shipment will only include 530,000 doses.

Instead of administering the two vaccine shots within a month as was originally planned, clinicians in Britain will wait as long as 12 weeks to give people second doses, the government said. Doctors were scrambling on Wednesday to push back hundreds of appointments for second doses of the Pfizer-BioNTech vaccine and fill them with first-time recipients.

Clinical trials of the Oxford-AstraZeneca vaccine had already subjected participants to delayed second doses. Most participants in the British trial were given the two doses at least nine weeks apart. British regulators said on Wednesday that the first dose had 73 percent efficacy in protecting against Covid-19 in the period between that shot taking effect and a second shot being administered. But scientists cautioned that those figures held for a subset of trial participants and had a limited underlying immunological rationale.

Scientists have also expressed concerns about the Oxford-AstraZeneca group not having enough data on older people to fully assess the vaccine's efficacy in that group. Andrew Pollard, the director of the Oxford vaccine Group, said in an interview on Wednesday that more evidence in older people would emerge from an ongoing American trial that has nearly enrolled all 30,000 of its volunteers.

The United States and the European Union have indicated that they are unlikely to authorize the Oxford-AstraZeneca vaccine until at least February.

When given in two full-strength doses, the regimen authorized by Britain, AstraZeneca's vaccine showed 62 percent efficacy in clinical trials -- considerably lower than the roughly 95 percent efficacy achieved by Pfizer and

Moderna's shots. No one who received the ***vaccine*** in the clinical trials developed severe ***Covid-19*** or was hospitalized.

British regulators said that the ***vaccine***'s efficacy appeared to rise to 80 percent in a smaller group of volunteers who were given the two doses roughly three months, rather than a single month, apart, a result that has not been published but that nevertheless emboldened the regulators to authorize a longer gap between doses.

Professor Pollard said that the longer interval provoked higher levels of antibodies in participants. And that finding, he said, may help solve a puzzle that has hung over the Oxford-AstraZeneca group: why the ***vaccine*** had a 90 percent efficacy in volunteers who were given a half-strength, rather than full-strength, initial dose. Those volunteers happened to get their two doses further apart, making it likely that the higher efficacy was a result of the elongated gap between doses, and not the size of the initial dose, as originally believed.

Menelas Pangalos, the executive in charge of much of AstraZeneca's research and development, said in an interview on Wednesday that the company would now work to refine the interval between doses, focusing on a possible "sweet spot" of 8 to 12 weeks. But scientists said that any such efforts required considerably more data.

And analysts cautioned that Britain's health service may struggle to persuade people to take a ***vaccine*** that appears less effective than other available shots, but that nevertheless could hasten the end of the pandemic.

Much of the world is looking to AstraZeneca in part because it has set more ambitious manufacturing targets than other Western ***vaccine*** makers. It has said that it expects to make up to three billion doses next year -- a haul that, at two doses per person, would be enough to inoculate nearly one in five people worldwide. The company has pledged to make the ***vaccine*** available at cost around the world until at least July 2021, and in poorer countries into perpetuity.

"This is very good news for the world," Stephen Evans, a professor of pharmacoepidemiology at the London School of Hygiene and Tropical Medicine, said of British regulators' go-ahead. "It makes a global approach to a global pandemic much easier."

For Prime Minister Boris Johnson of Britain, who has faced withering criticism for his handling of the pandemic, the rollout of the Oxford-AstraZeneca could bring some relief. The government on Wednesday put more than three-quarters of England in a virtual lockdown, and delayed the reopening of secondary schools in January.

Since authorizing Pfizer's ***vaccine*** on Dec. 2, Britain has used it to vaccinate 617,000 people. But the country has struggled to administer it beyond hospitals and doctor's offices, leaving some of its highest-priority recipients, like nursing home residents, still vulnerable.

*https://www.nytimes.com/2020/12/30/world/europe/uk-**covid-19**-**vaccine**-oxford-astrazeneca.html*

Graphic

PHOTOS: AstraZeneca's ***coronavirus*** ***vaccine*** costs as little as $3 a dose. (PHOTOGRAPH BY JOHN CAIRNS/UNIVERSITY OF OXFORD, VIA AGENCE FRANCE-PRESSE -- GETTY IMAGES) (A1)

Scientists working on the AstraZeneca ***coronavirus*** ***vaccine*** at the University of Oxford last month. (PHOTOGRAPH BY ANDREW TESTA FOR THE NEW YORK TIMES) (A9)

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Company: ASTRAZENECA PLC (90%); PFIZER INC (58%)

Ticker: AZN (STO) (90%); AZN (NYSE) (90%); AZN (LSE) (90%); PFZ (LSE) (58%); PFE (NYSE) (58%)

Industry: NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (90%); SIC2834 PHARMACEUTICAL PREPARATIONS (90%); NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (58%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (58%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (58%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (58%); ***vaccineS*** (99%); PHARMACEUTICALS INDUSTRY (92%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); ***VACCINATION*** & IMMUNIZATION (90%); BIOLOGICS MFG (89%); HEALTH DEPARTMENTS (79%); CLINICAL TRIALS (78%); DRUG AVAILABILITY (78%); TEST MARKETING (77%); DRUG SHORTAGES (73%)

Geographic: OXFORD, ENGLAND (92%); LONDON, ENGLAND (73%); UNITED KINGDOM (93%); ARGENTINA (92%); BELARUS (78%); RUSSIAN FEDERATION (78%); SERBIA (78%)

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65 Coronavirus Update

The New York Times

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Byline: By James Barron

Body

vaccine developments from Britain and China on Wednesday strengthened the global push for inoculation against the coronavirus. But -- and in 2020, there is always a but like this -- officials in the United States acknowledged that vaccinations had gotten off to a slower-than-expected start. And a newly discovered, more contagious variant may have been found in a second person in Colorado, where the first known case was reported on Tuesday. A case was also reported in California.

On the vaccine front, Britain became the first country to give emergency authorization to the coronavirus shot developed by AstraZeneca and the University of Oxford. British officials cheered the decision, with Matt Hancock, the health secretary, calling the approval "a massive step forward" in the fight against a virus that has infected nearly 2.4 million Britons and killed nearly 39,000.

"The light at the end of the tunnel just got brighter," Mr. Hancock said on Wednesday. "vaccines are the exit route from the pandemic." He said that the government had ordered 100 million doses and that they would be distributed beginning Jan. 4.

The approval cleared the way for a cheap and easy-to-store vaccine that much of the world could turn to -- at $3 to $4 a dose, the AstraZeneca vaccine costs a fraction of some other vaccines, and it can be shipped and stored in normal refrigeration. The vaccine from Pfizer and its German partner, BioNTech, must be kept colder than the Antarctic in winter. The somewhat warmer temperature requirement for the Moderna vaccine is minus four degrees Fahrenheit.

But it may be less effective than the other vaccines. When given in two full-strength doses, AstraZeneca's vaccine registered 62 percent efficacy in clinical trials -- considerably lower than the roughly 95 percent for Pfizer and Moderna's shots. For reasons scientists don't yet understand, AstraZeneca's vaccine showed 90 percent efficacy in a small group of trial participants whose first dose was only half-strength.

The claimed efficacy of one of China's vaccines was higher in interim Phase 3 trials -- 79.3 percent -- and the state-controlled pharmaceutical firm Sinopharm said it was seeking approval from Chinese regulators. But the statement from Sinopharm was only four sentences long and did not include detailed data. China is racing to vaccinate 50 million people by mid-February, in time for the Lunar New Year holiday.

Russia won an important outside vote of confidence in the safety of its Sputnik V vaccine, with the start of mass inoculations in Belarus and Argentina. Sputnik V, which has been dogged by doubts since President Vladimir V. Putin declared in August that it was ready even though clinical trials remained unfinished. Its Russian backers say

that in trials carried out since then, it has been proven more than 91 percent effective. But a recent survey found that only 38 percent of Russians intended to get the ***vaccine***.

In the United States, more than 14 million doses of the Pfizer and Moderna ***vaccines*** had been shipped as of Wednesday, but only 2.1 million doses had been given to patients. "We agree that that number is lower than what we hoped for," Moncef Slaoui, scientific adviser of Operation Warp Speed, the Trump administration's multiagency effort to accelerate ***vaccine*** development and delivery, said during a briefing on Wednesday.

The 2.1 million administered doses, reported by the Centers for Disease Control and Prevention, was an underestimate of the true number because of lags in reporting. It falls far short of the goal that federal officials put forward as recently as this month to have 20 million people vaccinated by the end of the year.

Dr. Slaoui and Gen. Gustave F. Perna, the logistics head of Operation Warp Speed, both said they expected the pace of the rollout to pick up once pharmacies begin offering ***vaccines***. The federal government has reached agreements with a number of pharmacy chains -- including Costco, Walmart and CVS -- to do so. General Perna said that 40,000 pharmacy locations had signed up.

"What we should be looking at is the rate of acceleration over the coming weeks," Dr. Slaoui said, "and I hope it will be in the right direction."

Quiet in Times Square, a Party at Mar-a-Lago

A year that has brought misery will end as only it could -- differently from past years. For the first time in decades, Times Square will be closed to the public on New Year's Eve. Dozens of frontline workers and their families will be honored with spots near the stage. Everyone else should stay home, officials said. "There are absolutely no spectators allowed in Times Square," Chief Terence A. Monahan, the top uniformed member of the New York Police Department, said at a news conference. He added: "Anyone that starts to gather, they're going to be told to move along. We are not going to allow people to stand on the street corner and stare up."

But the party will go on at Mar-a-Lago, President Trump's private club in Palm Beach, Fla. It was not clear how many guests had been invited. Nor was it clear what they would be charged to walk down the red carpet -- The Palm Beach Post said ticket prices had gone up every year since the president was elected, starting at $525 in 2016 -- or whether the black-tie dress code also called for masks.

A year ago, on his way to the Donald J. Trump Ballroom, the president said, "We're going to have a great year, I predict." It was two weeks after the House had voted to impeach him and six weeks before the Senate voted to acquit him on charges of abuse of power and obstruction of Congress that involved his dealings with Ukraine.

A year later, in New York, the city will close streets in the area around Times Square, and police officers will operate checkpoints to prevent access. The police contingent will be smaller because the crowd will be smaller. And Stephen Hughes, an assistant chief with the Police Department assigned to help supervise the night in Times Square, said he was "more looking forward to burying 2020 than to looking forward to 2021."

"I just can't wait not to see 2020 anymore," he said.***Coronavirus*** Update wraps up the day's developments with information from across the virus report.

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Company: PFIZER INC (91%); ASTRAZENECA PLC (84%); ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (51%)

Ticker: PFZ (LSE) (91%); PFE (NYSE) (91%); AZN (STO) (84%); AZN (NYSE) (84%); AZN (LSE) (84%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (91%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (91%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (91%); SIC2834 PHARMACEUTICAL PREPARATIONS (91%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (91%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (91%); ***vaccineS*** (96%); PHARMACEUTICALS & BIOTECHNOLOGY (93%); PHARMACEUTICALS INDUSTRY (92%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); ***VACCINATION*** & IMMUNIZATION (90%); PHARMACEUTICALS PRODUCT DEVELOPMENT (89%); CLINICAL TRIALS (79%); HEALTH DEPARTMENTS (77%)

Person: VLADIMIR PUTIN (57%)

Geographic: CALIFORNIA, USA (79%); RUSSIAN FEDERATION (90%); UNITED KINGDOM (90%); BELARUS (79%); UNITED STATES (79%)

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66 Coronavirus Update

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Byline: By James Barron

Body

On the last day of 2019, the World Health Organization heard about a mystery virus that had surfaced in Wuhan, ***China***. By the last day of 2020, that virus -- known to epidemiologists as SARS-CoV-2 or ***Covid-19*** and to the world as an unprecedented scourge -- had infected more than 83 million people and killed more than 1.8 million. The ***coronavirus*** had spread to virtually every country, upended daily life and derailed the global economy. It had infected world leaders, including President Trump, Prime Minister Boris Johnson of Britain and President Jair Bolsonaro of Brazil. It had launched a worldwide race for a ***vaccine***. It had made masks and social distancing mandatory in many places, and resented or shunned in others.

On Thursday, a year to the day after the government in Wuhan first acknowledged that dozens of cases were being treated, ***China*** approved its first ***Covid-19*** ***vaccine***, developed by an arm of the state-controlled company Sinopharm. The approval was almost an afterthought. The Chinese authorities had already pressed ahead with mass ***vaccinations***. An official from the National Health Commission said on Thursday that more than three million doses of ***China***'s various ***vaccine*** candidates had been administered in the past two weeks. Officials have said they plan to vaccinate 50 million people in ***China*** by mid-February, when hundreds of millions are expected to travel for the Lunar New Year holiday.

In the United States, the slower-than-expected ***vaccine*** rollout could face an unexpected adversary: a more infectious variant of the virus, a mutation first seen in Britain last month. The variant was discovered on Tuesday in a ranching community in Colorado that had largely shrugged off the pandemic, and on Wednesday it surfaced in California, in a man who had not traveled outside the United States, suggesting that it had been transmitted by someone else in the community -- a sign that the variant was spreading.

"It's inevitable that it would be here," Dr. Anthony S. Fauci, the nation's top infectious disease expert, said on CNN on Thursday.

The variant has also been found in ***China*** and the United Arab Emirates on Thursday. And in Europe, French health officials said they had detected a different variant, from South Africa, in a ***coronavirus*** patient who had recently traveled there.

Officials worried that raucous New Year's Eve gatherings would serve as superspreader events, accelerating the transmission of some form of the virus. They implored people to stay home, just as they had before Thanksgiving. But case counts only climbed through December, pushing hospitals in places like California beyond their normal capacity. More than 7,400 people had been hospitalized in Los Angeles County, where the daily positive test rate stood at 20 percent.

In New York City, where the positive test rate has also climbed steadily since Thanksgiving, hospitalizations are close to the levels of the spring. Mayor Bill de Blasio said "the most important New Year's resolution I could possibly offer you" was to inoculate a million people in January.

Only 88,000 people in New York City received their first injections in the three weeks since the ***vaccine*** developed by Pfizer and its German partner, BioNTech, became available. Ronald Scott Braithwaite, a professor at NYU Grossman School of Medicine, said his team's analysis suggested that once 10 to 20 percent of the city was vaccinated, the caseload would begin to decline -- but only if mask wearing and social distancing continued and the new variant did not spread.

The economic fallout continued with a sign that the labor market remained unsettled. The weekly unemployment figures from the Labor Department showed claims at their lowest in four weeks, but still nearly four times higher than a year ago, before the pandemic. Some 841,000 Americans filed new claims for benefits, compared with 873,000 the week before, though the figures might have been held down by the Christmas holiday. Another 308,000 sought assistance under a federally funded pandemic program for self-employed people and part-time workers who do not ordinarily qualify for benefits.

As for the $900 billion relief package, its full impact will take months to register. Until then, most economists are on the alert for more layoffs.

Outlook for 2021? It 'Isn't That Great'

What about 2021? The prognosis from the "Pocket Chinese Almanac" -- whose publishers warned a year ago of "complete chaos worldwide" -- is that "the chaos will be gone but the tension won't be," said Ken Smith, who with his wife, Joanna C. Lee, has published the almanac since 2010.

At least they did not say "find a safe place and hide," which was their advice at this time last year. For 2021, Ms. Lee said that "the entire situation of the world isn't that great." She suggested continuing "the same efforts that we've used to fight Covid" and applying "a similar attitude to all matters of the world." There might be regional strife somewhere, they said -- although they could not say where, just as they did not envision a pandemic a year ago. They suspected then that the turmoil would involve presidential elections. More than a dozen were scheduled for 2020, including the one in the United States.

Ms. Lee and Mr. Smith write the almanac based on the predictions of a geomancer who divines trends in climate and weather, a retired architect in Hong Kong named Warwick Wong. Ms. Lee said she had checked with Mr. Wong for additional guidance about 2021 after this year's almanacs arrived from the printer in Hong Kong in November. She said that Mr. Wong had told her, more than once, "Keep your spirits up."

She also said he had used a Chinese idiom in foreseeing that "an elder authority that would prop things up."

"The elder authority to him is government, whatever authority is in charge," she said, though he did not indicate whether he was referring to President-elect Joseph R. Biden Jr., who will be the oldest president after the inauguration on Jan. 20. "He said the problem is people cannot always rely on this elder authority," she said. "And then he said: 'Cash is king. You must be self-reliant.'"***Coronavirus*** Update wraps up the day's developments with information from across the virus report.

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67 Who Gets it First?

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Body

In mid-December, before a key vote by an advisory panel for the Centers for Disease Control and Prevention, a public debate flared up over what might well be the most momentous policy decision of 2021: how to distribute the ***Covid-19*** ***vaccine***. This particular fight centered on how to balance the ***vaccination*** of seniors (who die from the ***coronavirus*** at much higher rates than younger people) against that of essential workers (who, because they come into contact with many people over the course of any given day, risk getting sick themselves and becoming superspreaders).

That debate was just the first of what will be many contentious ones in the months to come, when supplies of Covid ***vaccine*** will surely be among the world's most precious, scarce resources. The calculation of how to prioritize various groups inevitably touches on all the fault lines that divide American society -- race, class, age, geography, occupation and more -- and ultimately bleeds into the question of our ethical obligations to the poorer nations of the world, which risk being forced to wait for lifesaving ***vaccine*** supplies while the wealthy save themselves first.

More starkly than most policy choices, these decisions will essentially determine who dies and who lives. We brought together five experts to talk about the collective ethical judgments that the world faces -- and a logistical challenge that's as epic in scale as the pandemic itself.

Who Goes to the Front of the ***vaccine*** Line?

Emily Bazelon: As ***vaccination*** begins, the C.D.C. has recommended that the first group of American recipients should be health care workers, who total approximately 21 million, and residents of nursing homes and other long-term-care facilities, another three million. This is called Phase 1a. For Phase 1b, the agency decided after much debate to recommend people age 75 and older, who number about 20 million, and also 30 million "frontline essential workers," including first responders; grocery-store, public-transit and postal workers; and teachers and day care providers. The states don't have to follow this federal guidance. Regardless, they have difficult decisions to make about how to rank subgroups within Phase 1a and 1b as the ***vaccine*** gradually rolls out. Dr. Ezike, as you look ahead, what do you see coming in Illinois?

Ngozi Ezike: Phase 1a seems to be the most straightforward. We are starting with health care workers on Covid units. Not just the clinicians but the person who delivers the food, the person who cleans the room and who turns the room over after a patient is transferred. So, people in direct contact with Covid patients, or the infectious particles. And then people who work in the emergency room and in urgent care. We also signed up for the pharmacy partnership program that the C.D.C. offered, and Walgreens and CVS will bring the ***vaccine*** to our long-term-care facilities. After that, there is a middle bucket of health care where the work is mostly outpatient but they

have some interaction with the public. Then the group at the end of Phase 1a would be health care workers who are tele-working or administrative.

For Phase 1b, I haven't presented a plan to the governor yet, but this is where I am so far: I'm very concerned with the over-75 category. When I look at my data, the average age of death from Covid for a white person is 81, but for a Latinx person it's 67, and for a Black person it's 72. Many of the people in these groups don't even reach 75. I'm not sure what the right age brackets are, but I want to think about how to make it equitable and data-driven, based on the average age of death from Covid.

Bazelon: Race and ethnicity have become a flash point in this debate. Black and Latino and Native American communities have been hit especially hard by the virus, with death rates that are close to three times as high as they are for white and Asian people. But the idea of giving people priority for the ***vaccine*** based only on race has generated a lot of criticism, and the chair of the C.D.C. panel (the Advisory Committee on Immunization Practices) said that was never the plan.

Ezike: There are examples in medicine where the guidelines are different -- for example, for prostate cancer, Black men are recommended to be screened at a younger age because the prevalence is higher in that population. We are also thinking in terms of preventing the spread of infection. Our highest case rates are in Latinx communities, where we have more multigenerational households.

Gregg Gonsalves: The virus has spread in the United States along the fault lines of social inequality. ***vaccines*** and medical interventions won't roll out to protect people who have been hit hardest unless we allocate based on social vulnerability. The National Academies of Science, Engineering and Medicine has said we need to do this using the C.D.C.'s Social Vulnerability Index, which the agency developed for public-health emergencies. It can pinpoint geographic areas based on factors like living in crowded housing as well as socioeconomics and race and ethnicity. The index designates many rural communities, along with some urban ones, as at increased risk.

So for Phase 1b, if you have 10,000 doses of ***vaccines*** in a small city, you might reserve more of them for neighborhoods that rank higher for social vulnerability. These choices will be made differently in different places, but we shouldn't turn a blind eye to the disparate impacts of this epidemic.

Ezike: Absolutely. The goal is to get everyone vaccinated, but you push out doses in weighted numbers so high-risk areas get more ***vaccine*** first. We can stop a lot of the clusters that are nodes of infection if we get to those people who have no choice but to show up at work, often to feed their families, in high-risk, public-facing settings.

Peter Singer: It makes sense to protect those who are most vulnerable, whether the vulnerability is social or health-related. So if the evidence indicates that Black, Latino or Native American people have a higher risk of dying from the virus, they should be offered the ***vaccine*** ahead of others of the same age who are at lower risk because they are white or Asian. But a document that was circulated in November to A.C.I.P., the C.D.C. panel, suggested that the fact that racial and ethnic minorities are underrepresented among those older than 65 is a reason for giving lower priority to that age group as a whole and instead vaccinating more than 100 million "essential workers" ahead of them. The effect would be that more people over all would die -- and also that more members of racial and ethnic minorities would die, because the higher fatality rate in older people would outweigh their lower share of representation in that age group. That's absurd. Equity for disadvantaged minorities can't tell us to distribute ***vaccines*** in a manner that will mean more deaths in those communities themselves.

Fortunately, the C.D.C. has not adopted this view. Instead it has recommended priority only for the much smaller group of "frontline essential workers." The case for doing this is stronger than the misconceived notion of equity that appears to have been the grounds for the original suggestion.

Bazelon: Allocation involves trade-offs. In the United States, at press time, we have about 100 million complete ***vaccinations*** (two shots each) on the way from Pfizer-BioNTech by the end of July and another 100 million from Moderna planned by the end of June. But for months, it seems clear, demand will far outstrip supply. What do you

think about the priorities that the C.D.C. has recommended so far, and what about the remaining groups at potentially heightened risk -- people who are over 65, people who have a high-risk medical condition, essential workers who don't fall within the "frontline" definition the C.D.C. used, people who are homeless or in congregated settings like jail and prison. What moral framework do we use for deciding who goes where in line?

Singer: The objective that we should aim for is to reduce years of life lost. I know a lot of people are talking just about saving lives. But I do think that it's different whether somebody dies at 90 or 50 or a younger age still. So, in my view, that's what we should be looking at.

Bazelon: The British government plans to first vaccinate people age 80 and older, along with frontline health workers, then people 75 and over, and so on through age 65, before everyone else.

Singer: The basis for the British government's plan is, of course, to treat those who are at the highest risk of dying and thus to minimize the number of deaths. But it is also important to consider what your life would be like if you don't die.

It might still be that we should protect 90-year-olds first, based on data suggesting that 90-plus are at eight times the risk of dying from the virus as people around 70, whereas their life-expectancy difference is roughly something like four and a half years as against 15 years for 70-year-olds. If that's correct, then the higher risk to the 90-year-olds outweighs the difference in life expectancy.

But even there I would make some exceptions. I don't know whether the public-health systems are going to be able to do this or whether the political leaders are able to accept it, but if we are talking about everybody in an elderly-care home getting vaccinated, I think we should ask questions about the quality of their lives. Going back many years, looking at ethical issues about end-of-life decisions, many doctors tell me that when patients have severe dementia, they do not treat conditions like pneumonia. Even though you could treat it with antibiotics relatively simply, they say, there's a time to let a patient go. If a patient is not capable of expressing a view on whether or not to receive treatment -- and that includes ***vaccination*** -- families should be consulted, and they should make the call. We shouldn't just go through nursing homes and automatically vaccinate those who are not capable of giving consent.

Now, in other cases, obviously with health care workers, there is an indirect benefit to ***vaccination***. It's not just their lives that we're trying to save, we're trying to protect the lives of the people that they serve.

Juliette Kayyem: To me the question of priorities for Phase 1b is like a badly bruised airplane coming down for a landing. You put the oxygen mask on those who can help. You save the helpers, and then you help others. In this case, that's the frontline essential workers.

Singer: Setting priorities in this phase should depend on the impact on essential services. For services in which workers are mostly young, and even if they get the virus they're not likely to have severe symptoms, and they will not be absent from work or will be absent only briefly, then maybe you don't have to vaccinate them first. But if we have essential services that are really being set back by the fact that people are getting the virus -- for example, if we're at risk of not having enough truck drivers to deliver the ***vaccine*** -- that would be a reason to give these workers high priority.

Bazelon: That makes me think of teachers. The service of in-person schools has been cut off in parts of the country for 10 months now. This has come at a huge cost to kids, in terms of learning loss and social and emotional development. Some vulnerable kids aren't in school at all. Children generally have borne a greater share of the burden of the virus than we often talk about.

Gonsalves: If schools should be last to close, first to open, perhaps we should put teachers right up there. In the recommendations for Phase 1b, the A.C.I.P. split the difference in some ways by saying the next round should go to

people age 75 or older and also to frontline essential workers, including teachers. They are looking both to reduce mortality and keep society functioning.

Kayyem: Education is critical infrastructure. We didn't designate it as such, as we did with electricity and water or the food-supply chain. But it turns out that a society cannot move, literally cannot flow, if parents are at home because of kids. The economic impact has been huge. And on the other side of this pandemic, the long-term impact for kids who were already behind is disastrous. Shame on us for not treating school as critical infrastructure before this. We should fix that. And the number of ***vaccinations*** we need to open the schools, for teachers and staff -- 6.6 million in public schools -- is relatively small relative to the general population.

Bazelon: In thinking in terms of years of life saved, research suggests that children who fall behind because of elementary-school closures are likely to have shorter life expectancies, on average. The same may be true of older students as a result of lower graduation rates.

Gonsalves: There are other trade-offs to consider, outside of schools. Suppose we're interested in preventing the most new infections, not the most deaths. Then we're looking for places where transmission is high, like prisons and meatpacking plants.

Kayyem: For people in jail and prison, whom the C.D.C. did not include in the first or second phases, I don't have a legitimate argument for why they are different, in terms of ***vaccine*** priority, than people in senior care homes. It's the same pool: people who don't control their own movement, who are disparately impacted, especially elderly prisoners.

Gonsalves: It's hard to make these complex trade-offs. Look, my parents were schoolteachers. I'd put teachers at the front of the line too. But to say how I would have written the recommendations for A.C.I.P. -- I don't know. Science can help frame these choices, and we should rely on the data to guide us but also understand we are making social, value choices as well.

Bazelon: Is it useful to have a federal authority, meaning the C.D.C., that makes recommendations to the states?

Ezike: Oh, absolutely. And I recently had a call with some of my counterparts in neighboring states. If we can decide on ***vaccine*** priorities as a collective, there's also power in numbers.

Siddhartha Mukherjee: As a scientist and as an immunologist, I'd like to bring up another consideration -- or another kind of value. I see value in more broadly distributing at least a little ***vaccine*** in the earlier phases so that we can understand its success and failure rates in the real world, across various populations. In the trials that have been done so far, Pfizer's and Moderna's ***vaccines*** were each tested on 30,000 to 40,000 people. Now we are in a phase of massive expansion. We need a broader range of people to figure out, Is this really working? Is it really preventing infections across all the groups that need to be protected? Six months from now, we don't want to still be asking that question.

Gonsalves: This is a huge issue. I don't think the ***vaccine*** makers have cut corners on safety, but to understand the long-term effects, we have to formally evaluate the ***vaccines*** in the broader population, not just watch passively to see what happens.

Mukherjee: For instance, we'd like to know how the ***vaccine*** affects women who are pregnant and people who are partially immuno-compromised, and young kids. And we'd like to know about drug-***vaccine*** interactions -- if a particular drug you're taking changes the effectiveness of the ***vaccine***. Remember, we are going to try to vaccinate billions of people. And so, we really need to understand as deeply as possible. That's not an easy task.

How Does the Rollout Work?

Bazelon: The ethical considerations about who gets priority for the ***vaccine*** loom very large if we imagine people waiting for many months, whereas if you imagine people waiting for weeks, then they become less fraught. How long will it take to get all the high-risk groups vaccinated? When will the ***vaccine*** get to the general population, and how do we know we'll have enough?

Kayyem: Are you asking whether your kids can get out of the house this summer?

Bazelon: Yes, I'd like to know that!

Kayyem: I think the answer is yes. I'll talk in terms of seasons, not dates, because there are some big things we don't know yet. First, how soon does the C.D.C. approve the Johnson & Johnson ***vaccine***? That's the one I really like, because it might work as one shot, not two, and it doesn't have to be kept cold, which just makes it easier from a logistics perspective. So that's an important unknown piece. Then also, President Trump has not yet invoked the Defense Production Act for ***vaccination***. That would ensure that we are compelling or incentivizing U.S. companies to ramp up production of syringes and needles, gloves, storage facilities and anything else we need to support the whole enterprise. I don't know how much the Biden team can see into what's happening now, but they'll want to keep money and supplies pumping until the whole population is vaccinated.

Look, the hardest part is done. We have the ***vaccine***. But the rollout won't be perfect. You're going to have broken-down trucks and lost packages and people who should have shown up and didn't show up. You are going to hear the story of this 65-year-old man and the woman of his dreams whom he has been married to for 40 years, and she is 64, so they're separated by three months in the ***vaccine*** line.

But I think by spring, we'll start to reach the general population. And we will get better and faster as more ***vaccines*** get approved. Manufacturing will move faster. We will have a new administration that can look past a president's ego. Think of it like a tidal wave, starting slowly and then getting bigger. I have confidence that by this summer we will be well en route, if not all the way back, to normal-ish, a term I've been using because I'm not sure we know what normal is anymore.

Bazelon: As immunity starts to ramp up, even in small numbers, if it's among the high-risk groups, does that take some of the pressure off, does it improve some of the outcomes?

Gonsalves: Well, remember that the primary endpoint for many of the ***vaccine*** trials was mitigation of disease and not necessarily prevention of transmission. We're all hoping that it's going to turn out that the ***vaccines*** also prevent transmission. And as we vaccinate older people, we're going to see the fatality rate drop in this group, and guess what, it's going to look like things are getting better. But that could be an excuse for us to let down our guard over the next few months. Rochelle Walensky, who is President-elect Biden's choice for C.D.C. director, recently explained why we have to keep wearing masks and to social distance in the context of the ***vaccine*** rollout. She compared the virus to a forest fire. The ***vaccine*** is the fire hose that can put it out. With a small brush fire, water meets fire and quickly extinguishes it. But if the forest fire is raging, as the virus has been raging and continues to rage, the potency of the ***vaccine*** will be diluted by the sheer force of infections. A fire hose can do little good faced with a wall of flame.

Another problem is that there hasn't been a lot of money for the rollout coming from Congress to the states and localities. The new stimulus package is a start, but without more funding from the new Congress, our efforts to get to somewhere normal-ish by the summer will be hampered. If there's anything I want people to think about, it's that what happens on Jan. 5, in the Georgia races for the Senate, will determine a lot of our future.

Mukherjee: When you talk about trucks breaking down, that's one problem. There's a second, equally important but I think neglected logistical problem, which a company I co-founded, Othena, is trying to solve. The Pfizer and the Moderna ***vaccines*** require booster shots. They need to be tracked, and they need monitoring and auditing. What's the reminder system for telling you to come back for your second dose and for tracking which populations

are getting the ***vaccine***? This is a data-management challenge. We are piloting Othena software to address this issue in Orange County and other places in the country.

Current software systems are not patient-based, and ***vaccination*** will only be scalable if patients can manage their own ***vaccination***.

Ezike: These are significant issues. And we need to be able to see which communities are getting appropriate uptake of the ***vaccine***. But then, when I do virtual town halls with Latinx groups, I get a lot of questions: What are you doing with this patient information? How do I know it's not going to be used and reported to authorities to get me deported? So, we are balancing and trying to keep track of all these different concerns.

Mukherjee: Building trust means not just trust in the safety of the ***vaccine*** but also trust that your information will be secure and won't be misused. These are solvable problems but they require technology. There are advanced encryption mechanisms available. They allow you to give information without disclosing all of your identifying details, while still allowing for searchability. We want that to be digitized, and we want to know as a nation how many people have been vaccinated.

Kayyem: As we think about what the world looks like in the process of getting herd immunity, if you want to leave the country, international airlines such as Qantas are suggesting that they will be requiring proof of ***vaccination*** for passengers. Security for the Japan Olympics now includes health security, and there's a serious debate in Japan about ***vaccine*** verification for not just athletes but also for spectators.

Singer: Qantas will require ***vaccination*** verification not only to protect crews and other passengers but also because Australia, where it is based, is close to eliminating local transmission of the virus. Currently everyone arriving from overseas has to quarantine in special high-security hotels for two weeks, at their own expense, before going into the community. ***Vaccination*** certificates could replace that.

We need other strategies to incentivize people to get vaccinated. Employers could require ***vaccination*** certificates for employees whose work brings them into contact with others.

Mukherjee: Deploying a ***vaccine*** just in the United States, not even talking about the world, to more than 300 million people without the digital infrastructure, which we lack currently, it sounds to me like madness.

Gonsalves: But the information problem started a long time ago. If you look at the data collection over the course of the pandemic, with no disrespect to the states, we have had fragmentary data collection on basic things like cases, tests, deaths, hospitalizations. At the county level, things get much worse. We have very little longitudinal data on age, race, ethnicity.

And if we're going to build trust, it's not just saying, "Hey, a new ***vaccine*** is coming." It's working with community leaders to help people understand how good this new intervention is. But talking is not enough. It's investing real resources in the very same communities that have been hardest hit and that we've ignored for years.

Kayyem: My big worry has been the polling that showed lots of people not willing to take the ***vaccine***. Including people in high-risk communities. But I'm hopeful that's starting to shift. It looks like "no" does not mean "never." It means: "I want to make sure that you build trust in my community. I'll be hundredth in line, I just don't want to be first." And that seems to me something that we can work with. You get the validators, you get the community leaders. You get a fair process of allocation in place that people can understand. And you get the logistics right. If that's working well, people will have confidence in the ***vaccine***, because it will be delivered well. People think, Oh, it's just logistics. But if the process works, it will help achieve the policy goal of assuring communities that might be nervous.

Ezike: I think what Juliette is saying is true. My team and I have done the virtual town halls with churches, with first ladies of churches, reaching out to the Black population. There's just the fear of going first. If we only said, "We

really want to support the groups that have been disproportionally hit, and, Black people, you're at the front of the line," some of them would go running. People who are skeptical would think, No, no, no, we're not doing that. But I think by putting health care workers first, this part of the Black community would think, OK, cool, you can't be trying to take out all your doctors!

Bazelon: We need them!

Ezike: Right. I think, though, there's a possible issue with the long-term-care population. Many of those people may die anyway, for other reasons, but then the conclusion could be, "Grandma got the ***vaccine*** and died the next week." These are elderly people with co-morbidities, and their death will coincide with the period after ***vaccination***, but it will not be caused by the ***vaccine***. I think that will be confusing for many people, however. So having health care workers get vaccinated and survive -- that helps people get the confidence to say: "OK, I'm ready now. I'm lining up." I think there's going to be this big push at the end when people are like, "So far, so good."

What About the Rest of the World?

Gonsalves: If you follow Peter's age-based utilitarianism, we should give priority to immunizing the people in the Global South. That's where most of the young people on this planet live.

Singer: I totally agree. Getting ***vaccines*** to the Global South should be a very high priority.

Gonsalves: But right now, most of the ***vaccinations*** are being sucked up by Europe, Australia, New Zealand, the U.K. and the United States and Canada. The People's ***vaccine*** Alliance, which includes Amnesty International and Oxfam, just released a report saying that in 70 lower-income countries, only one out of 10 people will get access to the ***vaccine*** in 2021. We're setting up a kind of medical apartheid over the next couple of months, and even couple of years, in which the virus will be under control in the United States and Europe and some other places, but if you're coming from another country with no proof of immunity and trying to get a student visa to the United States, good luck.

Ezike: Thinking more globally, as I think of Nigeria, my father's birthplace -- access to ***vaccine***, access to testing, all of that is limited there. We're not seeing a significant number of deaths in Nigeria, and that's fortunate. But if transmission was rampant, given how much Nigerians travel abroad, it would have serious reverberations beyond the country's borders.

Bazelon: Rich countries appear to be planning to hoard ***vaccine***. The European Union has ordered enough to immunize its residents twice. Britain and the United States could inoculate everyone four times, if the supplies they have lined up are delivered, and Canada six times, according to a New York Times analysis of data on ***vaccine*** contracts. The World Health Organization and others have led an international effort called Covax, which commits a billion doses to less-wealthy countries. But that's still not enough for anything like equitable distribution.

Gonsalves: Here we go again, right? I mean, I'm an epidemiologist. I'm also an AIDS activist. And in 1996 we had the advent of a highly active antiretroviral therapy, and where did it go? It went to the industrialized North. And within a few years, everybody was clamoring for it all over the planet.

Mukherjee: Companies in India are making hundreds of millions of doses of Covid ***vaccines***. ***China*** and Russia have ***vaccines***, too. But we don't know whether any of these ***vaccines*** have been tested with the same rigor as the Pfizer and Moderna ***vaccines***. To me, this is the most unfortunate thing about ***vaccine*** testing that's happened by far. The only data that we have about the Chinese ***vaccine*** comes from the United Arab Emirates and Bahrain, and we don't know the efficacy of it. They say it's 86 percent; we don't know real numbers. The Russian ***vaccine*** also has very little information released. Then there's the AstraZeneca ***vaccine***, which has run into data problems.

And yet, these are the very ***vaccines*** that are likely to reach the many millions. Really, there's a challenge of distribution here that's also an ethical challenge. The United States is getting ultracold ***vaccines*** deployed in aircraft

across the United States, whereas the ***vaccines*** that are the easiest and perhaps the most amenable to vaccinating hundreds of millions of people have gone through relatively poor evaluations.

One thing that we could do as a community of epidemiologists and immunologists is to ask the manufacturers to release the data publicly so we can evaluate how good or bad these other ***vaccines*** are that are being produced in the hundreds of millions of doses. We will never conquer the North-South divide completely in the short run, but at least we can mitigate some of the problems.

Singer: I also agree that it's important to get these other ***vaccines*** through proper trials as soon as possible. To date, human-challenge trials have not been part of ***vaccine*** development, but researchers in the United Kingdom hope to start them in January. According to 1DaySooner, which advocates for volunteers, nearly 40,000 are willing to take part. If you can give people a ***vaccine*** and then deliberately expose them to the virus, you get results much faster. And you can study the antibody responses and the immune responses, because you can house volunteers in a residential quarantine facility where they'd be available for that kind of testing. I recognize that they don't have the representative demographics that you would want, but these trials do offer the possibility of getting much speedier results.

Gonsalves: Yes, evaluate other ***vaccines*** that are easier to store and ship. But even if there are cold-chain issues with distributing the Pfizer and Moderna ***vaccines*** in poorer countries, it's not impossible. These are the ***vaccines*** we have right now, which work. We have to break the patent on them. We would not have worldwide access to antiretroviral therapy if countries like India and Thailand weren't making generic versions of patent drugs, whether or not the original manufacturers agreed.

Mukherjee: I was formerly an Indian citizen. India as a country got into trouble, politically and internationally, from breaking patents on drugs for antiretroviral therapies for H.I.V. The world regime right now is not very sympathetic to breaking ***vaccine*** patents. And I just don't see that happening in the short run.

It's so important for the ***vaccine*** data to be cleaned up and presented properly so that we can understand what the trade-offs are. Because even if we break the patents, I just don't see Pfizer, with a ***vaccine*** that must be kept at -- 70 degrees, deploying it to 1.3 billion people in India. I just don't see it.

Singer: I think everybody, except the drug companies that had the patents, applauds the fact that the patents were broken in the case of H.I.V. and antiretrovirals. It should be possible to do that again here. It may be that a certain portion of money needs to go to those companies to compensate them for the loss. That shouldn't be beyond the means of affluent nations.

There are other proposals for funding ***vaccine*** development on the table, including the Health Impact Fund, which has been discussed by some European governments, and would pay companies based on performance. Instead of patenting ***vaccines*** or other treatments, developers could opt to receive payments (from a pool of funds contributed by governments or philanthropists) based on the success of their products, worldwide. So pharmaceutical companies would have an incentive to develop the products that help people the most and distribute them as widely as possible.

Mukherjee: When one of the easily deployable ***vaccines*** is available, if every one of America's billionaires put a fraction of their wealth into deploying it to the Global South, worldwide ***vaccination*** would become an achievable goal.

Singer: The economist Richard Thaler wrote in The Times recently about letting celebrities and wealthy people jump the ***vaccination*** queue by bidding for spots at an auction. That would show they wanted to get the ***vaccine***, which would help encourage other people to get immunized. And Thaler thought the money could go to people who are suffering because, for example, the virus cost them their jobs. My idea is that instead of dollars, people should bid on sending units of ***vaccine*** to the Global South.

Mukherjee: Peter, what if you could jump the queue, and get 10 doses of ***vaccine*** for your friends and family, if you contribute 5,000 or 10,000 or 500,000 doses for the Global South. Would you be open to such an option?

Singer: Yes, I would be, I think. Clearly, for a utilitarian like me, the benefits greatly outweigh the costs.

Gonsalves: It won't happen. But there will be huge numbers of rich people who will jump the line for the ***vaccine*** and not give anything back.

Are the Stakes Even Higher Than We Realized?

Kayyem: The first part of 2021 is going to be a split screen -- the horror and the hope. On one side are people rolling up their sleeves and getting inoculated. On the other are people dying in terrible numbers in the United States.

It's hard to be magnanimous in that situation. And I totally think we should be out in the world supporting ***vaccine*** distribution to those in need, but I look at this country right now and I also recognize there's this aspect of holding on for dear life over the next couple months. This is why ***vaccine*** nationalism is so strong. And it's why ***vaccine*** diplomacy by ***China***, for example, is a major part of geopolitics in 2021. While we're on our knees struggling, ***China*** is going around the world, spending money to support other countries in purchasing ***vaccines*** and making lots of friends. People ask me, as a matter of homeland security and national security, what are President-elect Biden's five major priorities, and my answer is Covid, Covid, Covid, Covid, Covid. For decades we provided the world a market economy with a lot of freedoms --

Mukherjee: And medicines.

Kayyem: And medicines. The alternative to that was a market economy with limited freedoms -- ***China***. But a country's strength is its capacity to be resilient. And now we are groping. We have not proved our resiliency yet. And that's a problem not just for national security but for free-market democracy.

Gonsalves: Kind of like what happened here under our noses, right? Everything seemed fine, until it wasn't. Over the past 10 years we've had massive cuts in public-health funding at the state and local level. Barely 3 percent of our health care dollars are spent on public health and prevention. We invest in the most sophisticated health care technologies but ignore the social-welfare programs that undergird people's health in many of our peer nations: No wonder we're ranked 17th in the world for life expectancy by the U.N. We let our great public-health system collapse. Looking at us, the world has to think, Are they really a role model?

Kayyem: Dr. Ezike, what worries you the most? Is there a point of failure we're not thinking of?

Ezike: We will have significant issues if some new adverse event with the ***vaccine*** comes to light. In the unlikely event that something goes very wrong, it could reverse all of the progress we've made in trust of ***vaccine*** science. I'm thinking of kids not getting their regular required ***vaccinations***. Public health will suffer for generations to come.

Bazelon: That makes me really nervous. It means the stakes are even higher than I realized -- and something is bound to go wrong, isn't it?

Mukherjee: And remember, this is not simple. It's not, Go to CVS, get one jab and come out. This requires a booster, to be taken on time, post-***vaccine*** monitoring and not mixing up ***vaccines***. This keeps me up at night: Imagine some small percent of people saying, I got a terrible fever from the first dose, I don't want to go back for the second one. The good news is that Pfizer's data suggests the first dose is actually quite effective by itself.

Bazelon: Is it effective enough that it's OK if people just take one dose?

Mukherjee: No, no, no. That would be bad news for a thousand reasons, including the possibility of viral resistance, which would be a disaster. But some part of me wishes that a priority up front in the United States was a much more conventional ***vaccine***, which could be deployed more simply.

Bazelon: Will everyone here get vaccinated at the first opportunity?

Mukherjee: I will.

Kayyem: I'd bump Sid if he's ahead of me. (Laughter.)

Gonsalves: I will.

Singer: I will, though I think in Australia we're not getting it till March, so you will be ahead of me.

Bazelon: Well, not me. I'm low priority, which is as it should be, though I can't wait to get that shot. Or shots.

Singer: I'm pretty safe here, so I'm not too worried about waiting.

Ezike: I'll get the ***vaccine***. I actually don't have a choice at this point.

Bazelon: I feel as if you should get it on TV.

Ezike: That's in the works. Though I have to wait my turn.

Kayyem: I want to say one more thing: We do have permission to hope, because of the ***vaccines***, and all of us here can help to give that permission. But it has to be said every time, where the country is right now, with more than 300,000 people dead, it is unforgivable. It did not have to be this way.

Singer: In Australia, we haven't hit 1,000 dead, and our population is about a 15th of the United States. Perhaps that shows what's possible. //

Photo illustrations by Tyler Comrie

Photo illustration by Tyler Comrie

*https://www.nytimes.com/2021/01/03/magazine/03mag-03**vaccine**-t.html*

Graphic

PHOTOS (PHOTOGRAPHS BY TYLER COMRIE) (MM37

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Organization: CENTERS FOR DISEASE CONTROL & PREVENTION (84%)

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68 Muslims in Indonesia Ask if Shots Are Halal

The New York Times

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Section: Section A; Column 0; Foreign Desk; Pg. 8

Length: 1302 words

Byline: By Richard C. Paddock

Body

President Joko Widodo hopes to begin inoculations soon, but the ***vaccine*** from the Chinese company Sinovac still needs approval from safety regulators and an influential council of Muslim clerics.

The one-sentence letter didn't say much. The ***coronavirus*** ***vaccine*** was "manufactured free of porcine materials," Sinovac, the Chinese ***vaccine*** maker, wrote to Indonesia's state-owned ***vaccine*** manufacturer in July.

While the letter was promising, Indonesian clerics needed more details. A ***vaccine*** laced with the smallest amount of pork DNA could dissuade some followers of Islam from inoculation in Indonesia, the country with the world's largest Muslim population. Sinovac took months to provide more information, which came only this week.

The Chinese company's delayed response has been yet another challenge in Indonesia's already fragile ***vaccine*** rollout. With the highest number of ***coronavirus*** infections in Southeast Asia, the country is eager to drum up support for its goal of inoculating 181.5 million adults within 15 months. But looming questions about the safety of the Sinovac ***vaccine*** and whether it is halal, or allowed under Islam, are complicating the government's efforts.

"There shouldn't be any concern about whether this ***vaccine*** is halal or not halal," said President Joko Widodo. "We are in an emergency situation because of the Covid pandemic."

Indonesia has recorded nearly 800,000 infections and more than 23,000 deaths, staggering numbers in a region where virus cases have remained relatively low. Inoculations are set to begin with health workers, soldiers and police officers in the coming weeks, once health authorities are satisfied that the Sinovac ***vaccine*** is safe and effective.

Mr. Joko said he would go first to show there was nothing to fear.

The ***vaccine*** must also undergo a separate approval process by the Ulema Council, an influential group of Muslim clerics that decides which products are halal in Indonesia.

Islamic authorities in other countries where Muslims make up a sizable share of the population, including Malaysia and the United Arab Emirates, have already ruled that ***coronavirus*** ***vaccines*** are permissible, even if they contain pork gelatin, which is used to stabilize many inoculations.

Last month, the Vatican released a statement declaring ***coronavirus*** ***vaccines*** "morally acceptable" for Catholics who might be opposed to a ***vaccine*** developed with stem cells from fetuses aborted decades ago.

Indonesians are still waiting for religious leaders to weigh in.

"In pharmaceutical products, halal is one of the important elements after the safety, efficacy and quality of the ***vaccine*** itself," said Bambang Heriyanto, a spokesman for Bio Farma, Indonesia's state-owned ***vaccine*** manufacturer.

The Ulema Council is expected to issue a decree, or fatwa, authorizing the use of the Sinovac ***vaccine*** in the coming weeks, but the nature of its findings could affect how widely it is accepted in Indonesia, especially among the country's many conservative Muslims.

During a measles outbreak in 2018, the government, backed by the World Health Organization, undertook an ambitious ***vaccination*** program, but the only ***vaccine*** available in sufficient quantities contained pig products.

After analyzing the measles ***vaccine***, the Ulema Council declared it haram, or forbidden under Islam, but said its use was allowed because the outbreak was an emergency.

In some parts of the country, however, local Muslim leaders opposed using a haram ***vaccine***. The program fell well short of its 95 percent target and ended with nearly 10 million children unvaccinated. Only 72 percent of the target group was vaccinated.

On billboards above the busy streets of Jakarta, the capital, a woman wearing a face mask and head scarf can be seen flexing her arm as images of the ***coronavirus*** float nearby. Thousands of such billboards and banners have been erected along high-traffic roadways across the country. The message: ***vaccines*** protect you.

To encourage widespread ***vaccinations***, some regional governments have also passed new laws allowing for the punishment of people who refuse to get inoculated against the ***coronavirus***.

"The government will ensure that the ***vaccine*** is safe and effective, has minimal side effects and is, of course, halal," said Wiku Adisasmito, spokesman for the national ***Covid-19*** task force. "Regional governments will have the authority to make people obey and participate in the ***vaccination*** program so that herd immunity can be achieved easily."

With a population of 270 million, Indonesia hopes to achieve herd immunity by vaccinating roughly two-thirds of the population in just over a year. President Joko said Tuesday that he hoped it could be done even more quickly.

Indonesia has ordered ***vaccines*** from several companies, but plans to rely mostly on Sinovac, which has already delivered three million doses. It is the only ***vaccine*** to have arrived in the country so far.

Bio Farma plans to manufacture 122.5 million additional doses using raw materials provided by Sinovac.

Like other countries, Indonesia is eagerly awaiting data from Stage 3 trials so that its Food and Drug Control Agency can evaluate the safety of Sinovac's inoculation. Months ago, ***China*** began administering the Sinovac ***vaccine*** and one made by a second company, Sinopharm, even though human trials were not completed.

Sinovac is expected to release the findings of its late-stage trials soon, with approval by the Chinese government to follow. But ***China*** has rarely been forthcoming about its ***vaccine*** data and has a history of producing faulty ***vaccines*** and tainted food products. In 2018, a scandal erupted over substandard doses of a ***vaccine*** for diphtheria, tetanus and whooping cough, and over fabricated data for a rabies ***vaccine***.

In Indonesia, a nationwide survey conducted in September by the health ministry, the World Health Organization and Unicef found that health issues were of even greater concern than whether a ***coronavirus*** ***vaccine*** was halal.

Dicky Budiman, an Indonesian epidemiologist at Griffith University in Australia, called on ***China*** to release scientific data from the inoculations so that Indonesia could evaluate the ***vaccines***' safety and effectiveness.

"Transparency is one of the biggest challenges for ***China***, especially with their ***vaccines***," he said. "This is a crucial time for ***China*** to show the world how they have improved the quality of their ***vaccines***."

The Ulema Council said it had asked Sinovac repeatedly for documentation on the materials in the ***vaccine*** in order to make its determination. It is prepared to announce its ruling after Indonesia determines that the ***vaccine*** is safe and effective.

At the Global Halal Center near Jakarta, the council operates laboratories in biotechnology, physics, chemistry and microbiology that it has recently used to test Sinovac's ***vaccine*** for pig products.

Its labs can test 500,000 product samples a year, said Muti Arintawati, director of the council's Food, Drug and Cosmetics Analysis Agency. The council, founded in 1975 by representatives of major Islamic groups, has the authority to certify whether products and medications meet Islamic standards in Indonesia. Companies pay from $180 to $780 for the certification.

Major Islamic groups such as Nahdlatul Ulama and Muhammadiyah, which together have some 140 million members, will join the effort to encourage the ***vaccine***'s acceptance once it has been deemed safe and a fatwa has been issued.

"We will give an explanation from the Islamic law perspective so that people are willing to be vaccinated," said Ahmad Ishomuddin, Nahdlatul Ulama's supreme leader. "I think only a small number of people will reject it because protecting life is a major purpose of religion."

Dera Menra Sijabat and Muktita Suhartono contributed reporting.

*https://www.nytimes.com/2021/01/05/world/asia/indonesia-sinovac-**vaccine**-halal.html*

Graphic

PHOTOS: In Indonesia, a largely Muslim nation, many are waiting for clerics to rule on whether Sinovac's ***vaccine*** is permissible. The Global Halal Center near Jakarta, left, tested it for pig products. (PHOTOGRAPHS BY ULET IFANSASTI FOR THE NEW YORK TIMES)

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PUBLIC HEALTH (75%); PANDEMICS (73%); HEALTH DEPARTMENTS (68%); CATHOLICS & CATHOLICISM (64%); HEALTH CARE PROFESSIONALS (63%)

Industry: ***vaccineS*** (95%); BIOLOGICS MFG (90%); ***VACCINATION*** & IMMUNIZATION (90%); ***COVID-19 CORONAVIRUS vaccine*** (89%); DRUG SAFETY (89%); MANUFACTURING (89%); DRUG EFFICACY (78%); PHARMACEUTICALS & BIOTECHNOLOGY (78%); PHARMACEUTICALS INDUSTRY (78%); HEALTH DEPARTMENTS (68%); HEALTH CARE PROFESSIONALS (63%)

Person: JOKO WIDODO (74%)

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69 Second Chinese Coronavirus vaccine Is Effective, Officials in Brazil Say

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Body

Sinovac Biotech has sold more than 300 million doses to the developing world, filling a gap left by Western countries.

Brazilian officials said Thursday that a ***coronavirus*** ***vaccine*** made by a Chinese company was effective, bolstering the chances of approval for a second Chinese inoculation that could be rolled out in much of the developing world.

Officials in the state of São Paulo, where a prominent medical research institute carried out a large study of the ***vaccine*** made by the Beijing-based Sinovac, said the inoculation had an efficacy rate of 78 percent.

The ***vaccine*** prevented all participants from developing serious and mild complications from the virus, officials said, calling it a highly effective preventive tool.

In anticipation of approval, the ***vaccine***, CoronaVac, has already been shipped around the world as countries prepare for mass inoculation campaigns. Sinovac has sold more than 300 million doses, mostly to low- and middle-income countries, accounting for about half of the total doses that ***China*** says ***vaccine*** makers were capable of producing in 2020, based on an analysis of company statements and media reports.

China has set its sights on supplying the developing world with a ***Covid-19*** ***vaccine***, in a push to position itself as a leader in health diplomacy after its failures in the early days of the outbreak. It also wants to burnish its credentials in science by becoming a major player in the global ***vaccine*** business.

Even without the regulatory greenlight, ***China*** has embarked on an aggressive ***vaccination*** drive at home, with the goal of inoculating 50 million people by the middle of next month. Beijing has also developed an overseas distribution plan for exports, directing airlines to stock up on refrigerators and dry ice.

China is filling a void in poorer nations left by Western competitors. The United States is mainly focused on working through the chaos of distributing its ***vaccines*** at home. The European Union and other rich countries have bought many of the doses supplied by the American drugmakers Pfizer and Moderna.

"The Chinese have been eager to get out in front, aware of the gap and the hoarding and pre-purchase of so many billions of doses by the Western governments that is leaving so many countries high and dry," said J. Stephen Morrison, director of the global health policy center at the Center for Strategic and International Studies.

"It will become a tool in their diplomatic alliances, and it will give them some measure of prestige and standing with countries that choose to make use of them," he added.

Unlike players from the United States, Chinese ***vaccine*** makers had to think globally almost from the start. The companies had to go abroad to test the efficacy of their ***vaccines*** because the outbreak had been largely stamped out in ***China***.

In recent months, Chinese companies have signed agreements with at least 15 countries and regions, providing early access to doses. Their ***vaccines*** have been rolled out in the United Arab Emirates and Bahrain after being approved for emergency use.

Many of their early customers were the governments that cooperated on the late-stage, Phase 3 trials. Brazil has roughly 10.8 million doses of the ***vaccine*** on hand and intends to start producing it locally, and Indonesia and Turkey have both received shipments of Sinovac ***vaccines***. Sinovac has said it is able to produce 600 million doses this year.

These deals could help ***vaccine*** makers shake off the industry's tarnished reputation after a series of quality and corruption scandals. For decades, Chinese ***vaccine*** makers focused only on serving their domestic market. Only five Chinese ***vaccines*** have been preapproved for export by the World Health Organization -- one of them is a hepatitis A shot made by Sinovac.

The results in Brazil are closely watched by regulators in other countries that are conducting trials for the Sinovac ***vaccine*** because it had the biggest number of volunteers, at 12,476. Turkey announced on Dec. 24 that the ***vaccine*** had an efficacy rate of 91.25 percent, but it was based on preliminary results from a small clinical trial. The scientists who ran the trial discussed the results at a news conference, but they did not provide the data online in written form.

The Chinese government said on Dec. 31 that it had approved another ***coronavirus*** ***vaccine*** made by the state-owned company Sinopharm. Sinopharm had announced that its Phase 3 trials showed that its ***vaccine*** had an efficacy rate of 79.34 percent, but it did not provide any further trial data, making it impossible for outside experts to evaluate the claim.

Dimas Covas, the director of Butantan Institute, which carried out the study, declined to provide detailed data about the ***vaccine*** study, including the number of people who contracted the virus broken down by placebo and ***vaccine*** volunteers.

In other countries, the ***vaccine*** was tested on ordinary people, but Dr. Covas said the Brazilian CoronaVac study relied solely on medical professionals, who were at higher risk of getting the virus than the general population.

"The ***vaccine*** was submitted to a hard test," he said, adding that none of the test volunteers developed serious or moderate cases of ***Covid-19*** or required hospitalization.

Officials in São Paulo said they were hopeful that Brazil's health regulatory agency would approve emergency use of the ***vaccine*** within days. The country hit a grim milestone on Thursday: 200,000 deaths from the virus.

If approval is granted, officials said, Brazil could produce up to one million doses of the ***vaccine*** per day.

Like the Sinopharm ***vaccine***, CoronaVac is made with a traditional technology that uses an inactivated virus to provoke the body's immune system to produce antibodies.

These ***vaccines*** tend to have weaker efficacy rates, but they can be kept at refrigerated temperatures, making transportation and storage easier. Such characteristics are especially important for developing countries that may not have the infrastructure to maintain the frozen ***vaccines*** made by Pfizer and Moderna. Sinovac's chief executive, Yin Weidong, called the inactivated technology "the best" one for the ***vaccine***.

Even before the pandemic, Sinovac's reputation was well established within the biotech world. In 2003, it was the first company in the world to develop an experimental ***vaccine*** for another ***coronavirus*** outbreak -- severe acute respiratory syndrome, or SARS.

The company started testing it on humans but had to scrap further trials after the outbreak ended. But the experience proved fortuitous.

Sinovac began work on a ***Covid-19*** ***vaccine*** soon after a top Chinese epidemiologist disclosed on national television in late January that the ***coronavirus*** in Wuhan was being transmitted between humans. Scientists at the company canceled their Lunar New Year vacations and set to work on Operation ***Coronavirus***.

Mr. Yin, 56, started his career as a doctor at the local disease and control center in the northern city of Tangshan. He was troubled by the scourge of hepatitis A and began wondering how he could make a ***vaccine*** to curb the disease.

In 1985, Mr. Yin, then 21, was the first to isolate the hepatitis A virus, and in 2001, he founded Sinovac Biotech.

Along the way, Sinovac has been caught up in the industry's bad practices. From 2002 to 2011, Mr. Yin paid $77,000 to a senior Chinese drug regulator, Yin Hongzhang, and his wife to approve his ***vaccines***, according to a 2018 filing to the Securities and Exchange Commission, citing court documents.

The regulator was jailed in 2017 for taking bribes from company executives, including the head of another ***vaccine*** company that has joined forces with AstraZeneca to make a ***Covid-19*** ***vaccine***. The executives did not face scrutiny.

A Sinovac spokesman, Pearson Liu, said the incidents happened more than 10 years ago, adding that "neither Mr. Yin nor the company have been accused of any wrongdoing by any government authority on the allegations."

Sinovac's key shareholders tried to use the bribery case involving Mr. Yin to oust him from his company. The messy battle culminated in the firm's electricity supply being cut off by representatives of a key shareholder and a temporary halt to the supply of hepatitis A ***vaccines*** in ***China***.

Through it all, Mr. Yin has emerged unscathed, creating a corporate front-runner in ***China***'s ***Covid-19*** ***vaccine*** outreach efforts.

After promising early-stage trials, Sinovac determined that it would need help from a research institute in a place with an active outbreak. Brazil has the third-highest number of ***Covid-19*** infections in the world after India and the United States, at 7.8 million cases, allowing Sinovac to test much faster for the efficacy of its ***vaccine***.

The Butantan Institute in Brazil looked like an ideal partner. Both companies had developed a relationship that had started before the pandemic, said Dr. Covas, the director. The institute was also well versed in the technology that Sinovac was using.

"We had common interests and, especially, the capacity to do this very quickly," Dr. Covas said in an interview.

In going abroad, Sinovac has been forced to navigate political minefields.

The company's website was defaced by hackers from Turkey in recent weeks. The hackers put up the flag of East Turkestan, an emblem banned in ***China*** and generally used as a symbol of independence for the Uighurs, a Turkic Muslim minority group.

Its clinical trial has been criticized by supporters of President Jair Bolsonaro, who has rejected his health ministry's plan to buy 46 million doses. In November, the trial was briefly suspended after the death of a participant, a

regulatory move that Mr. Bolsonaro -- who has blamed ***China*** for the pandemic -- hailed as a victory. The trial was resumed after the health authority ruled that the death had been unrelated to the ***vaccine***.

It is unclear whether the Sinovac ***vaccines*** will even be used throughout Brazil. João Doria, a rival of Mr. Bolsonaro's and the governor of the State of São Paulo, which has run the trials for Sinovac, has negotiated directly with the Chinese company for ***vaccine*** doses. He has announced that his state intends to start vaccinating people in late January, subject to regulatory approval. It's the only state in the country to buy the Sinovac ***vaccine***.

After the announcement on Thursday, Brazil's health minister, Eduardo Pazuello, told reporters that the federal government intended to purchase 100 million doses of CoronaVac.

"This ***vaccine*** will save millions of people," Mr. Doria said Thursday at a news conference. "Today is a day of hope."

Mariana Simões and Letícia Casado contributed reporting. Elsie Chen contributed research.Mariana Simões and Letícia Casado contributed reporting. Elsie Chen contributed research.

*https://www.nytimes.com/2021/01/07/business/**china**-**coronavirus**-**vaccine**-sinovac.html*

Graphic

PHOTO: Beijing residents filling out consent forms for ***coronavirus*** ***vaccinations***. (PHOTOGRAPH BY CHEN ZHONGHAO/XINHUA, VIA ASSOCIATED PRESS)

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Company: SINOVAC BIOTECH LTD (59%); PFIZER INC (58%)

Ticker: SVA (NASDAQ) (59%); PFZ (LSE) (58%); PFE (NYSE) (58%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (59%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (59%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (58%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (58%); SIC2834 PHARMACEUTICAL PREPARATIONS (58%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (58%); ***vaccineS*** (98%); PHARMACEUTICALS & BIOTECHNOLOGY (94%); BIOLOGICS MFG (90%); CHEMICALS (90%); CHEMICALS MFG (90%); ***COVID-19*** ***CORONAVIRUS*** ***vaccine*** (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); ***VACCINATION*** & IMMUNIZATION (90%); DRUG EFFICACY (89%); DRUG & MEDICAL DEVICES APPROVAL (78%); DRUG AVAILABILITY (78%)

Geographic: BEIJING, ***CHINA*** (88%); NORTH CENTRAL ***CHINA*** (92%); ***CHINA*** (96%); UNITED STATES (93%); BRAZIL (92%); EUROPEAN UNION MEMBER STATES (53%)

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70 Geopolitics Of vaccines On Display In Ukraine

The New York Times

January 10, 2021 Sunday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 4

Length: 1095 words

Byline: By Maria Varenikova

Body

Blocked from obtaining ***vaccines*** from the United States, its putative ally, and taunted in Russian propaganda, Ukraine turned to ***China***.

Lyudmyla Boiko's family has already had a harrowing, and lethal, encounter with the ***coronavirus***.

Several family members fell ill, and her daughter-in-law's mother died. Now, Ms. Boiko, a 61-year-old employee of a botanical garden in eastern Ukraine, is deeply worried about her husband, who has underlying health problems but has not yet caught the virus. She is pinning her hopes on a ***vaccine***.

"I don't care where the ***vaccine*** is produced as long as I'm sure it is safe," Ms. Boiko said. "Safety should be the first priority."

But in Ukraine, it is hardly the only consideration.

The country, already caught up in the broader tug-of-war between East and West in European politics, has now also become a focal point in the geopolitics of ***coronavirus*** ***vaccines*** -- so far, to Ukraine's detriment.

First, talks with Pfizer and other Western ***vaccine*** makers to obtain early shipments collapsed after the Trump administration banned ***vaccine*** exports. Now, unless the incoming Biden administration steps in, the earliest commercial purchases of Western ***vaccines*** will not be delivered before late 2021.

Not surprisingly, Ukraine's plight has caught the eye of Russia's state-controlled news outlets, which have highlighted the failure of Ukraine's Western allies to step up in a moment of need -- and offering Russia's ***vaccine*** as an alternative.

Ukraine's leaders, who have raised worries about the safety and efficacy of the Russian ***vaccine*** and would, in any event, almost literally die before accepting help from Russia, their blood enemy, turned to ***China***, buying its first ***vaccine*** in a hurried negotiation in the final two weeks of December.

"Russia, as always, uses this in its hybrid war, as an information weapon," Maksym Stepanov, Ukraine's health minister, said in a telephone interview of the country's effort to inoculate its population. "The issue of ***vaccines*** is politicized."

The Russian taunting has outraged Ukrainian public health experts, though there is little they can do to counter it without an alternative ***vaccine*** supply.

"Russia is pursuing an active policy of aggression, even with the ***vaccines***," said Oleksandr Linchevsky, a former deputy health minister. "It's in Russia's political interest that Ukraine receive the ***vaccines*** from elsewhere as late as possible," because it wants to fill the gap with its own ***vaccine***.

Ukraine, with a population of 42 million, is scheduled to receive eight million ***vaccine*** doses under the Covax program that supplies low- and middle-income countries that might not otherwise be able to gain access to ***vaccines***. But those doses are not due to arrive until at least March. Negotiations for Western shipments later in the year are continuing, Mr. Stepanov said.

Before President Trump's executive order banning ***vaccine*** exports from the United States, Ukraine had been in talks with Pfizer, Moderna and Johnson & Johnson to speed up delivery. Although the negotiations are continuing, the delivery times are being pushed back.

Ukraine's president, Volodymyr Zelensky, has barely contained his outrage at his country winding up far back in the line for ***vaccines*** despite its precarious geopolitical position.

Russia has for six years been backing a separatist war in two eastern provinces of Ukraine while trying to drive a wedge between Kyiv and its Western allies. ***vaccine*** politics are playing into the Kremlin's hand.

"We are supposed to be like political acrobats to manage to get into a priority list" for ***vaccines***, Mr. Zelensky said in an interview last month. The American export ban, he said, "put Ukraine at the end of the line." In an end-of-the-year statement to Ukrainians, Mr. Zelensky wrote bitterly that, unfortunately, "the richest" countries would have ***vaccines*** first.

In late December, Ukraine hastened talks with Sinovac Biotech, a Chinese supplier, announcing on New Year's Eve an order for 1.9 million doses, for delivery in early February. That is hardly enough, but still a geopolitical victory for ***China***, providing a measure of relief when Western countries have looked the other way.

The ***vaccine*** situation has spawned an information war in Ukraine, fanned by Russia. Television stations broadcasting pro-Russian views and politicians aligned with Russia have accused Mr. Zelensky of allowing Ukrainians to die out of a stubborn refusal to take medicine from an enemy.

"The Ukrainian government wants to leave Ukrainians without the right for medical protection" by not accepting the Russian ***vaccine***, called Sputnik V, for use in Ukraine, Viktor Medvedchuk, a politician favoring closer ties with Russia, said in a television interview.

Pro-Russian media outlets have reported with much fanfare that Biolik, a pharmaceutical company based in Kharkiv, in eastern Ukraine, has appealed to the health authorities for a license to manufacture Sputnik V, despite officials saying they have no plans to approve it.

The false promise of relief is a cruel twist of the propaganda knife for Ukrainians who are tired, as are people everywhere, of worrying about their loved ones.

Viktor Lyashko, Ukraine's chief public health official, has said the country will not approve register Sputnik V not because it is Russian but because of deficiencies in its clinical trials.

But others object to the ***vaccine*** simply because it is Russian.

"We cannot rely on a Russian state company during an armed aggression against Ukraine," said Arsen Zhumadilov, the director of medical procurement for the Ukrainian government. Russia is offering the potentially lifesaving ***vaccine*** even as its military intervention in the east has killed more than 13,000 people.

"It is so politicized it cannot be used," Oleksandr Danylyuk, a former director of Ukraine's national security council, said of accepting a ***vaccine*** from Ukraine's enemy in the war. "There is no green lighting here. It would be impossible to do it."

The rate of ***coronavirus*** infection in the country has slowed in recent weeks but still averages more than 7,000 new cases per day. Since the beginning of the pandemic, 19,712 Ukrainians have died from the virus. The country announced a lockdown starting this weekend.

"I understand the conflict around the Russian ***vaccine***," said Ms. Boiko, who worries about her husband, who has a heart ailment. "But I wish it were over soon."

Andrew E. Kramer contributed reporting from Moscow.Andrew E. Kramer contributed reporting from Moscow.

*https://www.nytimes.com/2021/01/09/world/europe/covid-**vaccine**s-ukraine.html*

Graphic

PHOTO: A patient breathing through an oxygen mask in a hospital for ***coronavirus*** patients in Kyiv in November. (PHOTOGRAPH BY Gleb Garanich/Reuters FOR THE NEW YORK TIMES)

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Subject: ***vaccineS*** (96%); VIRUSES (91%); CORONAVIRUSES (90%); HERBAL MEDICINE (90%); INFECTIOUS DISEASE (90%); PUBLIC HEALTH ADMINISTRATION (89%); DRUG SAFETY (78%); FAMILY (78%); HEALTH DEPARTMENTS (78%); INTERVIEWS (78%); MEDICINE & HEALTH (77%); EXPORT CONTROLS (72%); GOVERNMENT ADVISORS & MINISTERS (72%); PUBLIC HEALTH (68%); LOW INCOME PERSONS (60%)

Company: PFIZER INC (90%)

Ticker: PFZ (LSE) (90%); PFE (NYSE) (90%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (90%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (90%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (90%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (90%); SIC2834 PHARMACEUTICAL PREPARATIONS (90%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (90%); ***vaccineS*** (96%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); DRUG

AVAILABILITY (89%); BIOLOGICS MFG (78%); DRUG EFFICACY (78%); DRUG SAFETY (78%); HEALTH DEPARTMENTS (78%); BOTANICAL GARDENS (72%)

Person: JOE BIDEN (79%)

Geographic: RUSSIAN FEDERATION (98%); UKRAINE (94%); ***CHINA*** (92%); UNITED STATES (79%)

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71 Disappointing Results Pose a vaccine Setback

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Byline: By Sui-Lee Wee and Ernesto Londoño

Body

Brazil says CoronaVac has an efficacy rate just over 50 percent, much lower than previously announced. More than 380 million doses have already been ordered.

Scientists in Brazil have downgraded the efficacy of a Chinese ***coronavirus*** ***vaccine*** that they hailed as a major triumph last week, diminishing hopes for a shot that could be quickly produced and easily distributed to help the developing world.

Officials at the Butantan Institute in São Paulo said on Tuesday that a trial conducted in Brazil showed that the CoronaVac ***vaccine***, made by the Beijing-based company Sinovac, had an efficacy rate just over 50 percent. That rate, slightly above the benchmark that the World Health Organization has said would make a ***vaccine*** effective for general use, was far below the 78 percent level announced last week.

The implications could be significant for a ***vaccine*** that is crucial to ***China***'s global health diplomacy. At least 10 countries have ordered more than 380 million doses of CoronaVac, though regulatory agencies have yet to fully approve it.

A senior official in Hong Kong, a special administrative region of ***China*** that had already ordered CoronaVac, said on Wednesday that an advisory panel would strictly review the ***vaccine*** based on clinical trial data before it was rolled out there.

"Those countries that have ordered the Chinese-made ***vaccines*** are probably going to question the usefulness of these ***vaccines***," said Yanzhong Huang, a senior fellow for global health at the Council on Foreign Relations and an expert on health care in ***China***.

"Countries with opposition parties might use this to challenge the decision made by the incumbent government, and that will likely have domestic political implications in these countries," Mr. Huang said.

Sinovac did not respond to multiple requests for comment.

For months, Chinese officials had said the ***vaccines*** made by Sinovac and Sinopharm, a state-owned ***vaccine*** maker, would be important tools for fighting the pandemic in poorer countries that do not have extensive health care infrastructures. Unlike the ***vaccines*** made by the American drugmakers Pfizer and Moderna, they do not need to be frozen.

The Oxford-AstraZeneca and Johnson & Johnson ***vaccines***, which can be refrigerated and are more effective than their Chinese counterparts, could provide an alternative. But it is now unclear if the governments that have bought CoronaVac can scrap their deals and turn to others.

CoronaVac, unlike some of the other ***vaccines***, relies on older technology that uses chemicals to weaken or kill the virus, which is then put into a ***vaccine*** to spark antibodies in the recipient. But the process of killing the virus can weaken a ***vaccine***'s potency, resulting in an immune response that could be shorter or less effective.

The lower efficacy announced Tuesday would mean it would take longer for countries that used CoronaVac's ***vaccine*** to reach "herd immunity," the point at which enough people are resistant to the virus -- roughly 70 percent, many scientists have said -- that it is vanquished in a population. By contrast, the ***vaccines*** made by Moderna and Pfizer-BioNTech have been shown to have an efficacy rate of about 95 percent.

"This was one of the reasons the Americans and Europeans didn't go with this older technology," said John Moore, a ***vaccine*** expert at Cornell University. "A well-maintained Ford Model T would probably get you from Wuhan to Beijing, but personally I would prefer a Tesla."

Brazil's health regulatory agency, Anvisa, is reviewing data from the trial, which relied on volunteers who are health care professionals. If Anvisa approves emergency use of CoronaVac, officials hope to start giving out shots in Brazil late this month. It has roughly 10.8 million doses of CoronaVac on hand. Last week, Brazil's health minister, Eduardo Pazuello, said the government intended to buy 100 million doses of CoronaVac.

Natalia Pasternak, a microbiologist and the president of Instituto Questão de Ciência, a Brazilian nongovernmental organization, told reporters on Tuesday that the results of the trial meant it would not be a panacea.

"It is not the best ***vaccine*** in the world," she said at the news conference during which the efficacy rate was disclosed. But she called it a "perfectly acceptable ***vaccine***" that would lead to fewer patients developing serious cases or dying from the virus.

Dimas Covas, the director of the Butantan Institute, called the ***vaccine*** an "excellent" tool "waiting to be used in a country where currently 1,000 people are dying per day."

Many of the countries that have ordered CoronaVac are relatively poor, desperate to halt the pandemic and protect their populations.

Indonesia, for example, has ordered 125.5 million CoronaVac doses. The country has reported nearly 850,000 ***coronavirus*** cases and nearly 25,000 deaths, the highest numbers in Southeast Asia.

On Wednesday morning, its president, Joko Widodo, was injected with CoronaVac on live television, kicking off a national ***vaccination*** program. "Covid ***vaccination*** is important for us to break the chain of transmission of this ***coronavirus*** and provide health protection for all of us," Mr. Joko said after getting his shot.

Sulfikar Amir, an Indonesian associate professor of disaster sociology at Nanyang Technological University in Singapore, said the latest results from Brazil were a cause for concern.

"Why doesn't Indonesia wait for a better ***vaccine***?" he asked. "My impression is that this is rushed and forced."

In the short term, some countries may have few viable options. Governments, many of them in richer nations, have already locked in more than half the doses that could come onto the market by the end of next year.

To its comparative advantage, Sinovac has immense manufacturing capacity. The company has said it can make 600 million doses this year.

In China, the weaker efficacy data from Brazil could be a setback for the country's biotech ambitions. It had pinned its hopes on making a Covid-19 vaccine that would burnish its credentials as a global scientific power.

The tepid results could also be problematic for Chinese officials, given that they had touted the efficacy of the vaccines made by Sinovac and Sinopharm. Even though the vaccines had not received regulatory approval, and data from late-stage trials had not been made public, Beijing gave them to thousands of Chinese people under an emergency use policy; it plans to vaccinate 50 million people by the middle of next month.

State media in China played down the news from Brazil. Global Times, a state-owned nationalist tabloid, ran a headline that said the Sinovac vaccine was "100 percent effective in preventing severe cases, could reduce hospitalizations by 80 percent."

The new data could heighten skepticism among people around the world who are already wary of Chinese-made vaccines, given that the country has a history of vaccine quality scandals. A study from the Chinese University of Hong Kong found that just 37.2 percent of respondents in Hong Kong were willing to be vaccinated.

Scientists had already raised questions about the piecemeal way in which efficacy data about the Chinese vaccines had been released. Indonesia said on Monday that its interim analysis found CoronaVac to have an efficacy rate of 65.3 percent. Last month, Turkey said it had an efficacy rate of 91.25 percent, but that was based on preliminary results from a small clinical trial.

The vaccine had long taken on a political dimension in Brazil. President Jair Bolsonaro had spoken derisively about CoronaVac, fueling an growing anti-vaccination movement in the country, where more than 200,000 people have died from Covid-19. The vaccine had been championed by São Paulo's governor, João Doria, who is widely expected to run for president in 2022 and is among Mr. Bolsonaro's most vocal critics.

In Brazil, officials say the higher efficacy rate previously announced for CoronaVac pertained to the protection it offered against developing Covid-19 symptoms significant enough to require treatment. While officials had asserted last week that the vaccine provided absolute protection against moderate to severe symptoms, they had not disclosed another group who had "very mild" infections despite having been vaccinated.

Denise Garrett, a Brazilian-American epidemiologist and vaccine expert, said there was no reason to doubt CoronaVac's safety, adding that the data presented so far suggested it would provide a satisfactory level of protection. But Dr. Garrett said the vague and sometimes misleading manner in which information about the vaccine had been made public could shake people's confidence in its reliability and fuel the political battle over the vaccine.

"The lack of transparency really damages people's trust," she said. "They've just reinforced the narrative that this vaccine is not good."

Reporting was contributed by Manuela Andreoni, Letícia Casado, Richard C. Paddock and Muktita Suhartono. Elsie Chen contributed research.

https://www.nytimes.com/2021/01/13/business/chinese-vaccine-brazil-sinovac.html

Graphic

PHOTO: Inspecting vials containing the CoronaVac ***vaccine***, at the Butantan Institute in São Paulo, Brazil. (PHOTOGRAPH BY AMANDA PEROBELLI/REUTERS)

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Company: JOHNSON & JOHNSON (63%); PFIZER INC (58%); ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (53%); ASTRAZENECA PLC (52%)

Organization: WORLD HEALTH ORGANIZATION (57%); COUNCIL ON FOREIGN RELATIONS (54%)

Ticker: JNJ (NYSE) (63%); PFZ (LSE) (58%); PFE (NYSE) (58%); AZN (STO) (52%); AZN (NYSE) (52%); AZN (LSE) (52%)

Industry: NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (63%); NAICS339115 OPHTHALMIC GOODS MANUFACTURING (63%); NAICS339113 SURGICAL APPLIANCE & SUPPLIES MANUFACTURING (63%); NAICS339112 SURGICAL & MEDICAL INSTRUMENT MANUFACTURING (63%); NAICS334510 ELECTROMEDICAL & ELECTROTHERAPEUTIC APPARATUS MANUFACTURING (63%); NAICS325620 TOILET PREPARATION MANUFACTURING (63%); NAICS325611 SOAP & OTHER DETERGENT MANUFACTURING (63%); NAICS325413 IN-VITRO DIAGNOSTIC SUBSTANCE MANUFACTURING (63%); SIC3851 OPHTHALMIC GOODS (63%); SIC3842 ORTHOPEDIC, PROSTHETIC, & SURGICAL APPLIANCES & SUPPLIES (63%); SIC3841 SURGICAL & MEDICAL INSTRUMENTS & APPARATUS (63%); SIC3829 MEASURING & CONTROLLING DEVICES, NEC (63%); SIC3089 PLASTICS PRODUCTS, NEC (63%); SIC3069 FABRICATED RUBBER PRODUCTS, NEC (63%); SIC2844 PERFUMES, COSMETICS, & OTHER TOILET PREPARATIONS (63%); SIC2841 SOAPS & OTHER DETERGENTS, EXCEPT SPECIALTY CLEANERS (63%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (63%); SIC2835 IN VITRO & IN VIVO DIAGNOSTIC SUBSTANCES (63%); SIC2834 PHARMACEUTICAL PREPARATIONS (63%); SIC2499 WOOD PRODUCTS, NEC (63%); NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (58%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (58%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (58%); ***vaccineS*** (97%); PHARMACEUTICALS & BIOTECHNOLOGY (93%); PHARMACEUTICALS INDUSTRY (92%); COSMETICS & TOILETRIES (91%); MANUFACTURING (91%); SOAPS

& DETERGENTS MFG (91%); TOILETRIES MFG (91%); BIOELECTRONIC MEDICINE (90%); BIOLOGICS MFG (90%); CHEMICALS (90%); CHEMICALS MFG (90%); DRUG EFFICACY (90%); HERBAL MEDICINE (90%); IN VITRO DIAGNOSTICS MFG (90%); MANUFACTURING OUTPUT (90%); MEDICAL DEVICES (90%); OPHTHALMIC GOODS (90%); OPHTHALMIC GOODS MFG (90%); PHARMACEUTICAL PREPARATION MFG (90%); SURGICAL & MEDICAL INSTRUMENT MFG (90%); WOOD PRODUCTS MFG (90%); IMMUNODIAGNOSTICS (89%); CLINICAL TRIALS (78%); IMMUNOLOGIC FACTORS (78%); IMMUNOLOGY (78%); PHARMACEUTICALS PRODUCT DEVELOPMENT (78%); COSMETICS (77%); ORTHOPEDICS (77%); RUBBER & SILICONE PRODUCTS (77%); DIAGNOSTIC IMAGING (76%); HEALTH DEPARTMENTS (76%); SOAPS & DETERGENTS (76%); PROSTHETICS & ORTHOTICS (70%); PLASTICS (69%)

Geographic: BEIJING, ***CHINA*** (58%); NORTH CENTRAL ***CHINA*** (79%); ***CHINA*** (95%); BRAZIL (93%); HONG KONG (79%)

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72 ***Facing Fresh Flare-Ups, China Puts More Than 22 Million on Lockdown***

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Byline: By Steven Lee Myers

Body

The country is experiencing its worst ***coronavirus*** flare-up since last summer, testing the government's success in subduing the disease.

When a handful of new ***coronavirus*** cases materialized this month in a province surrounding Beijing -- apparently spread at a village wedding party -- the Chinese authorities bolted into action.

They locked down two cities with more than 17 million people, Shijiazhuang and Xingtai. They ordered a crash testing regime of nearly every resident there, which was completed in a matter of days.

They shut down transportation and canceled weddings, funerals and, most significantly, a provincial Communist Party conference.

By this week the lockdowns expanded to include another city on the edge of Beijing, Langfang, as well as a county in Heilongjiang, a northeastern province. Districts in Beijing itself, the Chinese capital, also shut down.

More than 22 million people in all have been ordered to remain inside their homes -- double the number affected last January when ***China***'s central government locked down Wuhan, the central city where the virus was first reported, in a move that was then seen as extraordinary.

The flare-ups remain small compared with the devastation facing other countries, but they threaten to undercut the success the country's Communist Party has had in subduing the virus, allowing its economy to surge back after last year's slump and its people to return to something close to normal lives.

The urgency of the government's current response stands in contrast to that of officials in Wuhan last year who feared a backlash if they disclosed the mysterious new illnesses then emerging. Local officials there had gone ahead with a Communist Party conference like the one now canceled in Hebei, despite knowing the risk of the disease spreading among people.

Since Wuhan, the authorities have created a playbook that mobilizes party cadres to quickly respond to new outbreaks by sealing off neighborhoods, conducting widespread testing and quarantining large groups when needed.

"In the process of infectious disease prevention and control, one of the key points is to seek truth from facts, to openly and transparently release epidemic information and never to allow covering up or underreporting," the Chinese premier, Li Keqiang, said at a meeting on Friday of the State Council, ***China***'s cabinet.

China, a country of 1.4 billion people, has reported an average of 109 new cases a day over the past week, according to a New York Times database. Those would be welcome numbers in countries experiencing far worse -- including the United States, which is averaging more than 250,000 new cases a day -- but they are the worst in ***China*** since last summer.

On Thursday, ***China***'s National Health Commission reported a ***coronavirus*** death in the mainland for the first time since May.

In Hebei, the province where the new outbreak has been concentrated, officials last week declared a "wartime state" that shows no sign of lifting soon.

Throughout the pandemic, officials have appeared especially worried about Beijing, home of the Communist Party's central leadership. Last week, the party secretary in Hebei, Wang Dongfeng, pledged to make sure the province was "the moat to safeguard Beijing's political security."

The outbreaks, coming after so long with minimal cases, have increased anxiety across ***China***, where residents in most places felt like the pandemic was a thing of the past.

New cases have also been reported in the northern province of Shanxi and the northeastern provinces of Heilongjiang and Jilin. Shanghai on Wednesday urged residents not to leave the city and announced that people who had traveled to risky areas should quarantine themselves at home for two weeks and leave only after passing two tests, while those who had traveled to the highest-risk areas faced quarantine in government facilities.

In Wuhan, rumors swirled that the city could face a new lockdown; while those appeared unfounded, officials noticeably stepped up temperature checks on some streets.

In Shunyi, a district in Beijing's northeast that includes Beijing Capital International Airport as well as rural villages, residents have been ordered to remain inside since a surge of cases just before the new year. At Beijing's main railroad stations, workers sprayed down public spaces with disinfectant.

After a taxi driver tested positive over the weekend in Beijing, the authorities tracked down 144 passengers for additional tests, according to The Global Times, a state tabloid. Now anyone getting in a taxi or car service in Beijing has to scan a QR code from their phone, allowing the government to quickly trace them.

The government has moved ahead on plans to vaccinate 50 million people ahead of the Lunar New Year next month, a holiday when hundreds of millions of people traditionally crisscross the country to visit their families. By Wednesday, more than 10 million doses had been distributed.

Even with the ***vaccinations***, officials have already warned people not to travel ahead of the holiday.

"These measures, if well implemented, can ensure that no large-scale epidemic rebound occurs," Feng Zijian, the deputy director of ***China***'s Center for Disease Control, said at a briefing in Beijing on Wednesday.

While the new restrictions have inconvenienced millions, there appears to be no significant public resistance to them.

"As far as I am concerned, I think measures like a lockdown for the whole city are actually quite good," said Zhao Zhengyu, a university student in Beijing who is now confined to her parents' home in Shijiazhuang, where she was visiting during winter break when the outbreak there erupted.

Many in the city feared a repeat of Wuhan's lockdown, but she sounded unfazed.

Ms. Zhao's parents now work from home, picking up groceries only from a market in their residential compound. She lamented that she could not meet friends or study in the library but said learning online has become routine.

"Perhaps we have gotten used to it," she said.

The response underscored how quickly the government mobilizes its resources to contain outbreaks.

After the lockdown was announced in Shijiazhuang on Jan. 6, the authorities collected more than 10 million ***coronavirus*** test samples over the next three days -- nearly one for every resident, officials said at a news conference in the city. Those tests turned up 354 positive results, though some of the cases were asymptomatic.

A second round of mass nucleic acid testing began on Tuesday.

"In effect, this is a kind of wartime system -- using the means of wartime for social control in peacetime -- and during a pandemic this wartime system works," said Chen Min, a writer and former newspaper editor who goes by the pen name Xiao Shu. Mr. Chen was in Wuhan last year when the city went into lockdown.

The nature of the country's governance gave it the tools to tackle the epidemic -- even if some measures seemed over the top.

"Chinese cities enforce a residential system -- smaller ones have several hundred residents, big ones have tens of thousands -- and by shutting the gates you can lock in tens of thousands of people," Mr. Chen said in a telephone interview. "Now whenever they run into this kind of problem, they're sure to apply this method. That would be impossible in Western countries."

Chris Buckley and Keith Bradsher contributed reporting. Claire Fu contributed research.

*https://www.nytimes.com/2021/01/13/world/asia/**china**-covid-lockdown.html*

Graphic

PHOTO: Testing for the ***coronavirus*** on Tuesday in Shijiazhuang, ***China***, one of three cities in Hebei Province that are on lockdown. (PHOTOGRAPH BY AGENCE FRANCE-PRESSE -- GETTY IMAGES)

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Industry: EPIDEMIOLOGY (89%); HEALTH DEPARTMENTS (78%); VEHICLE CRASH TESTING (73%)

Person: LI KEQIANG (79%)

Geographic: BEIJING, ***CHINA*** (93%); WUHAN, HUBEI, ***CHINA*** (93%); NORTH CENTRAL ***CHINA*** (94%); HEBEI, ***CHINA*** (93%); CENTRAL ***CHINA*** (79%); HEILONGJIANG, ***CHINA*** (79%); NORTHEAST ***CHINA*** (79%); ***CHINA*** (99%); UNITED STATES (79%)

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73 Brazil Starts Vaccinations Amid a Resurgence

The New York Times

January 19, 2021 Tuesday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 4

Length: 1475 words

Byline: By Ernesto Londoño, Manuela Andreoni and Letícia Casado

Body

The country has relatively few doses and is paying a price for its leader's slow pursuit of ***vaccines*** early on. That lapse may hinder Brazil's ability to fight worrisome variants.

RIO DE JANEIRO -- Brazil on Monday kicked off its nationwide ***coronavirus*** ***vaccination*** campaign, providing a glimmer of hope in a nation where political infighting, a strained health care system and lax precautions have given the virus free rein.

But the rollout is expected to be painfully slow, even as Brazil battles two worrisome new variants of the virus, at least one of which is more contagious and could be contributing to the country's recent surge of cases.

The government is scrambling to buy more ***vaccine*** after months of taking a lackadaisical approach, as President Jair Bolsonaro argued that scientists and the media were hyping the seriousness of a virus that has killed more than 210,000 Brazilians. The country now has just six million doses of ***vaccine*** on hand for a nation of 213 million people.

The potential menace of the new variants became clear last week as patients in the northern state of Amazonas asphyxiated to death because hospitals ran out of oxygen amid a sharp rise in critically ill patients. Prosecutors investigating the calamity said at least 16 patients had died.

The oxygen shortage "is the saddest and most outrageous expression of the government's abject failure at all levels," Alex Machado Campos, a director of the country's health regulatory agency said in televised remarks Sunday. "Is this a civilized nation or one living through a barbaric dystopia?"

The lack of ***vaccine*** doses is just one of myriad missteps that have hampered the country's ability to protect its people against the pandemic. Mr. Bolsonaro has been criticized for repeatedly downplaying the threat of the virus, promoting a useless treatment, refusing to wear a mask, sabotaging other officials' lockdown measures and, most recently, fueling unfounded fears about the safety of ***vaccines***.

Last month, the president, who had ***Covid-19*** and recovered, said he had no intention of getting a ***vaccine*** and criticized ***vaccine*** providers for asking buyers to sign hold-harmless agreements.

"It's quite clear in the contract: they take no responsibility for any collateral effect," Mr. Bolsonaro said, taking aim at the American drug company Pfizer. "If you turn into a crocodile, that's your problem."

After peaking in July, when Brazil regularly had 1,200 ***coronavirus*** deaths per day, cases and fatalities dropped gradually for a few months, but began to inch up in November. In recent weeks, the country has often reported more than 1,000 deaths a day, and Brazil's death toll is second only to that in the United States.

Brazilian scientists say the new variants discovered in Brazil could be contributing to the resurgence of the virus. The one in Amazonas contains a mutation that has been linked with higher contagiousness. (Both variants have another mutation that may weaken the efficacy of ***vaccines***.)

The two mutated viruses have slipped the country's borders and turned up in other parts of the world, with the latest discovery occurring in South Korea.

While virus mutations are common, experts say hard-hit countries like Brazil provide fertile ground for new variants that could hamper the global response. Despite a rise in cases, bars and restaurants are doing brisk business and mask wearing is spotty.

"The appearance of these variants is directly proportional to people's lack of care," said Luiz Vicente Rizzo, the head of research at Israeli Albert Einstein Hospital in São Paulo.

Pedro Hallal, a Harvard-trained epidemiologist who led a study on the evolution of the virus in Brazil at the Federal University of Pelotas, said the drastic surge of cases in Manaus, the capital of Amazonas, suggests that the new strain there is likely more contagious.

"I am not someone who believes in coincidences," Mr. Hallal said. "Our new variant was found in Manaus and now cases are booming. It's improbable that there isn't a correlation between one thing and the other."

Brazilian scientists say they are working around the clock to have a more complete picture of the prevalence of new variants, but labs have limited capacity to sequence virus genomes compared to their counterparts in countries like the United States and Britain.

"With the resources and the funds we have at this moment in the country, we are doing the best we can," said Paola Resende, a virologist at Rio de Janeiro's Laboratory of Respiratory Viruses and Measles.

Reports of the variants in Brazil have raised alarm abroad. Officials in Japan reported last week that they had diagnosed cases of the new variant in four passengers who arrived in Tokyo after traveling from Manaus.

Citing concern over the new Brazilian variants, Britain last week banned flights from Latin America and Portugal. Italy later suspended its few remaining flights to Brazil.

Health experts had hoped Brazil would be among the earliest countries to mount a swift and efficient ***vaccination*** campaign, given the country's strong track record on immunization efforts. But the rollout has been chaotic and bitterly politicized.

Health minister Eduardo Pazuello last week announced he would travel to India to personally pick up two million doses of the ***vaccine*** developed by AstraZeneca and Oxford University that India has been allowed to manufacture. But in an embarrassing setback, the flight was scuttled at the last minute after officials in India, who were about to launch their own ***vaccination*** program, told the Brazilian government they didn't yet have doses to spare.

The attempted purchase from India appeared to be a bid by Mr. Bolsonaro's government to outflank one of his political rivals, São Paulo Governor João Doria. Mr. Doria, who has championed the ***vaccine*** produced by ***China***'s Sinovac, had procured a few million doses of that ***vaccine*** even before his country's health regulators approved it on Sunday.

The Sinovac purchase came as part of an agreement to allow ***China*** to test the ***vaccine*** in Brazil, in conjunction with a São Paulo-based research institute. While there is some relief that Brazil has any ***vaccine*** on hand, the efficacy rate of that ***vaccine***, CoronaVac, turned out to be just over 50 percent, far less than other inoculations.

Mr. Doria took aim at the Bolsonaro government on Sunday as he presided over an event in São Paulo where the first handful of health care workers received shots. The nationwide campaign began a day later.

"The ***vaccine*** is a lesson for you, authoritarians who disregard life, who lack compassion," he said.

Mr. Pazuello, an Army general, responded angrily, accusing Mr. Doria of turning the ***vaccine*** rollout into a "marketing play" to boost his political standing. Mr. Doria is widely expected to run for president next year.

Despite Mr. Bolsonaro's antipathy toward CoronaVac -- he has called Chinese products untrustworthy -- the health ministry demanded that Mr. Doria turn over his supply of the ***vaccine*** to the federal government for use across the country. The governor acquiesced, though he kept some for his state.

The federal government has established priority groups for the ***vaccine***, but officials have yet to provide a detailed plan that outlines when certain groups will be vaccinated and how many doses of which ***vaccines*** the country intends to obtain.

On Monday, Mr. Bolsonaro said Brazil would purchase ***vaccines*** as they become "available in the market."

Mr. Pazuello, meanwhile, has been faulted for failing to anticipate the oxygen crisis in Manaus, the capital of Amazonas state, which sparked a chaotic evacuation of patients, including some premature babies, to other states.

From Thursday through Sunday, 312 people died from ***Covid-19*** in Amazonas, a toll 50 percent higher than in the proceeding four days.

Amazonas Governor Wilson Lima said his team had warned that hospitals were running dangerously low on oxygen days before patients began asphyxiating. "We weren't able to get what we needed," he said in an interview.

With patients in distress, officials in Manaus got oxygen tanks from neighboring Venezuela giving its authoritarian president, Nicolás Maduro, a public relations victory against Mr. Bolsonaro, a nemesis. The failure to have enough oxygen on hand is now being investigated by the Supreme Court.

The health ministry did not respond to emailed questions about the situation in Manaus.

David Luniere, a doctor in Manaus, compared the frenzied scenes of triage in his hospital to treating patients in a war zone. When a woman whose father died in his care thanked him profusely for his efforts, Dr. Luniere felt gutted.

"She told me she knew I had done everything I could do for her father," he said. "I know I didn't do everything I can because I couldn't."

*https://www.nytimes.com/2021/01/18/world/americas/brazil-covid-variants-**vaccinations**.html*

Graphic

PHOTOS: Nurses, doctors and health professionals were among the first to receive Sinovac's CoronaVac ***vaccine*** in São Paulo on Monday.

With more than 210,000 ***coronavirus*** fatalities, Brazil's death toll is the second highest in the world, behind only the United States.

People waiting outside the Hospital das Clínicas in São Paulo on Monday. Brazil is battling two worrisome variants of the virus. (PHOTOGRAPHS BY VICTOR MORIYAMA FOR THE NEW YORK TIMES)

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Company: PFIZER INC (84%)

Ticker: PFZ (LSE) (84%); PFE (NYSE) (84%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (84%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (84%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (84%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (84%); SIC2834 PHARMACEUTICAL PREPARATIONS (84%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (84%); ***vaccineS*** (95%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); ***VACCINATION*** & IMMUNIZATION (90%); ***COVID-19 CORONAVIRUS vaccine*** (78%); DRUG SHORTAGES (78%); DRUG SAFETY (73%); HEALTH CARE (71%)

Person: JAIR BOLSONARO (79%)

Geographic: RIO DE JANEIRO, BRAZIL (58%); BRAZIL (98%); UNITED STATES (92%)

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74 ***Has China Done Too Well Against Covid-19?***

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Byline: Yanzhong Huang

Highlight: The country doesn't care enough about ***vaccination*** because of a false sense of security.

Body

The country doesn't care enough about ***vaccination*** because of a false sense of security.

Jan. 23 was *the anniversary of the lockdown in Wuhan*, the first ***coronavirus*** lockdown anywhere in the world, and ahead of the occasion, the Chinese government ramped up efforts to *showcase* its triumph over that *initial deadly outbreak*.

Within weeks of the new ***coronavirus***'s emergence last year, ***China*** began to report a *dramatic drop* in the number of confirmed cases. Then it put in place *a "zero-infections" policy*: The detection of even one case could instantly trigger aggressive quarantines, punishing travel restrictions and mass testing and contact tracing until the number of cases went back to nil.

By its own telling, the Chinese government has done very well, with daily infection figures nationwide *rarely exceeding 100* between March 7, 2020, and Jan. 8, 2021.

Some will doubt the reliability of ***China***'s official statistics, especially given the authorities' initial efforts to *suppress essential facts* about the virus's appearance in Wuhan last year. But even if these figures are somewhat exaggerated or somehow skewed, and even considering *the worrisome spate of new outbreaks in **China** recently*, there is ample reason to believe that ***China*** really has done much better at containing the spread of the virus than other major economies. For example, papers published in *Nature Medicine* and *JAMA Network Open*, based on widespread antibody tests between March and May, confirmed low levels of infections in Wuhan and other Chinese cities at the time.

Only, ***China***'s comparative success now risks hurting the country. Having been largely spared by the pandemic, most Chinese people remain susceptible to infection, and yet some seem disinclined to get vaccinated because of a false sense of safety. In addition, the Chinese government is over-exporting ***vaccines*** made in ***China***.

In September, Caixin magazine *published a survey* of nearly 1,900 Chinese people in six provinces: Less than one quarter of the respondents said that they agreed or strongly agreed with the statement that they, their relatives or their friends were at risk of contracting ***Covid-19***. Granted, this study was conducted before two Chinese ***vaccines*** were approved for general use and before the flurry of current outbreaks, but more recent findings are consistent.

A *survey by Ipsos for the World Economic Forum* in December examined confidence in ***Covid-19*** ***vaccines*** in 10 countries of the Organization for Economic Cooperation and Development and five emerging economies. Some 80 percent of the Chinese respondents said they would take a ***vaccine*** if available. And of those who said they

wouldn't, some 70 percent mentioned concerns about side-effects, a result in keeping with the answers given by the other groups surveyed. Notably, however, some 32 percent of the Chinese ***vaccine***-hesitant cited "not being enough at risk from ***Covid-19***" as the main reason for their reluctance — the highest such figure in the study.

"I will not take it unless it is mandatory," a friend of mine who lives in Shanghai told me recently about getting a ***vaccine***. "The chances of infection here are very small."

A columnist for *The Paper*, on online publication that takes on controversial subjects, recently argued that Chinese people's intent to get vaccinated would only drop further as ***vaccination*** is rolled out, because they would feel even safer.

Also remarkable: Only 16 percent of the Chinese respondents in the Ipsos-World Economic Forum survey who were ***vaccine***-skeptics said they were skeptical because of concerns over the ***vaccines***' effectiveness — that was the lowest such percentage among all the groups surveyed.

This fact is all the more noteworthy that ***China*** has been rocked by *major food- and health-safety scandals* over the years: involving rice contaminated with cadmium, *baby formula laced with melamine* — and at least *half a dozen shoddy* ***vaccines***. Yet those precedents do not seem to be shaping current views.

If anything, too, popular social media platforms such as *Weibo*, *WeChat* and *Bilibili* are awash with posts and articles peddling *conspiracy theories* — *some promoted by Chinese officials* — about the ***vaccines*** developed in the West: Those *contain mercury*, and deliberately; they may *modify human genes*.

In a *survey* by the local government of Changzhou, a city in the coastal province of Jiangsu, in November and December, 79 percent of respondents said they would be more inclined to take ***vaccines*** made in ***China***, compared with 7 percent who said they favored foreign ones. According to a series of *online surveys* of urban residents throughout ***China*** conducted by the ***China*** Data Lab at the University of California-San Diego, the Chinese public's trust in both the central government and local authorities increased during the first half of 2020.

People's sense of safety seems to be both shaped and shared by public health experts. Wu Zunyou, the chief epidemiologist of the Chinese Center for Disease Control, *claimed* in late December that "the chances of infection are very small." Zhang Wenhong, a leading infectious disease expert who has become something of *a small celebrity* thanks to his plain talk, said last month that there was no urgency to roll out mass ***vaccination*** because "***China*** *has done the best job of any country in Covid control*."

The government recently announced a *nationwide drive* to vaccinate 50 million people from high-priority groups — essential workers, doctors and border-inspection personnel — ahead of the Lunar New Year, a major travel rush, next month. After that, it *envisions* inoculating all "eligible people," a category that excludes anyone who is pregnant, breastfeeding or immunocompromised, as well as people younger than 18 or older than 59.

The decision to leave out for now the older members of the population may seem curious, considering that ***Covid-19*** kills more of them, but the decision appears to be informed by *a dearth of clinical data* about any possible side effects of ***vaccination*** in that age tranche. Partly as a result, though, the inoculation campaign, even in its second stage, will exclude at least 35 percent of the population.

Based on *a study about the virus's transmissibility that was published in The Lancet* in November, among other things, I calculate that, in order to achieve herd immunity, ***China*** would need to vaccinate at least 66 percent of its population with ***vaccines*** with an efficacy rate of at least 91 percent. Since ***Covid-19*** ***vaccination*** usually require two shots, ***China*** would have to deploy 1.85 billion doses.

But 91 percent is the highest efficacy rate ever reported (in *a trial in Turkey*) for the ***vaccine*** made by Sinovac, for example; *researchers in Brazil* recently placed the figure at just above 50 percent. And ***China*** has only enough manufacturing capacity for *a maximum of 1.8 billion doses this year*.

What's more, perhaps because the Chinese government itself also perceives the risk of mass infections to be low, it seems to be over-exporting ***vaccines*** made in ***China*** in a bid to *expand its influence internationally*. By early January, the two major Chinese ***vaccine*** makers, Sinopharm and Sinovac, had *sold overseas* or *received international orders* for more than 800 million doses. (***China*** has plans to *purchase* 100 million shots from abroad, but that won't be enough to bridge the gap between supply and need.)

Against this backdrop, relaxing the zero-infections policy appears to be out of the question. Lu Hongzhou, a co-director of the Shanghai Public Health Clinical Center at Fudan University, told Chinese media recently that the policy should be maintained "*at all costs*." Back in September President Xi Jinping *had instructed*, "by no means should we give up halfway through the hard-won achievements of epidemic control."

The benefits have been real: in terms of lives saved, of course, and also in terms of politics, economics and prestige. To some, ***China*** has come to seem as something of a "*new safe haven*"; it was also the *only major economy* to register growth last year.

But these achievements put a tremendous amount of pressure on both the state and the public to maintain hugely onerous ***coronavirus*** control efforts, even as those may become harder and harder to sustain.

An acquaintance of mine, the director of the health commission of an eastern city of some 300,000 residents, said on WeChat recently that she "tread as if on thin ice and sat as if on pins and needles" when it comes to enforcing the government's no-tolerance policy.

Because the virus is *highly transmissible* and *spread largely by asymptomatic carriers*, just one undetected case can promptly kindle a new outbreak. The recent flare-ups in several cities in northern ***China*** are the largest outbreaks in the country since the original one in Wuhan a year ago. A lockdown has been imposed since early this month on about 60 million people in *Heilongjiang* and *Hebei* Provinces — nearly the equivalent of *the entire population of Italy*.

Things will probably only get more complicated for Chinese health officials like my acquaintance if countries in the West, having pushed much harder than ***China*** on mass-***vaccination*** efforts (if rather shoddily at times), reach herd immunity before it does. That so-called *immunity gap* could undermine ***China***'s approach, especially if the government decides to keep the country's borders closed on public health grounds after life returns to semi-normal elsewhere in the world.

China's comparative success at containing the ***coronavirus*** has put it in a bind: The population feels much safer than it should even as it remains very vulnerable to infection and is likely to for quite a while longer.

Yanzhong Huang is a senior fellow for global health at the Council on Foreign Relations and a professor at Seton Hall University's School of Diplomacy and International Relations.

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PHOTO: A convention center converted into a temporary hospital in Wuhan, ***China***, in February. By its own telling, the Chinese government has been successful against combating the ***coronavirus***, with daily infection figures

nationwide rarely exceeding 100 between March 7, 2020, and Jan. 8, 2021. (PHOTOGRAPH BY CHINATOPIX, via Associated Press FOR THE NEW YORK TIMES)

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Person: XI JINPING (73%); Xi Jinping

Geographic: WUHAN, HUBEI, ***CHINA*** (94%); CENTRAL ***CHINA*** (93%); ***CHINA*** (99%)

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75 China's vaccines Face Unexpected Backlash

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Byline: By Sui-Lee Wee

Body

Delays, inconsistent data, spotty disclosures and the country's attacks on Western rivals have marred its ambitious effort to portray itself as a leader in global health.

China's coronavirus vaccines were supposed to deliver a geopolitical win that showcased the country's scientific prowess and generosity. Instead, in some places, they have set off a backlash.

Officials in Brazil and Turkey have complained that Chinese companies have been slow to ship the doses and ingredients. Disclosures about the Chinese vaccines have been slow and spotty. The few announcements that have trickled out suggest that China's vaccines, while considered effective, cannot stop the virus as well as those developed by Pfizer and Moderna, the American drugmakers.

In the Philippines, some lawmakers have criticized the government's decision to buy a vaccine made by a Chinese company, Sinovac. Officials in Malaysia and Singapore, which both ordered doses from Sinovac, have had to reassure their citizens that they would approve a vaccine only if it had been proved safe and effective.

"Right now, I would not take any Chinese vaccine, because there's insufficient data," said Bilahari Kausikan, an influential former official at Singapore's Ministry of Foreign Affairs. He added that he would consider it only with "a proper report."

At least 24 countries, most of them low and middle income, signed deals with the Chinese vaccine companies because they offered access when richer nations had claimed most of the doses made by Pfizer and Moderna. But the delays in getting the Chinese vaccines and the fact that the vaccines are less effective mean that those countries may take longer to vanquish the virus.

Beijing officials who had hoped the vaccines would burnish China's global reputation are now on the defensive. State media has started a misinformation campaign against the American vaccines, questioning the safety of the Pfizer and Moderna shots and promoting the Chinese vaccines as a better alternative. It has also distributed online videos that have been shared by the anti-vaccine movement in the United States.

Liu Xin, an anchor with CGTN, the state broadcaster, asked on Twitter why the foreign media had failed to "follow up" on the deaths of people in Germany who had taken one vaccine -- though scientists have said the people were already seriously ill. Ms. Liu's tweet was shared by Zhao Lijian, a top spokesman at China's Foreign Ministry.

George Gao, the head of the Chinese Center for Disease Control and Prevention, has questioned the safety of the American ***vaccines*** because their developers used new techniques rather than the traditional method embraced by Chinese makers.

China had hoped its ***vaccines*** would prove it had become a scientific and diplomatic powerhouse. It remains on a par with the United States in the number of ***vaccines*** approved for emergency use or in late-stage trials. Sinopharm, a state-owned ***vaccine*** maker, and Sinovac have said they can produce up to a combined two billion doses this year, making them essential to the global fight against the ***coronavirus***.

Unlike the Pfizer and Moderna ***vaccines***, their doses can be kept at refrigerated temperatures and are more easily transported, making them appealing to the developing world. They have been doled out as aid to countries like Pakistan and the Philippines.

China's campaign has been plagued with doubts, however. Many people have memories of the country's ***vaccine*** scandals. Several governments remain angry about Beijing's lack of openness about the virus in the early days of the pandemic. Its efforts at the start of last year to distribute masks and protective equipment to the West came under fire amid reports of shoddy quality and the demands by Chinese officials for public thanks.

A YouGov survey this month of roughly 19,000 people in 17 countries and regions showed that most were distrustful of a ***Covid-19*** ***vaccine*** made in ***China***. The misinformation campaign surrounding Western ***vaccines*** could further undermine its image.

The delays in shipments to places like Brazil and Turkey have been the latest hitch.

In Turkey, the government initially promised that 10 million doses of the Sinovac ***vaccine*** would arrive in December. Only three million did in early January, according to Fahrettin Koca, Turkey's health minister. He did not explain the reason for the shortfall, which has been criticized by opposition politicians. The remaining doses finally arrived on Monday, according to Anadolu, Turkey's state-run news agency.

In a statement, ***China***'s Foreign Ministry cited its needs at home, where the ***coronavirus*** has re-emerged.

"Currently, ***China***'s domestic ***vaccine*** demand is huge," it said. "While meeting domestic demand, we are overcoming difficulties, thinking and trying ways to develop international ***vaccine*** cooperation with other countries, especially developing countries in different ways, and providing support and assistance according to their needs and within our capacity."

The sporadic outbreaks could also hinder production. Sinovac, which declined to comment, said on Friday online that it was looking for workers for a Beijing-area facility where an outbreak had frightened off potential employees.

Countries like Turkey and Brazil are rolling out their immunization programs with a Sinovac ***vaccine*** because Western companies cannot deliver as quickly. But Brazil's efforts have been delayed as well. Eduardo Pazuello, the country's health minister, said ***China*** was not acting fast enough with the documents needed to export raw materials to Brazil.

"We are making strong moves at the diplomatic level to find where that resistance is and solve the problem," Mr. Pazuello said at a news conference on Jan. 17.

On Wednesday, Rodrigo Maia, Brazil's speaker of the house, told reporters that he had met the Chinese ambassador to Brazil, who "made it clear that there is no political obstacle, that it was a technical process that was delayed a little."

Other ***vaccines*** are beginning to fill the gap. Brazil's Health Ministry announced on Thursday that a previously delayed shipment of two million doses of the Oxford-AstraZeneca ***vaccine*** would arrive the next day from India.

The world was also caught off guard by the disclosure that the Sinovac vaccine may not be as effective as previously thought. Earlier, officials in Turkey said trials there showed the vaccine had a 91 percent efficacy rate. In Indonesia, it was 68 percent. In Brazil, researchers initially said its efficacy was 78 percent.

Then, on Jan. 12, scientists said it had an efficacy rate of just over 50 percent, once people who experienced mild symptoms were included. That level is a hair above the threshold set by the World Health Organization to consider a vaccine effective. In a news conference last week, Sinovac's chief executive officer, Yin Weidong, reiterated that the vaccine was 100 percent effective in preventing severe cases. He said the lower efficacy rate was a result of the trial's focus on health care workers, who had a higher propensity of contracting Covid-19 than the general population.

Jair Bolsonaro, Brazil's president and a critic of both China and its Covid-19 vaccines, pounced on the data. On Jan. 13, he mocked the vaccine's efficacy rate, asking a supporter: "Is that 50 percent good?"

To be sure, the Chinese vaccines have a big appeal to many countries. More than 40 countries have expressed an interest in importing Chinese vaccines, according to China's Foreign Ministry. Several world leaders, including President Reccep Tayyip Erdogan of Turkey and President Joko Widodo of Indonesia, have gotten a Sinovac vaccine.

But the spotty and inconsistent disclosures about the vaccines remain a problem. Sinopharm has said a vaccine candidate made by its Beijing Institute of Biological Products arm has an efficacy rate of 79 percent, but it did not disclose crucial details. Sinopharm didn't respond to a request for comment.

In Hong Kong, a special administration region of China that has ordered 7.5 million doses of the Sinovac vaccine, officials have not received an application for emergency distribution nor any data from the Chinese company.

"Whether it is because they are not making enough or if they have no plans to send the vaccines to Hong Kong yet, I don't know," said Dr. Lau Chak Sing, who heads a Hong Kong government advisory panel on Covid-19 vaccines.

Data disclosure has also been an issue in the Philippines, which has secured 25 million Sinovac vaccine doses. Risa Hontiveros, an opposition lawmaker, said President Rodrigo Duterte's administration "continues to cram their preference for Chinese-made vaccines down the public's throat, without emergency use approval and with inconsistent data."

Leila de Lima, a senator and opposition leader who is in prison, expressed anger that the government was paying $61 a dose, more than double what Sinovac's partner in Indonesia is paying. The presidential palace said that that price was overstated but that it couldn't divulge the real ones because of a confidentiality agreement.

Despite the uncertainty, many people may have little choice.

"I'll have my jab," said Kayihan Pala, a member of the Turkey Medical Association's Covid-19 monitoring board. "I am waiting my turn, because there is no other option."

Reporting was contributed by Letícia Casado, Tiffany May, Elsie Chen and Jason Gutierrez.Reporting was contributed by Letícia Casado, Tiffany May, Elsie Chen and Jason Gutierrez.

https://www.nytimes.com/2021/01/25/business/china-covid-19-vaccine-backlash.html

Graphic

PHOTOS: Clockwise from above: A health worker in Indonesia delivering containers of the Sinovac ***vaccine***, initially said to have a 68 percent efficacy rate

Brazilian Indigenous people waiting in São Paulo to receive the ***vaccine***

the first shipment of the Sinovac ***vaccine*** arriving in Turkey on Dec. 30. (PHOTOGRAPHS BY VICTOR MORIYAMA FOR THE NEW YORK TIMES

AYTUG CAN SENCAR/EUROPEAN PRESSPHOTO AGENCY, VIA SHUTTERSTOCK

TIMUR MATAHARI/AGENCE FRANCE-PRESSE -- GETTY IMAGES) (B5)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: ***vaccineS*** (97%); CORONAVIRUSES (90%); HERBAL MEDICINE (90%); INFECTIOUS DISEASE (90%); VIRUSES (90%); INTERNATIONAL RELATIONS & NATIONAL SECURITY (89%); FOREIGN RELATIONS (87%); ANTI-***vaccine*** MOVEMENT (78%); DRUG SAFETY (78%); PREVENTION & WELLNESS (78%); STATE DEPARTMENTS & FOREIGN SERVICES (78%); DISEASES & DISORDERS (73%); PUBLIC HEALTH ADMINISTRATION (69%); INTERNET SOCIAL NETWORKING (66%); PUBLIC HEALTH (64%)

Company: PFIZER INC (92%)

Ticker: PFZ (LSE) (92%); PFE (NYSE) (92%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (92%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (92%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (92%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (92%); SIC2834 PHARMACEUTICAL PREPARATIONS (92%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (92%); ***vaccineS*** (97%); PHARMACEUTICAL PREPARATION MFG (92%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); PHARMACEUTICALS INDUSTRY (90%); ANTI-***vaccine*** MOVEMENT (78%); BIOLOGICS MFG (78%); DRUG SAFETY (78%); INTERNET SOCIAL NETWORKING (66%); INTERNET VIDEO (62%)

Geographic: BEIJING, ***CHINA*** (73%); NORTH CENTRAL ***CHINA*** (79%); ***CHINA*** (95%); UNITED STATES (94%); SINGAPORE (92%); BRAZIL (79%); GERMANY (79%); MALAYSIA (79%); PHILIPPINES (79%)

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76 ***Which Nation Is Leading the Race to Inoculate?***

The New York Times

January 27, 2021 Wednesday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 6

Length: 533 words

Byline: By Lauren Leatherby

Body

About 30 percent of Israelis have received at least one dose of a ***coronavirus*** ***vaccine***, a rate that outpaces any other country. The United States is far behind, with about 6 percent of residents having received a ***vaccine*** dose, and countries in the European Union are off to an even slower start.

The data on countries with a current ***vaccination*** campaign was compiled from government sources by Our World in Data. Many countries, particularly those in the developing world, where governments have struggled to procure ***vaccines***, are not yet vaccinating residents at all.

Most countries are using ***vaccines*** from Pfizer-BioNTech or Moderna, both of which require two doses. Two of the countries with among the world's highest ***vaccination*** rates, the United Arab Emirates and Bahrain, are also using a ***vaccine*** developed by the Chinese company Sinopharm, which has not been approved for use in the United States or the Europe Union.

The table below shows which countries have vaccinated their residents at the fastest rates since the start of their immunization campaigns, and which vaccinated the most in the last seven days. It also shows, at current speeds and immunization levels, how long it will take for at least half the residents in each country to receive at least one dose of a ***vaccine***.

Israel, for example, will reach half its population with at least one dose of the ***vaccine*** in just four weeks at its current rate, though the ***vaccination*** campaign and the vaccinated rate excludes Palestinians in the occupied West Bank and blockaded Gaza Strip, who may have to wait several months for widespread distribution. Most European countries are months away from reaching Israel's levels of ***vaccination***.

Part of the disparity stems from when ***vaccines*** were approved in each country. Health authorities in the European Union approved the Pfizer ***vaccine*** 10 days later than their counterparts in the United States and nearly three weeks after U.K. officials.

And distribution lagged in some countries even after the ***vaccine*** was approved. The Netherlands, one of Europe's richest countries, was the last in the European Union to begin its ***vaccination*** campaign -- on Jan. 6, a week and a half after neighboring Germany and almost a month after the United Kingdom. The Dutch health minister attributed the delay to the need for proper preparations.

Europe's slow ***vaccine*** rollout has been hampered by supply shortages, a lack of nurses and burdensome paperwork. Criticism of the European Union's procurement strategy has grown louder as new variants of the virus threaten to take hold on the continent.

Hungarian authorities recently broke with the bloc to approve Russia's Sputnik V ***vaccine*** and the Oxford-AstraZeneca ***vaccine***. Hungary also agreed to purchase ***China***'s Sinopharm ***vaccine***.

If Europe is moving slowly, almost all nations in the developing world are further behind, and in most of them, inoculations have not even begun. Wealthy countries have preordered more than half of the doses that could come to market by the end of the year, in many cases enough to vaccinate their populations several times over. Many poorer nations may be able to vaccinate one in five residents, at most, by then.

https://www.nytimes.com/2021/01/26/world/europe/see-which-country-is-leading-the-global-race-to-vaccinate.html

Classification

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Publication-Type: Newspaper

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Company: PFIZER INC (91%); ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (56%); ASTRAZENECA PLC (50%)

Organization: EUROPEAN UNION (58%)

Ticker: PFZ (LSE) (91%); PFE (NYSE) (91%); AZN (STO) (50%); AZN (NYSE) (50%); AZN (LSE) (50%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (91%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (91%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (91%); SIC2834 PHARMACEUTICAL PREPARATIONS (91%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (91%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (91%); ***vaccineS*** (97%); PHARMACEUTICALS & BIOTECHNOLOGY (93%); PHARMACEUTICALS INDUSTRY (92%); ***VACCINATION*** & IMMUNIZATION (92%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); DRUG & MEDICAL DEVICES APPROVAL (89%); HEALTH DEPARTMENTS (89%); BIOLOGICS MFG (78%); DRUG DESIGN & DISCOVERY (78%); NURSES & NURSING (72%)

Geographic: EUROPE (98%); EUROPEAN UNION MEMBER STATES (94%); ISRAEL (93%); UNITED STATES (93%); HUNGARY (92%); STATE OF PALESTINE (92%); UNITED KINGDOM (92%); NETHERLANDS (91%); UNITED ARAB EMIRATES (79%); GERMANY (73%); RUSSIAN FEDERATION (72%)

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End of Document

77 ***Lunar New Year Is Canceled for Millions of Migrants***

The New York Times

January 29, 2021 Friday

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Section: Section A; Column 0; Foreign Desk; Pg. 4

Length: 1418 words

Byline: By Javier C. Hernández and Alexandra Stevenson

Body

China has added restrictions, offered incentives and appealed to a sense of filial and national responsibility, in an effort to prevent about 300 million migrant workers from going home for the holiday.

Every winter, Pang Qingguo, a fruit seller in northern ***China***, makes the 800-mile trip to his ancestral home to celebrate the Lunar New Year, the biggest holiday of the year in ***China***, with his family.

The ***coronavirus*** ruined the festivities last year, stranding Mr. Pang in the northern city of Tangshan, as many Chinese cities imposed lockdowns. Now, as ***China*** confronts a resurgence of the virus, the pandemic is set to spoil the holiday again, with the authorities announcing onerous quarantine and testing rules to dissuade migrant workers like Mr. Pang from traveling for the new year, which begins this year on Feb. 12.

Mr. Pang, who describes his home in the northeastern province of Heilongjiang as the "happiest place," is anguished by the rules. He has taken to social media in recent days to express frustration about his situation and post photos of his 7-year-old daughter, whom he has not seen in more than a year. "Society is so cruel," he wrote in one post.

"I really miss my daughter," Mr. Pang, 31, said in an interview. "But there's nothing I can do."

Many of ***China***'s roughly 300 million migrant workers face a similar reality as the government tries to avoid a surge in cases during what is typically the busiest travel season of the year.

The authorities have demanded that people visiting rural areas during the holiday spend two weeks in quarantine and pay for their own ***coronavirus*** tests. Many migrants, who endure grueling jobs for meager wages in big cities, say those restrictions make it impossible to travel.

The rollout of the rules has drawn widespread criticism in ***China***, with many people calling the approach unfair to migrant workers, who have long been treated as second-class citizens under ***China***'s strict household registration system. Without that registration, migrant laborers can't access social or medical services in the cities where they work. The workers have been among the hardest hit in ***China*** by the pandemic, as the authorities have carried out scattered lockdowns to fight the virus and employers have reduced hours and pay.

In a normal year, hundreds of millions of people travel by plane, train and car to be with their families for the Lunar New Year. The holiday, which typically includes big festive banquets and fireworks, is normally the only time many

workers can return to their hometowns to see loved ones. This year, many are making plans to spend the holiday alone.

Zhu Xiaomei, who works at a fabric store in the eastern city of Hangzhou, typically makes the 30-hour journey by train to her hometown in the southwestern province of Sichuan to be with family. This year she will spend the holiday alone for the first time, inside her 130-square-foot dormitory, which lacks a kitchen.

"Of course it is a bit upsetting," Ms. Zhu, 40, said. "I have never experienced this feeling."

For many Chinese families the holiday will represent a second year that the pandemic has kept them apart. Just hours before the start of the Lunar New Year last year, the authorities imposed sweeping lockdowns and suspended trains and planes across the country. In a matter of hours, more than 35 million people in the city of Wuhan and the surrounding areas were ordered to stay at home.

Chinese officials are concerned that widespread travel could give rise to fresh outbreaks, especially in rural areas, where testing is less common and there has been some resistance to quarantines and other public health measures. While ***China***'s outbreak is relatively under control compared to other countries and life is largely normal in many cities, clusters of new cases have emerged in recent weeks, prompting sporadic lockdowns and mass testing efforts.

China reported 54 new cases on Wednesday, compared with more than 155,000 new cases in the United States on the same day. Chinese officials have vowed to vaccinate 50 million people before the Lunar New Year, but questions remain about the efficacy of some Chinese-made ***vaccines***.

The authorities still expect hundreds of millions of people to travel during the Lunar New Year season, which lasts from January to March, despite the threat posed by the virus. Many of those travelers are going to large cities, not just rural areas. Several major cities in recent days have tightened restrictions on travel. Beijing is requiring visitors to test negative for the virus before being granted entry.

The Chinese government, in response to the migrants' outrage over the new restrictions, has tried to offer sweeteners, including gift baskets, activities and shopping discounts, to encourage them to stay put.

In Shanghai, officials plan to pay the phone and medical bills of those who forgo their journeys home. In Beijing, the authorities have encouraged companies to pay employees overtime, while housemaids have been told they will receive about $60 if they work during the holiday. In Tianjin, a northern city, the government has promised subsidies to businesses for every worker that stays over the holiday.

Some cities and counties have gone further, promising a better shot at accessing social benefits like schooling and health care. Some officials are offering rural migrants who forgo holiday travel favorable treatment in applications for residency in cities.

"Through these heartwarming measures, let migrant workers stay in their place of employment and spend the Spring Festival without worries," Chen Yongjia, a Chinese official, said last week at a news conference in Beijing hosted by the State Council, ***China***'s cabinet. In ***China***, the New Year holiday is typically referred to as the Spring Festival.

In the run-up to the holiday, the government has led a propaganda campaign aimed at persuading migrant workers to avoid traveling home. Large red banners invoking filial piety and model citizen behavior have started to appear on city streets.

"Mask or a ventilator? You pick one of the two," reads one banner.

"If you come home with the disease, you are unfilial," another exclaims.

"If you spread the disease to your mother and father, then you are utterly devoid of a conscience," a third banner reads.

The Chinese government is trying to avoid a major outbreak that could undermine the country's economic recovery. Last year's lockdowns tipped ***China***'s economy into its first contraction in nearly a half-century, but it later bounced back as officials ordered its state-run banks to lend and factories to open. Earlier this month, ***China*** reported that its economy grew 2.3 percent in 2020, most likely outpacing other large countries, including the United States.

Getting people to spend money has been less effective. Another widespread outbreak would cast a pall on any pent-up demand for shopping that usually accompanies the Lunar New Year holiday.

"What would be really damaging is if the virus spread enough to have to shut down more factories and construction sites," said Arthur Kroeber, managing director of Gavekal Dragonomics, an independent economic research firm.

Mr. Kroeber said the authorities did not seem eager for a repeat of last year's draconian response.

"They are trying to walk a tightrope," Mr. Kroeber said. To impose harsh rules on gatherings for a second year "would be embarrassing," he added.

The holiday restrictions have added to a difficult time for many migrant workers in ***China***. Many did not work for months last year as the economy came to a standstill amid lockdowns and other restrictions. While wealthier workers in ***China*** largely kept their jobs during the pandemic, many migrants struggled to make a living amid cuts to their paychecks and hours.

Shi Baolian, 47, a worker at a chemical factory in the eastern city of Suzhou, said she had been looking forward to going home for the holiday to see her father and help him clean his house. But she canceled her plans after a cluster of cases emerged in her hometown in the northern province of Hebei.

Ms. Shi said she would celebrate the holiday instead with her husband in Suzhou. She said the city has "no new year atmosphere" and that she misses the fireworks and red-and-gold banners of her hometown.

"I can't go home, so I will just work," she said. "After the epidemic is over, then we will go back."

Albee Zhang and Cao Li contributed research.

*https://www.nytimes.com/2021/01/28/world/asia/**china-coronavirus**-new-year.html*

Graphic

PHOTO: Bullet trains in eastern ***China*** this week were ready to take migrants home for the Lunar New Year. (PHOTOGRAPH BY AGENCE FRANCE-PRESSE -- GETTY IMAGES)

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Industry: TRAINS (74%); FRUIT & VEGETABLE STORES (72%)

Geographic: HEILONGJIANG, ***CHINA*** (79%); NORTH CENTRAL ***CHINA*** (79%); NORTHEAST ***CHINA*** (79%); ***CHINA*** (98%)

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78 Coronavirus Update

The New York Times

February 2, 2021 Tuesday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 4

Length: 1055 words

Byline: By James Barron

Body

Something different slowed ***vaccinations*** on Monday -- not shortages of ***vaccines*** at hospitals or clinics, not hiccups on drugmakers' production lines, not undersupplies of necessary syringes, but a wind-whipped snowstorm that blustered its way across the Northeast.

Vaccination appointments were postponed up and down the East Coast. Mayor Bill de Blasio of New York -- who announced the cancellation of Monday's appointments on Sunday, even before the storm arrived -- said on Monday that Tuesday's appointments would also be postponed because travel would still be treacherous. The storm also complicated ***vaccination*** efforts from Washington, D.C., to Boston, where the ***vaccine*** site at Fenway Park opened an hour early on Monday, and people with afternoon appointments were told to show up in the morning.

Andy Slavitt, a senior adviser to President Biden's Covid response team, acknowledged the frustration over scheduling appointments. ***Vaccinations*** had been picking up in the last couple of weeks, though slowly, as the administration pushed to accelerate inoculations and limit the spread of new and more contagious virus variants. "If we didn't have these variants looming," the nation would be in a relatively good place, said Dr. Peter Hotez, a ***vaccine*** scientist and pediatrician at Baylor College of Medicine in Houston. But if those variants take over by spring -- "as many of us are predicting," he said -- the picture would become darker again. "We really have to vaccinate the American population by late spring, early summer."

So far, the Centers for Disease Control and Prevention said on Monday, more than 32.2 million doses had been administered -- which Mr. Slavitt said amounted to 1 in 10 Americans -- out of 49.9 million ***vaccines*** distributed.

The administration is also moving to provide home tests for the virus. Mr. Slavitt said the administration had arranged a $231 million deal with the Australian company Ellume to provide nonprescription ***coronavirus*** tests that can send results to smartphones.

He said the Ellume test was self-administered with a nasal swab that the user put in a digital device that delivered the result to the user's smartphone in less than 15 minutes. The cost of the test, at around $30 each, would be high for people who wanted to give (or take) tests frequently. But Mr. Slavitt said he expected the cost would come down as production increased.

The Food and Drug Administration gave emergency authorization to the test in December. The Ellume test detected 95 percent of the ***coronavirus*** infections found by polymerase chain reaction tests -- the benchmark laboratory assays, known as P.C.R. tests -- in a small clinical study. It was right on 97 percent of those who had

received negative laboratory test results. But it did best with people who had already shown some symptoms of the ***coronavirus***. In those who were asymptomatic, it detected only 91 percent of the infections found by P.C.R. tests.

XXX

As deadly January gave way to February, there were fewer new cases in the United States. The seven-day average of new cases peaked on Jan. 8 and dropped 40 percent through Jan. 29. In percentage terms, Colorado, Iowa, Michigan, Minnesota and Wisconsin were all down more than 65 percent, while several sparsely populated states recorded even greater declines, among them Montana, North Dakota and South Dakota.

But in the two weeks before Jan. 8, nearly 1 percent of the U.S. population had tested positive. That high starting point meant that ***Covid-19*** hospitalizations have only fallen back to the levels of early December, when intensive-care units around the country were already straining. Hospitalizations remain almost twice as high as during the peaks in the spring and summer.

XXX

Fifteen World Health Organization experts are in ***China*** looking for clues about the virus in Wuhan, where it originated. The scientists have visited a live animal market, a hospital and a disease control center in Wuhan, which became synonymous with the dread and devastation that the virus caused in its early stages. Wuhan has rebounded, and ***China*** has attempted to exploit the W.H.O. investigation, saying that the government is showing transparency by allowing the experts into the country. The authorities have controlled the scientists' time and travels, forcing them to spend two weeks in quarantine and taking them to a government-run museum that pays tribute to ***China***'s handling of the outbreak.

It could be months or years before the team uncovers answers about how the ***coronavirus*** spread to humans, but the scientists say they are picking up important details. "We've decided to stay away from theories, because there are so many theories," said Marion Koopmans, a Dutch virologist on the team. "We are trying to look at the data and to build a list of what are possible sources."

While the scientists explore the virus's origins, the Chinese police are looking for something else: fake ***vaccines***. The problem came to light when the state-run news agency Xinhua reported that the police had broken up a counterfeiting ring that filled vials with saltwater and sold them as ***vaccines***. Xinhua said that more than 80 people had been arrested in Beijing and in the provinces of Jiangsu and Shandong.

Xinhua said the police were urging members of the public to get vaccinated "through the regular channels to avoid being deceived." Scalpers charged as much as $1,500 for an appointment. But the government also wants to avoid the possible political fallout from another ***vaccine*** scandal. In recent years, confidence in Chinese-made ***vaccines*** has been shaken by reports of data that was fabricated or children who became sick after they were vaccinated, even though the drugs were proved safe.

The European police agency Europol sounded the alarm about a different kind of counterfeiting. It said that fake ***coronavirus*** test certificates have proliferated, sold by crime gangs preying on travelers desperate to sidestep pandemic restrictions that require documents confirming negative tests. Europol said that a forgery ring had been selling forged negative test results to passengers at Charles de Gaulle Airport in Paris, charging as much as 300 euros (about $362).***Coronavirus*** Update wraps up the day's developments with information from across the virus report.

https://www.nytimes.com/2021/02/01/nyregion/01barron.html

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Industry: ***vaccineS*** (96%); PHARMACEUTICALS INDUSTRY (90%); ***VACCINATION*** & IMMUNIZATION (90%); DRUG & MEDICAL DEVICES APPROVAL (78%); HOSPITALS (78%); PHARMACEUTICAL PREPARATION MFG (78%); CLINICAL TRIALS (74%); CLINICS & OUTPATIENT SERVICES (73%); HEALTH DEPARTMENTS (73%); PHYSICIANS & SURGEONS (73%); HOME HEALTH TESTING (68%); TELEPHONIC EQUIPMENT (65%); GENETIC ANALYTIC TECHNIQUES (61%); MOBILE & CELLULAR TELEPHONES (60%); SMARTPHONES (60%)

Person: BILL DE BLASIO (58%)

Geographic: BOSTON, MA, USA (79%); HOUSTON, TX, USA (79%); DISTRICT OF COLUMBIA, USA (79%); UNITED STATES (93%)

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End of Document

79 It's Time to Trust China's and Russia's vaccines

The New York Times

February 5, 2021 Friday 13:22 EST

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Section: OPINION

Length: 1828 words

Byline: Achal Prabhala and Chee Yoke Ling

Highlight: They, too, work, and they can help fill shortages everywhere.

Body

They, too, work, and they can help fill shortages everywhere.

While the richest countries in the world are grappling with shortages of ***Covid-19*** ***vaccines***, some of the poorest worry about getting ***vaccines*** *at all*. Yet a solution to both problems may be hiding in plain sight: ***vaccines*** from ***China*** and Russia, and soon, perhaps, India.

Chinese and Russian ***vaccines*** were initially dismissed in Western and other global media, partly because of a perception that they *were inferior* to the ***vaccines*** produced by Moderna, Pfizer-BioNtech or AstraZeneca. And that perception seemed to stem partly from the fact that ***China*** and Russia are *authoritarian states*.

But evidence has been accumulating for a while that the ***vaccines*** from those countries work well, too. The leading medical journal *The Lancet published this week* interim results from late-stage trials showing that Sputnik V, the Russian ***vaccine***, had *an efficacy rate* of 91.6 percent. Those confirmed *findings released in mid-December* by the ***vaccine***'s developers, the Gamaleya Center and the Russian Direct Investment Fund.

The United Arab Emirates, Bahrain, Egypt, Jordan, Iraq, Serbia, Morocco, Hungary and Pakistan have approved the *Sinopharm* ***vaccine*** *from* ***China***; as of mid-January, *1.8 million people in the U.A.E.*had received it. Bolivia, Indonesia, Turkey, Brazil and Chile have approved and begun to roll out another Chinese ***vaccine***, from Sinovac. Sputnik V *will be distributed* in more than a dozen countries in Europe, the Middle East, Africa and Latin America.

When those countries vetted these ***vaccines***, they made informed decisions, based on evidence about safety and efficacy released by the Chinese and Russian manufacturers — much of it also *published* in peer-reviewed scientific journals like *The Lancet* and *JAMA* — or after running independent trials of their own. To assume otherwise is to doubt the ability or integrity of these governments, some of which have health regulatory systems on par with those in the United States or Europe.

In the face of major ***vaccine*** shortages and delivery delays, *France*, *Spain* and *Germany* are now beginning to talk about possibly placing orders for the Chinese and Russian ***vaccines***. Semi-desperation, it seems, has finally prompted them to call out "*prejudice*" against non-Western ***vaccines***.

But the skepticism endures. There is suspicion of the Russian ***vaccine*** in *Iran*, of the Chinese ***vaccines*** in *Pakistan*, and of both in *Kenya* and *South Africa*. A recent *YouGov* poll asked 19,000 people in 17 countries if they thought "more positively or negatively" about ***vaccines*** developed in which of those countries: Russia, ***China*** and India ranked lowest (except for Iran).

To some extent this is understandable. China's and Russia's self-serving propaganda campaigns touting their respective vaccines only increased wariness, especially abroad.

China and Russia also started inoculating some of their citizens last year without efficacy results from late-stage, or Phase 3, clinical trials. (The Pfizer-BioNTech and Moderna vaccines were approved in the United States after interim results from Phase 3 trials.) India has done the same recently with Covaxin, a vaccine developed by Bharat Biotech, causing a national furor.

All three governments have defended these actions as emergency measures necessary to accelerate the production and distribution of vaccines. That explanation may seem inadequate to some, but doing this is legal, and regulators in the West also cut corners for the same reason (though with more transparency).

And now there are significant data about the reliability of the Chinese and Russian vaccines. (It's still too early to tell for Covaxin.) Trial results in the U.A.E. in early December placed the efficacy of the Sinopharm vaccine at 86 percent; others, in China, at 79 percent.

A note, too, about what these efficacy numbers really measure and mean. Confusion over that has created doubts about vaccines — though about some vaccines more than others.

Take Sinovac's, and what appear to be conflicting results about its performance: 91 percent efficacy in trials in Turkey, 65 percent in trials in Indonesia and 50.4 percent in trials in Brazil. That last finding promptly made international headlines, even though researchers at the Butantan Institute, the state-run center in São Paulo that conducted those trials, pointed out at the same time that the vaccine had scored a 78 percent efficacy rate in preventing mild-to-severe cases of Covid-19.

We talked to Ricardo Palacios, the clinical research medical director at the Butantan Institute, in late January, and he told us that the trials had deliberately been designed as a "stress test." They were conducted exclusively among "health care workers directly taking care of Covid-19 patients," he said. (The Pfizer-BioNTech and Moderna vaccine trials included some health care workers and other individuals at high risk, but not just.) And when you study a pool of subjects with much greater exposure to infection, a vaccine is likely to appear to perform less well. The Butantan Institute's trials also defined what counted as a symptom of Covid-19 much more broadly than did other trials.

The protocols for trials vary, in other words, even for the same vaccine. Considering that, now imagine the potential for differences among results from trials for various vaccines — differences that may reveal as much about the trials's designs as the vaccines' performance.

No doubt, more information about the Chinese and Russian vaccines must be released to the public, but the same still goes to some extent for the leading Western vaccines. Not all the details or raw datafor trials of the Pfizer-BioNTech and Moderna vaccines have been made available, not even to researchers.

The fact is that no Covid-19 vaccine has been developed or released as transparently as it should have been. And while China and Russia may have botched their rollouts more than some Western companies, that doesn't necessarily mean their vaccines are shoddy.

The mounting evidence showing that the Chinese and Russian vaccines are reliable should be taken seriously, and fast, especially considering supply issues throughout the world.

Most vaccines produced in the West have already been bought up by rich countries: as of early December, all of Moderna's vaccines and 96 percent of Pfizer-BioNTech's, according to the People's vaccine Alliance, a coalition of organizations calling for wider and fairer access to vaccines worldwide.

Gavi, the vaccine Alliance has some Western vaccines reserved. But by our tally of its supply data, as of this week, it estimated being able to ship during the first quarter of this year only between 110 million and 122 million doses from AstraZeneca and a mere 1.2 million doses from Pfizer-BioNTech — for all 145 of the countries that have signed up with Gavi to obtain Covid-19 vaccines.

What's more, most big pharmaceutical companies in the West have resisted licensing their vaccines to non-Western manufacturers, and several wealthy countries are blocking a proposal by India and South Africa that the World Trade Organization temporarily suspend some intellectual property protections for Covid-19-related vaccines and treatments.

On the other hand, according to our latest analysis of data provided by the analytics firm Airfinity, Sinovac has already signed deals to export this year more than 350 million doses of its vaccine to 12 countries; Sinopharm, around 194 million doses to 11 countries; Sputnik V, about 400 million doses to 17 countries. All three manufacturers have stated publicly that they will have the capacity to produce up to 1 billion doses each in 2021. And all three have licensed their vaccines to local manufacturers in several countries.

So how can these vaccines be made desirable to more of the people who need them? One way would be to subject them to a formal assessment by an international organization with technical expertise. The problem currently is that the World Health Organization's rules for certifying vaccines are themselves skewed in favor of rich, essentially Western, states.

The W.H.O. maintains a list of "stringent regulatory authorities" it trusts for quality control — all are European countries except for Australia, Canada, Japan and the United States. For the rest of the world, the W.H.O. runs a service called prequalification. In theory, this is a way by which vaccines from, say, China or Russia could be placed on an equal footing with vaccines from the West. In reality, it's an onerous and time-consuming process.

When a vaccine is developed in and approved by a country on the W.H.O.'s trusted list, the organization usually relies on that assessment to quickly sign off. But when a vaccine maker anywhere else applies for prequalification, the W.H.O. conducts a full evaluation from scratch, including a physical inspection of the manufacturing facilities.

The W.H.O. approved the Pfizer-BioNTech vaccine at the end of 2020 less than two months after the makers applied for consideration, and it is expected to decide on the Moderna and AstraZeneca vaccines this month. The Chinese and Russian vaccines are still waiting in line, even though the review processes for those were initiated earlier.

In the course of reviewing the Pfizer-BioNTech vaccine, the W.H.O. worked closely with the European Medicines Agency, and approved it about 10 days after the E.M.A. had. There is no reason the W.H.O., while maintaining its standards, couldn't also collaborate with health regulators in other countries to help local vaccine manufacturers get through the vetting process. It must urgently give all vaccine-producing countries the attention they deserve.

Some doctors and activists have put forward proposals to increase the delivery worldwide of vaccines produced in the West. These calls are well-intentioned, but they, too, assume that vaccines from Western countries are the only ones worth having — and waiting for.

There is a simpler solution, already at hand: It's time to start trusting other countries' vaccines.

Achal Prabhala is the coordinator of the AccessIBSA project, which campaigns for access to medicines, and a fellow of the Shuttleworth Foundation. Chee Yoke Ling is the executive director of Third World Network, an international policy research and advocacy organization headquartered in Penang, Malaysia.

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PHOTO: A medic inoculating a doctor with Russia's ***Covid-19*** ***vaccine***, Sputnik V, at a policlinic in Moscow in early December. The leading medical journal The Lancet published this week trial results showing that Sputnik V had an efficacy rate of 91.6 percent. (PHOTOGRAPH BY Sergey Ponomarev for The New York Times FOR THE NEW YORK TIMES)

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80 Coercion, Persuasion and China's War on Covid

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Byline: By Steven Lee Myers, Keith Bradsher, Sui-Lee Wee and Chris Buckley

Body

The order came on the night of Jan. 12, days after a new outbreak of the ***coronavirus*** flared in Hebei, a province bordering Beijing. The Chinese government's plan was bold and blunt: it needed to erect entire towns of prefabricated housing to quarantine people, a project that would start the next morning.

Part of the job fell to Wei Ye, the owner of a construction company, which would build and install 1,300 structures on commandeered farmland.

Everything -- the contract, the plans, the orders for materials -- was "all fixed in a few hours," Mr. Wei said, adding that he and his employees worked exhaustively to meet the tight deadline.

"There is pressure, for sure," he said, but he was "very honored" to do his part.

In the year since the ***coronavirus*** began its march around the world, ***China*** has done what many other countries would not or could not do. With equal measures of coercion and persuasion, it has mobilized its vast Communist Party apparatus to reach deep into the private sector and the broader population, in what the country's leader, Xi Jinping, has called a "people's war" against the pandemic -- and won.

China is now reaping long-lasting benefits that few expected when the virus first emerged in the central Chinese city of Wuhan and the leadership seemed as rattled as at any moment since the Tiananmen Square crackdown in 1989.

The success has positioned ***China*** well, economically and diplomatically, to push back against the United States and others worried about its seemingly inexorable rise. It has also emboldened Mr. Xi, who has offered ***China***'s experience as a model for others to follow.

While officials in Wuhan initially dithered and obfuscated for fear of political reprisals, the authorities now leap into action at any sign of new infections, if at times with excessive zeal. In Hebei this January, the authorities deployed their well-honed strategy to test millions and isolate entire communities -- all with the goal of getting cases, officially only dozens a day in a population of 1.4 billion, back to zero.

The government has poured money into infrastructure projects, its playbook for years, while extending loans and tax relief to support business and avoid pandemic-related layoffs. ***China***, which sputtered at the beginning of last year, is the only major economy that has returned to steady growth.

When it came to developing ***vaccines***, the government offered land, loans and subsidies for new factories to make them, along with fast-tracking approvals. Two Chinese ***vaccines*** are in mass production; more are on the way. While the ***vaccines*** have shown weaker efficacy rates than those of Western rivals, 24 countries have already signed up for them since the pharmaceutical companies have, at Beijing's urging, promised to deliver them more quickly.

Other nations, like New Zealand and South Korea, have done well containing the virus without heavy-handed measures that would be politically unacceptable in a democratic system. To ***China***'s leaders, those countries do not compare.

Beijing's successes in each dimension of the pandemic -- medical, diplomatic and economic -- have reinforced its conviction that an authoritarian capacity to quickly mobilize people and resources gave ***China*** a decisive edge that other major powers like the United States lacked. It is an approach that emphasizes a relentless drive for results and relies on an acquiescent public.

The Communist Party, in this view, must control not only the government and state-owned enterprises, but also private businesses and personal lives, prioritizing the collective good over individual interests.

"They were able to pull together all of the resources of the one-party state," said Carl Minzner, a professor of Chinese law and politics at Fordham University. "This of course includes both the coercive tools -- severe, mandatory mobility restrictions for millions of people -- but also highly effective bureaucratic tools that are maybe unique to ***China***."

In so doing, the Chinese Communist authorities suppressed speech, policed and purged dissenting views and suffocated any notion of individual freedom or mobility -- actions that are repugnant and unacceptable in any democratic society.

Among the Communist Party leaders, a sense of vindication is palpable. In the final days of 2020, the seven members of the Politburo Standing Committee, the country's top political body, gathered in Beijing for the equivalent of an annual performance review, where in theory they can air criticisms of themselves and their colleagues.

Far from even hinting at any shortcomings -- the rising global distrust toward ***China***, for example -- they exalted the party leadership.

"The present-day world is undergoing a great transformation of the kind not seen for a century," Mr. Xi told officials at another meeting in January, "but time and momentum are on our side."

A Party Mobilized

In recent weeks, as new cases kept emerging, the government's cabinet, the State Council, issued a sweeping new directive. "There cannot be a shred of neglect about the risk of resurgence," it said.

The dictates reflected the micromanaged nature of ***China***'s political system, where the top leaders have levers to reach down from the corridors of central power to every street and even apartment building.

The State Council ordered provinces and cities to set up 24-hour command centers with officials in charge held responsible for their performance. It called for opening enough quarantine centers not just to house people within 12 hours of a positive test, but also to strictly isolate hundreds of close contacts for each positive case.

Cities with up to five million people should create the capacity to administer a nucleic test to every resident within two days. Cities with more than five million could take three to five days.

The key to this mobilization lies in the party's ability to tap its vast network of officials, which is woven into every department and agency in every region.

The government can easily redeploy "volunteers" to new hot spots, including more than 4,000 medical workers sent to Hebei after the new outbreak in January. "A Communist Party member goes to the frontline of the people," said Bai Yan, a 20-year-old university student, who has ambitions to join the party.

Zhou Xiaosen, a party member in a village outside of Shijiazhuang, a city of 11 million people that was among those locked down, said that those deputized could help police violations, but also assist those in need. "If they need to go out to buy medicine or vegetables, we'll do it for them," he said.

The government appeals to material interests, as well as to a sense of patriotism, duty and self-sacrifice.

The ***China*** Railway 14th Bureau Group, a state-owned contractor helping build the quarantine center near Shijiazhuang, drafted a public vow that its workers would spare no effort. "Don't haggle over pay, don't fuss about conditions, don't fall short even if it's life or death," the group said in a letter, signed with red thumb prints of employees.

The network also operates in part through fear. More than 5,000 local party and government officials have been ousted in the last year for failures to contain the ***coronavirus*** on their watch. There is little incentive for moderation.

Residents of the northeastern Chinese city of Tonghua recently complained after officials abruptly imposed a lockdown without enough preparations for supplying food and other needs. When a villager near Shijiazhuang tried to escape quarantine to buy a pack of cigarettes, a zealous party chief ordered him tied to a tree.

"Many measures seemed over the top, but as far as they're concerned it was necessary to go over the top," said Chen Min, a writer and former Chinese newspaper editor who was in Wuhan throughout its lockdown. "If you didn't, it wouldn't produce results."

The anger has faded over the government's inaction and duplicity early in the crisis, the consequence of a system that suppresses bad news and criticism. ***China***'s success has largely drowned out dissent from those who would question the party's central control. The authorities have also reshaped the public narrative by warning and even imprisoning activists who challenged its triumphant version of events.

In the beginning, the pandemic seemed to expose "the fundamental pathologies of Xi-style governance," said Jude Blanchette, a researcher at the Center for Strategic and International Studies in Washington.

"In fact, with time and hindsight, we see that the system performed in large part as Xi Jinping was hoping it would do," he added.

The measures in Hebei worked quickly. At the start of February, the province recorded its first day in a month without a new ***coronavirus*** infection.

An Economy Revived

In many countries, debates have raged over the balance between protecting public health and keeping the economy running. In ***China***, there is little debate. It did both.

Even in Wuhan last year, where the authorities shuttered virtually everything for 76 days, they allowed major industries to continue operating, including steel plants and semiconductor factories. They have replicated that strategy when smaller outbreaks have occurred, going to extraordinary lengths to help businesses in ways large and small.

China's experience has underscored the advice that many experts have suggested but few countries have followed: The more quickly you bring the pandemic under control, the more quickly the economy can recover.

While the economic pain was severe early in the crisis, most businesses closed for only a couple of weeks, if at all. Few contracts were canceled. Few workers were laid off, in part because the government strongly discouraged companies from doing so and offered loans and tax relief to help.

"We coordinated progress in pandemic control and economic and social development, giving urgency to restoring life and production," Mr. Xi said last year.

Zhejiang Huayuan Automotive Parts Company missed only 17 days of production. With the help of regional authorities, the company hired buses to bring back workers, who had scattered for the Lunar New Year holiday and could not return easily since much of the country was locked down at the beginning. Government passes allowed the buses through checkpoints restricting travel.

Workers were only allowed to go back and forth between the factory and dormitories, their temperatures checked frequently. BYD, a large customer, started manufacturing face masks and shipped supplies to Huayuan.

Soon, the company had more orders than it could handle.

An ambulance manufacturer in Anhui Province increased production immediately, buying screws, bolts and other fasteners that Huayuan produces. Then Chinese automakers started needing them as the virus spread and overseas suppliers shut down.

"We just said no to clients who only wanted standard parts -- we wanted to sell more specialized parts, with higher profit," said Chen Xiying, the company's deputy general manager. "Clients who were slow to pay we rejected outright."

Like ***China*** itself, Huayuan rebounded quickly. By April, it had ordered nearly $10 million of new equipment to start a second, highly automated production line. It plans to add 47 technicians to its work force of 340.

Before the pandemic, multinationals were looking beyond ***China*** for their operations, in part prodded by the Trump administration's trade war with Beijing. The virus itself added to fears about dependence on Chinese supply chains.

The pandemic, though, only reinforced ***China***'s dominance, as the rest of the world struggled to remain open for business.

Last year, ***China*** unexpectedly surpassed the United States as a destination for foreign direct investment for the first time, according to the United Nations Conference on Trade and Development. Worldwide, investments plummeted 42 percent, while in ***China*** they grew by 4 percent.

"Despite the human cost and disruption, the pandemic in economic terms was a blessing in disguise for ***China***," said Zhu Ning, deputy dean of the Shanghai Advanced Institute of Finance.

A Diplomatic Tool

Last February, while the ***coronavirus*** ravaged Wuhan, one of the country's biggest ***vaccine*** manufacturers, Sinovac Biotech, was in no position to develop a new ***vaccine*** to stop it.

The company lacked a high-security lab to conduct the risky research needed. It had no factory that could produce the shots, nor the funds to build one.

So the company's chief executive, Yin Weidong, reached out to the government for help. On Feb. 27, he met with Cai Qi, a member of ***China***'s Politburo, and Chen Jining, the mayor of Beijing and an environmental scientist.

After that, Sinovac had everything it needed.

The officials gave its researchers access to one of the country's safest labs. They provided $780,000 and assigned government scientists to help.

They also cleared the way for the construction of a new factory in a district of Beijing. The city donated the land. The Bank of Beijing, in which the municipality is a major shareholder, offered a low-interest $9.2 million loan.

When Sinovac needed fermentation tanks that typically take 18 months to import from abroad, the government ordered another manufacturer to work 24 hours a day to make them instead.

It was the sort of all-of-government approach that Mr. Xi outlined at a Politburo Standing Committee meeting two days after Wuhan was locked down. He urged the country to "accelerate the development of therapeutic drugs and ***vaccines***," and Beijing broadly showered resources.

CanSino Biologics, a private company, partnered with the People's Liberation Army, working with little rest to produce the first trial doses by March. Sinopharm, a state-owned pharmaceutical company, got government funding in three and a half days to build a factory.

Mr. Yin of Sinovac called the project "Operation ***Coronavirus***" in keeping with the wartime rhetoric of the country's fight against the outbreak. "It was only under such comprehensive conditions that our workshop could be put into production," he told The Beijing News, a state-controlled newspaper.

Less than three months after Mr. Yin's Feb. 27 meeting, Sinovac had created a ***vaccine*** that could be tested in humans and had built a giant factory. It is churning out 400,000 ***vaccines*** a day, and hopes to produce as many as one billion this year.

The crash course to vaccinate a nation ultimately opened a different opportunity.

With the ***coronavirus*** largely stamped out at home, ***China*** could sell more of its ***vaccines*** abroad. They "will be made a global public good," Mr. Xi promised the World Health Assembly last May.

Although officials bristle at the premise, "***vaccine*** diplomacy" has become a tool to assuage some of the anger over ***China***'s missteps, helping shore up its global standing at a time when it has been under pressure from the United States and others.

"This is where ***China*** can come in and look like a real savior, like a friend in need," said Ray Yip, a former head of the Bill and Melinda Gates Foundation in ***China***.

China's efficiency at home has not translated into an easy triumph abroad. Chinese ***vaccines*** have lower efficacy rates. Officials in Brazil and Turkey have complained about delays. Still, many countries that have so far signed up for them have acknowledged that they could not afford to wait months for those made by the Americans or Europeans.

On Jan. 16, Serbia became the first European country to receive Chinese ***vaccines***, some one million doses from Sinopharm. The country's president, Aleksandr VuÄiÄ‡, stood in chilly winds with the Chinese ambassador to welcome the first planeload of supplies.

He told reporters that he was "not afraid to brag" of the country's relationship with ***China***.

"I'm proud of that and will invest more and more of our time and efforts to create and even improve our great relationship with the Chinese leadership and the Chinese people."

Coral Yang, Amber Wang, Claire Fu and Elsie Chen contributed research.

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81 *Making Friends in a Pandemic By Using vaccine Diplomacy*

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Body

India, ***China***, the U.A.E. and others dole out donations in countries where they seek sway. In some cases, they are sending doses despite pressing needs at home.

NEW DELHI -- India, the unmatched ***vaccine*** manufacturing power, is giving away millions of doses to neighbors friendly and estranged. It is trying to counter ***China***, which has made doling out shots a central plank of its foreign relations. And the United Arab Emirates, drawing on its oil riches, is buying jabs on behalf of its allies.

The ***coronavirus*** ***vaccine*** -- one of the world's most in-demand commodities -- has become a new currency for international diplomacy.

Countries with the means or the know-how are using the shots to find favor or thaw frosty relations. India sent them to Nepal, a country that has fallen increasingly under ***China***'s influence. Sri Lanka, in the midst of a diplomatic tug of war between New Delhi and Beijing, is getting doses from both.

The strategy carries risks. India and ***China***, both of which are making ***vaccines*** for the rest of the world, have vast populations of their own that they need to inoculate. Though there are few signs of grumbling in either country, that could change as the public watches doses get sold or donated abroad.

"Indians are dying. Indians are still getting the disease," said Manoj Joshi, a distinguished fellow at the Observer Research Foundation, a New Delhi think tank. "I could understand if our needs had been fulfilled and then you had given away the stuff. But I think there is a false moral superiority that you are trying to put across where you say we are giving away our stuff even before we use it ourselves."

The donating countries are making their offerings at a time when the United States and other rich nations are scooping up the world's supplies. Poorer countries are frantically trying to get their own, a disparity that the World Health Organization recently warned has put the world "on the brink of a catastrophic moral failure."

With their health systems tested like never before, many countries are eager to take what they are offered -- and the donors could reap some political good will in reward.

"Instead of securing a country by sending troops, you can secure the country by saving lives, by saving their economy, by helping with their ***vaccination***," said Dania Thafer, the executive director of the Gulf International Forum, a Washington-based think tank.

China was one of the first countries to make a diplomatic vaccine push, promising to help developing countries last year even before the nation had mass produced a vaccine that was proved to be effective. Just this week, it said it would donate 300,000 vaccine doses to Egypt.

But some of China's vaccine-diplomacy efforts have stumbled from supplies arriving late, a lack of disclosure about the efficacy of its vaccines and other issues. Chinese government officials have cited unexpectedly strong needs at home amid isolated outbreaks, a move that could blunt any domestic backlash.

Even as Chinese-made vaccines spread, India saw a chance to bolster its own image.

The Serum Institute of India, the world's largest vaccine factory, churns out the AstraZeneca-Oxford vaccine at a daily rate of about 2.5 million doses. That pace has allowed India to begin to dole out doses free of charge to neighbors. To much fanfare, planeloads have arrived in Nepal, Bangladesh, Myanmar, the Maldives, Sri Lanka, the Seychelles and Afghanistan.

"Acting East. Acting fast," said S. Jaishankar, India's foreign minister, announcing the arrival of 1.5 million doses in Myanmar, on Twitter.

The Indian government has tried to score publicity points for doses shipped to places like Brazil and Morocco, though those countries purchased theirs. The Serum Institute has also pledged 200 million doses to a global W.H.O. pool called Covax that would go to poorer nations, while China recently pledged 10 million.

For now, the Indian government has room to donate abroad, even after months when cases soared and the economy was hobbled, and even as it has vaccinated just a tiny percent of its 1.3 billion people. Part of the reason for a lack of backlash: the Serum Institute is producing at a faster rate than Indias's inoculation program can currently handle, leaving extras for donations and exports.

And some Indians are not in a rush to get vaccinated because of skepticism over a homegrown vaccine called Covaxin. The Indian government approved its emergency use without disclosing much data about it, leading some people to doubt its effectiveness. While the AstraZeneca-Oxford jab has faced less skepticism, those getting vaccinated don't have a choice of which vaccine they receive.

For India, its soft-power vaccine drive has given it a rejoinder to China, after years of watching the Chinese make political gains in its own backyard -- in Sri Lanka, the Maldives, Nepal and elsewhere. Beijing offered deep pockets and swift answers when it came to big investments that India, with a layered bureaucracy and slowing economy, has struggled to match.

"India's neighborhood has become more crowded, more competitive," said Constantino Xavier, who studies India's relations with its neighbors at the Centre for Social and Economic Progress, a New Delhi think tank. "The vaccine push bolsters India's credibility as a reliable crisis-responder and solutions provider to these neighboring countries."

One of India's largest donations has been to Nepal, where India's relationship has been at a historic low. Sandwiched between India and China, the tiny country is strategically significant to both.

Over the past five years, following border disputes and what some in Nepal criticize as a master-and-servant relationship with India, the government of K.P. Sharma Oli, the prime minister, began cozying up to China. Mr. Oli held workshops on "Xi Jinping Thought," based on the strategies of China's top leader, and signed contracts for several projects as part of the Belt and Road Initiative, Beijing's infrastructure and development push.

But the prime minister started losing his grip on power last year. As both Chinese and Indian delegations arrived in Kathmandu to steer Nepal's domestic political jockeying, the Nepali leader seems to have lowered the temperature with India.

After Mr. Oli sent his foreign minister for talks in New Delhi, India donated one million doses. ***China***'s Sinopharm has also applied for Nepal's approval of its ***vaccine***, but drug authorities there have not given it the go ahead.

"The ***vaccine*** emerged as an opportunity to normalize ties" between Nepal and India, said Tanka Karki, a former Nepali envoy to ***China***.

Still, the strategy of using ***vaccines*** to win hearts and minds isn't always successful.

The United Arab Emirates, which is rolling out ***vaccines*** faster than any country except Israel, has begun donating Chinese-made Sinopharm ***vaccines*** it purchased to countries where it has strategic or commercial interests, including 50,000 doses each to the Seychelles, the island nation in the Indian Ocean, and Egypt, one of its Arab allies.

But in Egypt some doctors balked at using them, because they said they did not trust the data the U.A.E. and the ***vaccine***'s Chinese maker had released about trials. The government of Malaysia, one of the Emirates' biggest trading partners, declined an offer of 500,000 doses, saying that regulators would have to independently approve the Sinopharm ***vaccine***. After regulatory approval, Malaysia bought ***vaccines*** instead from Pfizer of the United States, the AstraZeneca-Oxford ***vaccine*** and one made by another Chinese company, Sinovac.

Even accepted good will can be short-lived. Witness Sri Lanka, where India and ***China*** are in a battle for influence.

Since Gotabaya Rajapaksa took office as president in 2019, New Delhi has struggled to get his government to commit to a deal his predecessor signed to complete a terminal project at the Colombo port to be developed partly by India. While large Chinese projects continued, Mr. Rajapaksa opened the Indian deal for a review.

Hoping to stress the importance of the project, Mr. Jaishankar, the Indian foreign minister, visited last month. That same month, 500,000 ***vaccine*** doses arrived from India. Mr. Rajapaksa was at the airport to receive them. Sri Lanka has also placed a purchase order of 18 million doses from the Serum Institute, the health ministry in Colombo confirmed.

The Indian media treated both as a diplomatic victory, and it seems clear Sri Lanka will depend largely on India for ***vaccines***. But on Jan. 27, Mr. Rajapaksa received another gift, from ***China***: a pledge to donate 300,000 doses.

The dueling donations are just part of a much larger diplomatic dance. Still, a week later, Mr. Rajapaksa's cabinet decided that Sri Lanka was developing the Colombo terminal on its own, pushing India out of the project.

Mujib Mashal reported from New Delhi and Vivian Yee from Cairo. Bhadra Sharma, Elsie Chen, Aanya Piyari, Salman Masood and Zia ur-Rehman contributed reporting.Mujib Mashal reported from New Delhi and Vivian Yee from Cairo. Bhadra Sharma, Elsie Chen, Aanya Piyari, Salman Masood and Zia ur-Rehman contributed reporting.

*https://www.nytimes.com/2021/02/11/world/asia/**vaccine**-diplomacy-india-**china**.html*

Graphic

PHOTOS: Left, a shipment of 600,000 doses of the ***Covid-19*** ***vaccines*** donated by ***China*** arriving at the Phnom Penh International Airport in Cambodia on Sunday. Above, a health worker preparing to inoculate a colleague at Patan hospital in Lalitpur, Nepal. (PHOTOGRAPHS BY CINDY LIU/REUTERS

NARENDRA SHRESTHA/EPA, VIA SHUTTERSTOCK) (A7)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: ***vaccineS*** (93%); COMMUNICABLE DISEASE CONTROL (90%); EPIDEMICS (90%); INTERNATIONAL RELATIONS & NATIONAL SECURITY (90%); FOREIGN RELATIONS (89%); PANDEMICS (89%); PUBLIC HEALTH (89%); DEVELOPING COUNTRIES (79%); INTERNATIONAL RELATIONS (78%); PUBLIC HEALTH ADMINISTRATION (78%); ***VACCINATION*** & IMMUNIZATION (78%); CORONAVIRUSES (73%); INFECTIOUS DISEASE (73%); VIRUSES (72%); RESEARCH INSTITUTES (69%); WAR & CONFLICT (68%); HEALTH DEPARTMENTS (67%); UNITED NATIONS INSTITUTIONS (61%); ASSOCIATIONS & ORGANIZATIONS (60%)

Industry: ***vaccineS*** (93%); MANUFACTURING (78%); ***VACCINATION*** & IMMUNIZATION (78%); BIOLOGICS MFG (72%); HEALTH DEPARTMENTS (67%)

Geographic: NEW DELHI, INDIA (89%); BEIJING, ***CHINA*** (58%); NORTH CENTRAL ***CHINA*** (58%); INDIA (96%); ***CHINA*** (95%); UNITED ARAB EMIRATES (92%); UNITED STATES (92%); EGYPT (79%); NEPAL (79%)

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End of Document

82 *Hungarians Get vaccines Before Tests Or Approvals*

The New York Times

February 13, 2021 Saturday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 8

Length: 1351 words

Byline: By Benjamin Novak

Body

Hungary became the first European Union country to administer Russia's Sputnik ***vaccine***, and will soon start with one from ***China*** -- posing a challenge to the bloc's joint ***vaccination*** strategy.

Hungary on Friday began injecting citizens with Russia's Sputnik V ***vaccine***, becoming the first country in the European Union to administer a ***coronavirus*** inoculation that has yet to be tested and approved by the bloc's regulators.

With Hungary's economy suffering and a national election looming next year, embracing such ***vaccines*** is part of the government's strategy to go all in on fighting the ***coronavirus*** after a series of missteps allowed it to spread in Hungary.

The decision by Viktor Orban, Hungary's far-right prime minister, to move forward with the ambitious ***vaccination*** plan comes after the European Union's own response to ***vaccine*** distribution has lagged behind the United States, Israel, and Britain.

Mr. Orban has few options for reviving the Hungarian economy, as he is opposed to handing out meaningful relief aid to citizens and businesses and appears to be betting big on getting the whole country vaccinated, with an eye on next year's elections.

"We have averted the extreme temptation of returning to an aid-based economy during the crisis," Mr. Orban said last week at the Hungarian Chamber of Commerce and Industry. "Many have said that aid must be distributed during a crisis. Perhaps that may be appropriate in some countries under certain circumstances. I do not see Hungary as one of these countries."

But his embrace of ***vaccines*** that have yet to get E.U. approval -- Sputnik V, as well as a Chinese one made by Sinopharm that is expected to be rolled out in the near future -- have also provided an opportunity to score political points against what Mr. Orban sees as an overbearing and ineffectual European Union in the run-up to the election in 2022.

"My opinion is that what I need, and what the Hungarian people need, is not an explanation, but a ***vaccine***, and if it is not coming from Brussels, then it must come from elsewhere," Mr. Orban said in January. "It cannot be that Hungarian people are dying because ***vaccine*** procurement in Brussels is slow. This is simply unacceptable."

Mr. Orban has been at odds with the European Union over Hungary's hard-line policies regarding the treatment of migrants, deemed illegal by the European Court of Justice, as well as issues like the rule of law, corruption and media freedom.

Critics argue that by moving forward with ***vaccines*** that have not been approved in the European Union, Mr. Orban is undermining the bloc's joint ***vaccination*** program, which coordinates orders and distribution.

"Orban is using the ***vaccine*** to play a perfidious political game to weaken, break up the bloc," said Andrzej Halicki, a Polish member of the European Parliament.

"Russia is deploying a dumping tactic, trying to enter the European market, offering the Hungarians a lower price for their ***vaccine***, and Orban is trying to destroy the common ***vaccination*** strategy under the pretext of this lower price," he said.

For now, the European Commission, the executive branch of the E.U., has avoided directly criticizing Mr. Orban's approach.

"If a member state wants to conclude contracts with companies not covered by our ***vaccine*** strategy, they have a right to do that," Stefan De Keersmaecker, a commission spokesman said Wednesday.

But, he said, Hungary would also be liable for using the unapproved ***vaccines***. "This is different from the E.M.A. authorization, where liability remains with the manufacturer," he said, referring to the European Medicines Agency, the E.U. regulator.

While many E.U. members have expressed frustration with the bloc's sluggish procurement procedures, Hungary is the only one so far to break from the collective strategy.

Neither the Russian nor the Chinese producers have applied for a rolling review or a marketing authorization with the European Medicines Agency. But Russian scientists have sought formal scientific advice from the E.U. regulator, a step seen as a precursor to collecting the appropriate data and documentation to request a review.

Sputnik V only this month got its first peer-reviewed feedback in the scientific publication The Lancet, which indicated it was both safe and effective. The Sinopharm ***vaccine*** has been approved for use in ***China***, Bahrain and the United Arab Emirates, but the company has yet to publish detailed results of its Phase 3 trial.

Other E.U. nations have began considering Sputnik V since it received its positive review in The Lancet, E.U. officials say, and that could help its authorization by the bloc. Despite his complaints about the delays in mobilizing ***vaccines*** by the European Union, which only became apparent in December, Mr. Orban's strategy was already evident in November, when his foreign minister announced that the government was in talks with Russia about importing, and possibly manufacturing, Sputnik V.

Peter Kreko, the director of Political Capital, a research institute in Budapest, said Mr. Orban was now motivated by a desire to appear quicker and more efficient than the European Union.

While there is a strong desire to get the economy up and running again, Mr. Kreko said, the prime minister is also working to repair the image caused by his administration's bungled handling of the pandemic and Hungary's high mortality figures.

Dr. Ferenc Falus, Hungary's former chief medical officer, said the public health response has been deficient on several levels. From the beginning of the pandemic, he said, systemic problems with contact-tracing made it completely inefficient. A failure to offer free mass testing contributed to a skewed understanding of the prevalence of the virus, he said.

The relaxation of restrictions between August and November, Dr. Falus said, "was a huge mistake because it resulted in the incredibly high spike in mortality."

Hungary has registered 383,735 cases of the ***coronavirus***, with 13,543 deaths, according to a New York Times database, though experts believe the number of deaths related to the virus to be much higher.

While Mr. Orban and his government have played up the merits of the Russian and Chinese ***vaccines***, many Hungarians are still wary of those shots, Mr. Kreko said.

He cited a recent survey by the Hungarian pollster Median that showed twice as many Hungarians would choose Western ***vaccines*** over Sputnik, and three times as many as Sinopharm.

He said waiting until these ***vaccines*** receive approval from the European Medicines Agency might expand the public's openness toward using them.

"That would not fit into Orban's strategy because he wants to show how Brussels is slow and incompetent while the Hungarian government is doing much better," he said.

The Hungarian Chamber of Doctors, a leading association of doctors, has urged the government and domestic regulators to approve ***vaccines*** only after transparently following drug safety rules and testing in accordance with European Medicines Agency standards.

Like other countries in the European Union, Hungary's economy was hammered by lockdowns after the ***coronavirus*** spread rapidly in the spring, with its service sector particularly hard hit.

"Roughly the same happened everywhere," said Gergely Tardos, lead economist with OTP Bank. "Hungary was more or less lucky because industry bounced back in the third quarter -- but that was not true for tourism, restaurants and a lot of services."

Worst hit were those in the sector working off the books, as is typical in Hungary, particularly in small businesses and in hospitality and tourism.

Addressing the illegal and semi-illegal employment of such individuals is a political land mine, said Zoltan Pogatsa, an economist with the University of Sopron.

Hospitality and tourism account for roughly 10 percent of Hungary's economy and labor force, he said, and those working informally would not be eligible for unemployment benefits, which are already low by E.U. standards and the shortest in the bloc.

Monika Pronczuk contributed reporting from Brussels.

*https://www.nytimes.com/2021/02/12/world/europe/hungary-**coronavirus**-**vaccination**-sputnik.html*

Graphic

PHOTO: A man is injected with the Sputnik V ***vaccine*** against the ***coronavirus*** in Budapest on Friday, the first in the European Union. (PHOTOGRAPH BY ZOLTAN BALOGH/AGENCE FRANCE-PRESSE -- GETTY IMAGES)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: ***vaccineS*** (95%); EUROPEAN UNION (91%); ***VACCINATION*** & IMMUNIZATION (91%); APPROVALS (89%); ELECTIONS (89%); BUSINESS & PROFESSIONAL ASSOCIATIONS (78%); BUSINESS NEWS (78%); EUROPEAN UNION INSTITUTIONS (78%); GOVERNMENT SUPPORT OF BUSINESS (78%); INFECTIOUS DISEASE (78%); INTERNATIONAL COURTS & TRIBUNALS (78%); INTERNATIONAL ECONOMIC ORGANIZATIONS (78%); VIRUSES (78%); INTERNATIONAL LAW (77%); NEGATIVE PERSONAL NEWS (77%); RULE OF LAW (77%); CORONAVIRUSES (76%); CAMPAIGNS & ELECTIONS (75%); EUROPEAN UNION COURTS (73%); ECONOMIC STIMULUS (71%); PRIME MINISTERS (70%); SUPREME COURTS (69%); CHAMBERS OF COMMERCE (67%); CORRUPTION (60%); DEATH & DYING (50%)

Company: ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (53%)

Organization: EUROPEAN UNION (94%); CHAMBER OF COMMERCE & INDUSTRY (54%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (53%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (53%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (53%); ***vaccineS*** (95%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); ***VACCINATION*** & IMMUNIZATION (91%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); MANUFACTURING (89%); PHARMACEUTICALS TRADE (78%)

Person: VIKTOR ORBAN (79%)

Geographic: BRUSSELS, BELGIUM (90%); HUNGARY (98%); EUROPE (95%); ***CHINA*** (92%); EUROPEAN UNION MEMBER STATES (91%); BELGIUM (90%); RUSSIAN FEDERATION (88%); ISRAEL (79%); UNITED STATES (79%)

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End of Document

83 Coronavirus Update

The New York Times

February 19, 2021 Friday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 4

Length: 1107 words

Byline: By James Barron

Body

Across the snowbound American landscape, the misery continued on Thursday -- the sudden misery of a brutally cold storm that stomped into the Northeast (as many Texans were without power) and the by-now familiar misery of the pandemic. From Texas to New York, ***coronavirus*** ***vaccination*** centers closed, appointments were canceled or postponed and officials worried that the severe weather would disrupt deliveries of ***vaccines***.

It disrupted President Biden's schedule: He delayed until Friday a trip to a manufacturing plant in Michigan where Pfizer makes ***coronavirus*** ***vaccines***. Some 29.6 million doses of the ***vaccine*** that Pfizer developed with its German partner, BioNTech, have been administered in the United States, the Centers for Disease Control and Prevention said on Thursday. That number exceeded by about 1.8 million the doses of the ***vaccine*** made by Moderna.

Jen Psaki, the White House press secretary, said the Biden administration was working to make sure that ***vaccine*** shipments delayed by the weather would arrive over the weekend. She said the White House was also urging ***vaccine*** providers to extend their hours and reschedule appointments once roads became passable again. "Our goal is to ensure ***vaccination*** distribution across all jurisdictions is as stable and equitable as possible," she said.

In New York City, the openings of two new ***vaccination*** centers were delayed, and Mayor Bill de Blasio said the city might not receive its first ***vaccine*** shipment of the week until Sunday. "We have the infrastructure in place to deliver half a million doses per week -- all that's missing is the supply to get it done," he said. Chicago closed its ***vaccination*** sites on Tuesday after shipments did not arrive. "We can control a lot of things, but we can't control the weather," said Dr. Allison Arwady, the city's health commissioner. "Obviously, we can't have people coming if we don't have ***vaccine*** to put in arms." In Washington state, 90 percent of the 200,000 doses that state officials had expected this week have yet to arrive. As a result, a state-operated ***vaccination*** site will remain closed through the weekend.

Even before the storm compounded their problems, governors and state health care directors were scrambling to break up two logjams that have made millions of ***vaccines*** unavailable: Doses set aside for nursing homes that did not need them, and ***vaccines*** needlessly stockpiled as second doses while people seeking first doses went unvaccinated. Federal officials estimate that as many as six million doses could be freed up, more than 10 percent of the ***vaccines*** administered so far.

XXX

Just under 70,200 new ***coronavirus*** infections were reported on Wednesday, down 26 percent from a week ago -- an encouraging sign. But the unemployment numbers were up last week. A total of 862,000 workers filed initial claims for state unemployment benefits, roughly the same number as the week before, the Labor Department said on Thursday. An additional 516,000 claims were filed under a federal program for freelancers, part-time workers and others not normally eligible for jobless benefits. (Neither figure is seasonally adjusted; on a seasonally adjusted basis, new state claims totaled 861,000.)

Vice President Kamala Harris said on Thursday that the 2.5 million women who have left the work force since the beginning of the pandemic constituted a "national emergency," one that she said could be addressed with the Biden administration's $1.9 trillion ***coronavirus*** relief plan. "Our economy cannot fully recover unless women can participate fully," Ms. Harris said during a video call with several women's advocacy groups and lawmakers, essentially reiterating the case she made in a Washington Post op-ed last week.

Some 700,000 more women than men have left the work force during the pandemic, according to Labor Department data. As part of its relief plan, the Biden administration has outlined several elements that officials say will ease the burden on unemployed and working women, including $3,000 in tax credits issued to families for each child, a $40 billion investment in child care assistance and an extension of unemployment benefits.

XXX

Hong Kong approved a Chinese ***vaccine*** on Thursday despite disappointing trial results. The government also relaxed social distancing rules.

The semiautonomous territory's health authorities said the first million doses of the ***vaccine***, called CoronaVac, would arrive on Friday. It was developed by the private company Sinovac Biotech, which has faced scrutiny over spotty data disclosures and delivery delays after striking deals to supply CoronaVac to at least 17 countries. Among them are Brazil, the Philippines, Turkey and Indonesia, where President Joko Widodo was given a CoronaVac shot on live television last month.

The approval set Hong Kong apart from other governments in Asia that have indicated that they would not certify CoronaVac unless they received trial data from the company. In January, officials in Brazil said that the efficacy rate of CoronaVac was just over 50 percent, barely above the World Health Organization's threshold for an effective ***Covid-19*** ***vaccine***. But Sinovac claimed a 62.3 percent efficacy rate in data it provided to the authorities in Hong Kong, Lau Chak Sing, the spokesman for a ***coronavirus*** ***vaccine*** advisory panel, told reporters on Tuesday. The advisers decided that the ***vaccine***'s benefits outweighed the risks, he said.

Whether the public will agree remains to be seen. A recent poll conducted by the University of Hong Kong showed that only 29.5 percent of Hong Kong residents were willing to take CoronaVac because of concerns about its efficacy -- about half of those who said they would accept Pfizer's ***vaccine***.

A different Chinese ***vaccine*** won approval on Thursday in Nepal, where ***China*** and India have been competing to provide doses. The Chinese ***vaccine*** was developed by the state-owned company Sinopharm and was the second authorized for emergency use. The first was Covishield, the Indian-made version of the ***vaccine*** developed by AstraZeneca and the University of Oxford. Nepal approved the Sinopharm ***vaccine*** days after Wang Yi, the Chinese foreign minister, promised to donate 500,000 doses. India has already delivered a million doses of Covishield.

China also donated 200,000 doses to Zimbabwe, where Vice President Constantino Chiwenga volunteered for the first shot on Thursday.

"I will show you," he declared after saying that the health ministry's tests had indicated its efficacy was 79 percent.***Coronavirus*** Update wraps up the day's developments with information from across the virus report.

https://www.nytimes.com/2021/02/18/nyregion/18virus-print.html

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: ***vaccineS*** (92%); VIRUSES (91%); CORONAVIRUSES (90%); DELAYS & POSTPONEMENTS (90%); HERBAL MEDICINE (90%); INFECTIOUS DISEASE (90%); PUBLIC HEALTH (90%); ***VACCINATION*** & IMMUNIZATION (90%); HEALTH DEPARTMENTS (89%); PUBLIC OFFICIALS (89%); DISEASES & DISORDERS (78%); EPIDEMICS (78%); MANUFACTURING FACILITIES (78%); US STATE GOVERNMENT (78%); PREVENTION & WELLNESS (77%); PUBLIC HEALTH ADMINISTRATION (77%); CITY GOVERNMENT (76%); US FEDERAL GOVERNMENT (74%); SEVERE WEATHER (73%); WEATHER (73%); JOBLESS CLAIMS (65%); UNEMPLOYMENT RATES (65%)

Company: PFIZER INC (91%)

Organization: CENTERS FOR DISEASE CONTROL & PREVENTION (56%)

Ticker: PFZ (LSE) (91%); PFE (NYSE) (91%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (91%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (91%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (91%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (91%); SIC2834 PHARMACEUTICAL PREPARATIONS (91%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (91%); ***vaccineS*** (92%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); ***VACCINATION*** & IMMUNIZATION (90%); HEALTH DEPARTMENTS (89%); MANUFACTURING FACILITIES (78%); DRUG AVAILABILITY (77%); NURSING & RESIDENTIAL CARE FACILITIES (77%); HEALTH CARE (73%); NURSING HOMES (72%); LONG TERM HEALTH CARE (60%)

Person: JOE BIDEN (89%); BILL DE BLASIO (79%)

Geographic: NEW YORK, NY, USA (79%); NEW YORK, USA (92%); TEXAS, USA (92%); MICHIGAN, USA (79%); WASHINGTON, USA (79%); UNITED STATES (93%)

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End of Document

84 U.S. and Novavax to Aid Global vaccine Venture

The New York Times

February 19, 2021 Friday

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Section: Section A; Column 0; Foreign Desk; Pg. 7

Length: 774 words

Byline: By Sheryl Gay Stolberg

Body

The Biden administration plans to make good on a promise to donate $4 billion, while the pharmaceutical company Novavax committed to sell 1.1 billion doses of its ***vaccine***.

WASHINGTON -- An international effort to expedite the manufacturing and distribution of ***coronavirus*** ***vaccines*** around the globe got a lift on Thursday on two fronts: White House officials said the Biden administration would make good on a U.S. promise to donate $4 billion to the campaign over two years, and the pharmaceutical company Novavax committed to sell 1.1 billion doses of its ***vaccine***.

President Biden will make his announcement on Friday during a virtual meeting with other leaders from the Group of 7, where he is also expected to call on other countries to step up their contributions. The $4 billion was approved last year by a Democratic-led House and Republican led-Senate when President Donald J. Trump was in office.

Public health experts often say that unless everyone is vaccinated, it is as if no one is vaccinated. One of the officials, who spoke anonymously to preview the president's announcement, said it was also in the interest of international security for the United States to help with efforts abroad to diminish the effects of the pandemic.

Countries like India and ***China*** are already using the ***coronavirus*** ***vaccine*** as a diplomatic tool; both are giving away doses to other nations in an effort to expand their global influence. National security experts said the United States should consider doing the same.

"We might use the ***vaccine*** internationally to buttress our relationships with allies, to potentially establish some positive cooperation with ***China***, to deal with humanitarian issues in less developed parts of the globe," Richard J. Danzig, who was the secretary of the Navy to President Bill Clinton, said in an interview late last year, lamenting the Trump administration's indifference to the idea. Such an effort, he said, "could yield us very substantial national security advantage."

The Biden White House appears to be headed in that direction. After taking office, Mr. Biden directed federal agencies to come up with "a framework for donating surplus ***vaccines***, once there is sufficient supply in the United States, to countries in need," including through the international program.

But, an official said on Thursday, the United States will not share ***vaccines*** now, while the domestic ***vaccination*** campaign is expanding.

The administration has secured 600 million doses of the two vaccines that have emergency authorization, enough for 300 million Americans. Those doses are expected to be in hand by the end of the summer, and Mr. Biden said this week that vaccines would be available for every American by the end of July. If additional vaccines are approved, as is most likely, that would add to the United States' supply.

The international vaccine effort, known as Covax, has been led by the public-private health partnership known as Gavi, the vaccine Alliance, as well as the Coalition for Epidemic Preparedness Innovations and the World Health Organization. It aims to distribute vaccines that have been deemed safe and effective by the W.H.O., with an emphasis on low- and middle-income countries.

The White House officials said the money would be delivered in multiple tranches: an initial donation of $500 million right away, followed shortly by an additional $1.5 billion. The remaining $2 billion will delivered by the end of 2022.

The president's engagement in the global fight against the pandemic is a stark contrast to the approach of Mr. Trump, who withdrew from the World Health Organization and disdained foreign assistance, pursuing a foreign policy he called "America First." Mr. Biden rejoined the World Health Organization immediately after taking office in January.

One of the officials said Mr. Biden would call on other nations to make significant pledges to Covax.

So far, the United States has pledged more than any other nation, according to the White House; the official said the goal was to leverage the second tranche of $2 billion into as much as $15 billion -- the amount the administration believes is necessary to increase the supply of vaccine around the world and to distribute it.

Those leading the Covax effort greeted the Novavax announcement with enthusiasm. Dr. Seth Berkley, the chief executive of Gavi, said in a statement that the donation would help the campaign "close in on our goal of delivering two billion doses in 2021." He said it would also expand the range of vaccines it could rely on to "build a portfolio suitable for all settings and contexts."

*https://www.nytimes.com/2021/02/18/us/politics/biden-novavax-covax-**vaccinations**.html*

Graphic

PHOTO: Glenda Daza, left, and Emily Degli-Angeli working on samples in the Novavax vaccine trial in a lab in Seattle this month. (PHOTOGRAPH BY KAREN DUCEY/GETTY IMAGES)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: vaccineS (91%); INTERNATIONAL RELATIONS & NATIONAL SECURITY (90%); NATIONAL SECURITY (87%); DRUG & MEDICAL DEVICES APPROVAL (78%); INTERVIEWS (78%); PUBLIC HEALTH

ADMINISTRATION (78%); US FEDERAL GOVERNMENT (78%); US PRESIDENTIAL CANDIDATES 2020 (78%); US PRESIDENTS (78%); US REPUBLICAN PARTY (78%); CORONAVIRUSES (77%); ***COVID-19 CORONAVIRUS*** (77%); EPIDEMICS (77%); INFECTIOUS DISEASE (77%); PANDEMICS (77%); ***VACCINATION*** & IMMUNIZATION (77%); VIRUSES (77%); APPROVALS (76%); POLITICAL PARTIES (76%); PUBLIC HEALTH (75%); PRIVATE HEALTH CARE (73%); TALKS & MEETINGS (71%); NAVIES (64%); PUBLIC PRIVATE PARTNERSHIPS (60%)

Industry: ***vaccineS*** (91%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS & BIOTECHNOLOGY (90%); PHARMACEUTICALS INDUSTRY (90%); DRUG & MEDICAL DEVICES APPROVAL (78%); MANUFACTURING (78%); DRUG AVAILABILITY (77%); ***VACCINATION*** & IMMUNIZATION (77%); PRIVATE HEALTH CARE (73%); NAVIES (64%)

Person: JOE BIDEN (92%); DONALD TRUMP (89%); BILL CLINTON (57%)

Geographic: UNITED STATES (96%); ***CHINA*** (92%); INDIA (79%)

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85 Israel vaccines Go to Far-Off Allies Before Palestinians

The New York Times

February 24, 2021 Wednesday

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Section: Section A; Column 0; Foreign Desk; Pg. 6

Length: 810 words

Byline: By Patrick Kingsley

Body

The donations will go to nations like the Czech Republic and Honduras that pledged to move diplomats to Jerusalem. Critics say Israel has an obligation to inoculate Palestinians under its occupation.

JERUSALEM -- The Israeli government has pledged to send thousands of spare ***coronavirus*** ***vaccines*** to foreign allies, reigniting a debate about Israel's responsibilities to people closer to home: Palestinians living under Israeli occupation.

On Tuesday, the governments of the Czech Republic and Honduras confirmed that Israel had promised them each 5,000 ***vaccine*** doses manufactured by Moderna. The Israeli news media reported that Hungary and Guatemala would be sent a similar number, but the Hungarian and Israeli governments declined to comment, while the Guatemalan government did not respond to a request for comment.

The donations are the latest example of a new expression of soft power: ***vaccine*** diplomacy, in which countries rich in ***vaccines*** seek to reward or sway those that have little access to them.

Jockeying for influence in Asia, ***China*** and India have donated thousands of ***vaccine*** doses to their neighbors. The United Arab Emirates has done the same for allies like Egypt. And last week, Israel even promised to buy tens of thousands of doses on behalf of the Syrian government, a longtime foe, in exchange for the return of an Israeli civilian detained in Syria.

The ***vaccines*** allocated on Tuesday were given without conditions, but they tacitly reward recent gestures from the receiving countries that implicitly accept Israeli sovereignty in Jerusalem, which both Israelis and Palestinians consider their capital. Guatemala has moved its embassy to Jerusalem, while Honduras has pledged to do so. Hungary has set up a trade mission in Jerusalem, while the Czech Republic has promised to open a diplomatic office there.

Israel has given at least one shot of the two-dose, Pfizer-manufactured ***vaccine*** to just over half its own population of nine million -- including to people living in Jewish settlements in the occupied territories -- making it the world leader in ***vaccine*** rollouts. That has left the Israeli government able to bolster its international relationships with its surplus supply of Moderna ***vaccines***.

But the move has angered Palestinians because it suggests that Israel's allies are of greater priority than the Palestinians living under Israeli control in the occupied territories, almost all of whom have yet to receive a ***vaccine***.

Israel has pledged at least twice as many doses to faraway countries as it has so far promised to the nearly five million Palestinians living in the West Bank and Gaza Strip.

The Israeli government says that the Palestinian Authority is responsible for organizing its own health care system, citing the Oslo accords of the 1990s, which assign responsibility for health care in the occupied territories to the authority.

Israel has given 2,000 ***vaccine*** doses to the Palestinian Authority, and promised 3,000 more -- token figures, given the size of the Palestinian population. And while Israel has hinted that more may come, it has yet to formalize any details.

"A few weeks ago there were question marks about whether we had enough ***vaccines*** for our own people," said Mark Regev, an adviser to Prime Minister Benjamin Netanyahu. "Now that it appears we do, we can be more forthcoming with our neighbors."

Mr. Regev added: "The virus won't stop at the border and we have a very strong interest that the Palestinians can be on top of this."

But on Tuesday evening, an Israeli security official said that the military department that coordinates between Israel and the Palestinian leadership had not yet received government authorization to deliver more ***vaccines*** to the Palestinian Authority.

In any case, human rights watchdogs say that Israel should organize a systematic ***vaccine*** program in the occupied territories, rather than sporadically deliver spares a few thousand at a time. They cite the Fourth Geneva Convention, which obliges an occupying power to coordinate with the local authorities to maintain public health within an occupied territory, including during epidemics.

The watchdog groups also note that the Israeli government not only controls all imports to the West Bank and Gaza but also, in recent submissions to the International Criminal Court, disputed Palestinian claims to sovereign statehood.

"It is a system of oppression," said Salem Barahmeh, executive director at the Palestine Institute for Public Diplomacy, a Ramallah-based advocacy group.

"It says a lot about a regime," Mr. Barahmeh added, "that it is willing to send ***vaccines*** halfway across the world, potentially for a quid pro quo, and not offer the ***vaccine*** to the millions of Palestinians who live under the Israeli occupation."

Reporting was contributed by Gabby Sobelman and Adam Rasgon.

Graphic

PHOTO: Palestinians waiting to receive ***Covid-19*** ***vaccines*** from Israel on Tuesday at a border checkpoint. (PHOTOGRAPH BY AHMAD GHARABLI/AGENCE FRANCE-PRESSE -- GETTY IMAGES)

Classification

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Subject: ***vaccineS*** (99%); HERBAL MEDICINE (90%); EMBASSIES & CONSULATES (78%); POPULATION SIZE (76%); DIPLOMATIC SERVICES (73%); INFECTIOUS DISEASE (73%); JEWS & JUDAISM (73%); VIRUSES (73%); CORONAVIRUSES (72%)

Company: PFIZER INC (58%)

Ticker: PFZ (LSE) (58%); PFE (NYSE) (58%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (58%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (58%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (58%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (58%); SIC2834 PHARMACEUTICAL PREPARATIONS (58%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (58%); ***vaccineS*** (99%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); BIOLOGICS MFG (78%); DRUG AVAILABILITY (73%); HEALTH CARE (60%)

Geographic: JERUSALEM, ISRAEL (94%); ISRAEL (99%); STATE OF PALESTINE (95%); CZECH REPUBLIC (93%); GUATEMALA (93%); SYRIA (92%); ASIA (79%); ***CHINA*** (79%); EGYPT (79%); INDIA (79%); UNITED ARAB EMIRATES (79%)

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86 Global Vaccination Effort Reveals Stark Inequalities

The New York Times

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Section: Section A; Column 0; Foreign Desk; Pg. 7

Length: 1157 words

Byline: By Ruth Maclean

Body

An operation to supply billions of ***coronavirus*** ***vaccine*** doses to poorer countries has started. But as rich countries buy most of the available supply, stark inequalities remain.

DAKAR, Senegal -- A long-awaited global sharing program designed to make ***vaccine*** access more equal began on Wednesday, when hundreds of thousands of doses arrived in the West African nation of Ghana -- the first of two billion that organizers hope to deliver worldwide this year.

The initiative, known as Covax, was created so that poorer countries that struggle to buy ***coronavirus*** ***vaccines*** on the open market can get them for free. Officials said it is the largest ***vaccine*** procurement and supply operation in history.

But the inequalities remain grim. Despite promises of billions of dollars in funding from wealthy nations, Covax still has a financing gap of $23 billion. While richer countries have managed to buy up vast reserves of ***vaccines*** and inoculate millions of people -- including more than 44 million Americans and about 18 million Britons -- poorer countries have been left behind.

As of last week more than 130 countries had yet to vaccinate a single person.

By trying to secure more ***vaccines*** for themselves, rich countries are undermining Covax and prolonging the pandemic, the head of the World Health Organization said on Tuesday.

"This is not a matter of charity," said Dr. Tedros Adhanom Ghebreyesus. "It's a matter of epidemiology."

Many of the 92 countries that qualify to get free ***vaccines*** under Covax are in Africa, where a new variant of the virus, first found in South Africa, is spreading through populations that may not get wide access to ***vaccines*** for years. The rise of new variants raises the risk that existing ***vaccines*** will be less effective.

And the need for mass inoculation has been highlighted by new studies showing that the spread of the virus has been much wider than official tallies show.

At least one in five people in Lagos, Nigeria, may have contracted ***coronavirus*** by October last year, according to findings just released by the Nigeria Center for Disease Control, an infection rate far higher than the one reported through the national surveillance system. A study in Accra, the capital of Ghana, released in November had similar findings. One from Zambia showed that undetected deaths from ***Covid-19*** were common in the capital.

"This disease is in Africa," said one of the Nigerian study's authors, Professor Babatunde Salako. "We are having underestimation of our figures."

These studies and others could drastically change how countries go about allocating ***vaccines***, said Professor Salako, director-general of the Nigerian Institute of Medical Research. For instance, those who have had the virus already may only need one dose of those ***vaccines*** that ordinarily require two.

Cost-savings like this may be vitally important, as countries cannot rely on Covax to inoculate their entire populations.

Ghana, a nation of more than 30 million people, is expected to get enough ***vaccines*** from Covax to cover only about 20 percent of its population by the end of 2021. It will have to separately buy millions more doses.

The distribution of ***vaccines*** has been "wildly uneven and unfair," the United Nations secretary-general, António Guterres, said last week.

High-income countries are bidding so aggressively for the shots that they are not only hurting Covax's ability to buy doses, but impeding the execution of deals Covax has already made, Dr. Tedros said.

Last week, the wealthy, industrialized nations known as the Group of 7 announced that they would intensify their cooperation with the international ***vaccination*** drive and raised their overall commitment to $7.5 billion.

That includes a pledge by President Biden of $4 billion in U.S. aid and an additional $1.2 billion from Germany. But Dr. Tedros said the program remained $23 billion short of what is needed.

President Emmanuel Macron of France called for even more urgent action on Friday, saying Europe and the United States should send up to 5 percent of their ***vaccine*** supplies to developing nations.

But even if things go according to plan, vaccinating most of the world's poorest people this year will be a daunting challenge.

In some countries, there may be resistance to inoculation as a result of false rumors that have spread on social media and messaging apps.

Some claim that ***Covid-19*** is not real and that ***vaccination*** campaigns are just a Western ploy to sterilize Africans. Others show people supposedly collapsing after receiving ***vaccines*** or, in one extreme case, depict a person turning into a horse.

"There are some rumors that there are a lot of side effects," said Winfred Adrah, a 28-year-old software developer in Ho, in the Volta region of Ghana. "I'm not too confident about the ***vaccine***. I wouldn't want to take it now."

Poorer countries do not pay for ***vaccines*** and injection devices under Covax, at least for up to 20 percent of their populations. But they do have to pay the costs of distribution within their borders.

To receive ***vaccines***, countries had to submit plans saying whom they wanted to immunize, how they would go about it and how they would monitor ***vaccinations***. They also had to sign an indemnity agreement with the ***vaccine*** manufacturer.

Then they were allocated ***vaccines*** by a fair formula, according to the United Nations Children's Fund, UNICEF, which has been planning the rollout along with the World Health Organization and other agencies.

"No country was prioritized," said Benjamin Schreiber, UNICEF's coordinator for the Covax program.

Four countries eligible to apply for ***vaccines*** under Covax did not do so: Burundi, Eritrea, Madagascar and Tanzania.

Madagascar has said it will continue to use its own herbal remedy, promoted by the president. Tanzania has not reported a single case since last April, and its president had declared the pandemic was "finished" -- claims that experts dismiss as nonsense -- but he recently changed course, asking people to wear masks.

Until this week, ***vaccinations*** in Africa numbered in the thousands, not millions. That is about to change, but the figures remain far below what is needed. On Tuesday, Senegal began its campaign with 200,000 doses, purchased from ***China***. On Wednesday, 200,000 doses donated by ***China*** arrived in Mozambique.

The first Covax shipment of 600,000 doses was packed up and labeled in India on Tuesday, then flown to Accra. It will cover just 1 percent of Ghana's population.

Ghana and its neighbor Ivory Coast are to begin ***vaccinations*** in coming days, according to officials.

"Today marks the historic moment for which we have been planning and working so hard," said Henrietta Fore, the executive director of UNICEF. "In the days ahead, frontline workers will begin to receive ***vaccines***, and the next phase in the fight against this disease can begin."

Mady Camara contributed reporting from Dakar, Senegal.

*https://www.nytimes.com/2021/02/24/world/africa/covax-**vaccine**-inequality.html*

Graphic

PHOTO: Ghana received its first ***vaccine*** shipment in Accra on Wednesday. (PHOTOGRAPH BY FRANCIS KOKOROKO/UNICEF)

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Organization: WORLD HEALTH ORGANIZATION (55%)

Industry: ***vaccineS*** (98%); ***VACCINATION*** & IMMUNIZATION (90%); ***COVID-19 CORONAVIRUS vaccine*** (89%); EPIDEMIOLOGY (87%); DRUG AVAILABILITY (78%); HEALTH DEPARTMENTS (78%); BIOLOGICS MFG (73%)

Geographic: ACCRA, GHANA (90%); DAKAR, SENEGAL (79%); LAGOS, NIGERIA (52%); AFRICA (93%); NIGERIA (93%); GHANA (92%); SENEGAL (79%); SOUTH AFRICA (79%); UNITED STATES (79%); WESTERN AFRICA (79%); ZAMBIA (79%)

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87 Desperate E.U. Nations Hunt for vaccine Supply

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Byline: By Matina Stevis-Gridneff

Body

Countries eager to augment the troubled E.U. buying program are eyeing offers from each other, from Russia and ***China***, and from private brokers, some of whom are fraudsters.

BRUSSELS -- In ***vaccine***-hungry, cash-rich Europe, the hunt for more doses has nations trading with each other, weighing purchases from Russia and ***China***, and fielding offers from middlemen ranging from real to outright frauds.

Amid building anger over a sluggish European Union ***coronavirus*** ***vaccine*** rollout that has left them far behind several other wealthy countries, many E.U. states are looking beyond the bloc's joint purchasing strategy, which now seems woefully underwhelming.

An immense black -- or at least gray -- market has arisen, with pitches from around the world at often exorbitant prices. Sellers have approached E.U. governments claiming to offer 460 million doses of ***vaccines***, according to the early results of an investigation by the bloc's anti-fraud agency that were shared with The New York Times.

While they still plan to get ***vaccines*** from the bloc, some nations are also trying to negotiate directly with drug makers and eyeing the murky open market where they are still unsure of the sellers and the products. Some have also agreed to swap ***vaccines*** with each other, deals some of them now have reason to regret.

The European Union last year was slow to make massive advance purchases from drug companies, acting weeks after the United States, Britain and a handful of other countries. This year, the bloc was blindsided by slower-than-expected ***vaccine*** production, and individual countries have fumbled the rollout.

About 5 percent of the E.U.'s nearly 450 million people have received at least one dose of a ***vaccine***, versus almost 14 percent in the United States, 27 percent in Britain and 53 percent in Israel, as of earlier this week, according to Our World in Data database and governments.

The stumbles by the world's richest bloc of nations have turned ***vaccine*** politics toxic. Particularly galling to many Europeans is the sight of a former E.U. member, Britain, forging ahead with its ***vaccination*** and reopening plans, while E.U. societies remain under lockdown amid a new surge of dangerous variants, their economies sinking deeper into recession.

In the final months of 2020, several countries opted to forgo parts of their population-based shares of E.U.-purchased ***vaccines***. Much of that trade involved less affluent countries, with less infrastructure and hard-to-reach populations, selling their shares of ***vaccines*** from Pfizer-BioNTech and Moderna that require ultracold storage, and

instead making the cheaper AstraZeneca ***vaccine***, which is easier to handle, the centerpiece of their ***vaccination*** campaigns.

But then AstraZeneca, whose ***vaccine*** was developed with the University of Oxford, slashed its expected E.U. deliveries because of production problems. And despite experts' assurances, many Europeans expressed doubts about it after some leaders questioned its efficacy in older age groups, which were not well represented in clinical trials, (Pfizer also suffered a supply slowdown.)

A decision by any country to let go of doses is potential political dynamite, and the recriminations have begun. Poland gave up a chunk of its expensive Moderna quota expected late this year, reasoning that it would not come soon enough to make much difference, considering they were anticipating ample deliveries of AstraZeneca and potentially the Johnson & Johnson ***vaccine*** by that point.

"I would never give up on buying what is safe and efficient," said Andrzej Halicki, a Polish member of the European Parliament. "As a former minister I can tell you that in my view this is criminal action, this is a breach of obligations."

A German official said the country had secured 50 million Moderna ***vaccine*** doses, a significantly larger number than it would get under its population-based allocation of the E.U. supply. E.U. officials confirmed that Germany had obtained at least some of their extra doses from other member states.

Germany also secured a controversial side-deal with Pfizer-BioNTech, for an extra 30 million doses to be delivered later in 2021, sparking anger in parts of the E.U. as the move was seen as the richest E.U. nation leading the bloc to a collective strategy and then hedging by also going at it alone.

The bloc's fear is that such side-deals could undermine its collective purchasing power and override delivery schedules to all 27 countries.

The European Commission has made it clear that E.U. countries should not be cutting separate deals with the same pharmaceutical companies that it has negotiated contracts with for the whole bloc.

The Netherlands has secured, from one or more other E.U. countries, 600,000 doses of the shot that Pfizer developed with the German company BioNTech, according to a government official who would not say which nation or nations had given them up.

France has not made public any deals it has made, but Prime Minister Jean Castex said, "If ***vaccine*** doses happen to be available, the instruction is clear: France will buy immediately."

Hungary has unilaterally approved and bought Russian and Chinese ***vaccines***, and others, such as Croatia and the Czech Republic, are weighing similar moves. E.U. officials say they are getting calls from several other member states eager to see the bloc approve the Russian shot, Sputnik V.

In a troubling turn, senior government officials and even heads of government have received dozens of unsolicited offers for ***vaccines***. Few of the sellers appear to be legitimate operators, said Ville Itala, director-general of the European Anti-Fraud office, known as OLAF.

"They are offering ***vaccines***, quite huge amounts, so far it's 460 million doses, which is around 3 billion euros," he said in an interview this week. "So it's not a small business, it's a huge business, and this is growing all the time."

Mr. Itala said he was taking the unusual step of going public with the information, little over a week into his agency's investigation, because the potential risks to Europeans are huge.

Ursula von der Leyen, president of the European Commission, said last week, "I think in a crisis like this you'll always have people who seek to benefit or profit from the problems of others and we see a growing number of frauds and fraud attempts."

But with offers piling in, officials say they are prepared to examine each one carefully before rejecting it.

"Wherever a few thousand, or a few hundred thousand, vaccines seem to be ready to fall off a truck, a Hungarian scout must be standing by to catch them," Prime Minister Viktor Orban of Hungary said earlier this month.

In neighboring Czech Republic, Prime Minister Andrej Babis said he had gotten offers from brokers in Dubai and elsewhere, while such pitches also reached the inboxes of top government officials in Germany, Greece and Finland, to name just a few.

Most of the middlemen claim to be selling the AstraZeneca shot, Mr. Itala said. The company said it only does deals with governments or multilateral organizations, such as through the Covax vaccine-sharing initiative. But that does not rule out the possibility of countries quietly reselling them to third parties.

"AstraZeneca has not authorized any shipments of the vaccine outside of the existing contract with the European Union," a company spokesman said. "There should be no private sector supply for sale or distribution of the vaccine in Europe."

While many of the offers are clearly fraudulent, others may be legitimate, officials say, even if the prices quoted are astronomical.

In Italy, many of the pitches have gone to regional officials who have extensive power over health care systems. The Italian police and other authorities are actively vetting the pitches.

"If these doses are legally purchased and there was a fully regular process, we could also consider purchasing it," said Cesare Buquicchio, a spokesman for the country's health minister. "Because of the delays in the deliveries we could rethink this, nothing is unchangeable, we could rediscuss this at a European level."

In the northern region of Emilia-Romagna, Raffaele Donini, the top health official, said he had received several emails offering millions of vaccines, including one from J&G General Service D.O.O., a company based in Croatia that offered AstraZeneca doses at a price not much higher than the E.U. negotiated.

The company's director, Juri Gasparotti, said a "major pharmaceutical company" outside the E.U., which he declined to name, was directly in contact with AstraZeneca and would provide the batch.

Mr. Gasparotti said that vaccine producers were "hypocrites" to claim they only sell to state entities.

Other vaccines offered to Emilia-Romagna by Mondial Pharma, a company based in the Swiss town, Lugano, cost more than those offered by Mr. Gasparotti.

Pierfrancesco Lucignano, a marketing official for Mondial Pharma, said the company had offered the region three million doses of the AstraZeneca vaccine he said was produced by the Serum Institute of India, the official Indian manufacturing partner for AstraZeneca, for about 26 euros per dose, almost $32.

"There are other countries outside Europe that are buying them," he said, adding that he is negotiating with South American and African countries.

The northern Italian region of Veneto has also gotten offers of millions of doses, from intermediaries it has done business with in the past. "We are not talking about tricksters that come here and pretend they have a garage full of vaccines," the region's president, Luca Zaia, said during a news conference earlier this month.

Mr. Donini, the official in Emilia-Romagna, said his region put the negotiations on hold and suggested the Italian state take full advantage of the region's connection with brokers.

"We activated a setup that would allow us to go 100 kilometers per hour," he said, "and we are forced to go 20 kilometers per hour because we don't have gas, while we know there are people who could fill us up."

Emma Bubola contributed reporting from Rome, Constant Méheut from Paris, Monika Pronczuk from Brussels, Thomas Erdbrink from Amsterdam, and Melissa Eddy from Berlin.Emma Bubola contributed reporting from Rome, Constant Méheut from Paris, Monika Pronczuk from Brussels, Thomas Erdbrink from Amsterdam, and Melissa Eddy from Berlin.

*https://www.nytimes.com/2021/02/26/world/europe/EU-**vaccine**-hunt.html*

Graphic

PHOTO: A ***vaccination*** in Gdansk, Poland, last month. The European Union has confronted slow ***vaccine*** production this year. (PHOTOGRAPH BY AGENCJA GAZETA, VIA REUTERS)

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Company: PFIZER INC (58%); ASTRAZENECA PLC (55%)

Organization: EUROPEAN UNION (84%)

Ticker: PFZ (LSE) (58%); PFE (NYSE) (58%); AZN (STO) (55%); AZN (NYSE) (55%); AZN (LSE) (55%)

Industry: NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (58%); SIC2834 PHARMACEUTICAL PREPARATIONS (58%); NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (58%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (58%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (58%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (58%); ***vaccineS*** (96%); PHARMACEUTICAL PREPARATION MFG (92%); PHARMACEUTICALS INDUSTRY (92%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); CHEMICALS (90%);

CHEMICALS MFG (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); ***VACCINATION*** & IMMUNIZATION (89%); BIOLOGICS MFG (78%); DRUG AVAILABILITY (78%)

Geographic: BRUSSELS, BELGIUM (58%); EUROPE (94%); ***CHINA*** (92%); UNITED STATES (92%); EUROPEAN UNION MEMBER STATES (91%); ISRAEL (79%); UNITED KINGDOM (79%); RUSSIAN FEDERATION (73%); BELGIUM (58%)

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88 The Era of vaccine Diplomacy Is Here

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Body

The ***coronavirus*** threat is global. So is the remedy.

It is only natural that the American government and the American people have focused on getting ***coronavirus vaccines*** to as many residents as possible, with the most vulnerable first in line. But as the pace of domestic ***vaccination*** accelerates, two facts are worth bearing in mind.

One is that the pandemic will not be vanquished anywhere until it is vanquished everywhere. Several known ***coronavirus*** variants are making their way around the world, and epidemiologists know more will evolve so long as the virus continues to spread, potentially challenging the efficacy of existing ***vaccines***. South Africa, for example, halted use of the Oxford-AstraZeneca ***vaccine*** when it showed "disappointing" results against a new, more contagious variant of the virus that has made landfall in the United States.

The second fact is that while more than 45 million Americans, nearly 14 percent of the U.S. population, have received at least one dose of ***vaccine***, and most high-income countries have begun their own ***vaccination*** programs, the Think Global Health project of the Council on Foreign Relations estimates that only 7 percent of low-income countries had vaccinated anyone at all as of Feb. 18.

That is a yawning gap. Dr. Tedros Adhanom Ghebreyesus, the director general of the World Health Organization, has correctly described it as "another brick in the wall of inequality between the world's haves and have-nots."

The good news is that the gap is finally being addressed. Last week, a cargo plane landed in Ghana with 600,000 doses of ***vaccine*** developed in Britain and manufactured in India, the start of a program to deliver at least 1.3 billion shots to 92 low- and middle-income countries this year through Covax, an international effort backed by the World Health Organization.

The effort has had a rocky start. Under the Trump administration, the United States pulled out of the W.H.O. altogether, and along with other wealthy nations it grabbed what ***vaccine*** it could for itself. But the Biden administration has moved quickly to rejoin the W.H.O. and has pledged $4 billion to the global ***vaccination*** drive. President Emmanuel Macron of France has further suggested that instead of money, wealthy countries should donate ***vaccine*** doses to African governments, sparing Covax the need to compete for existing supplies.

All of this is just a start. The 600,000 doses that arrived in Ghana are barely enough to inoculate 1 percent of its population, and Covax will need a lot more money and help.

While conquering the virus is the obvious and primary reason for the United States to pitch in, there is also this: It is very much in America's national interest not to cede a critical "soft power" advantage to autocratic rivals like Russia or ***China***.

Poor countries will remember who came to their assistance, and when. Moscow and Beijing saw an opportunity early on, sending masks and protective gear to hard-hit countries last spring. Now, with low- and middle-income countries clamoring for ***vaccines***, countries from Serbia and Algeria to Brazil and Egypt are getting doses from ***China*** and Russia. Serbia, in fact, is ahead of most countries in the European Union in the percentage of its population that has been vaccinated, in part because it's one of the few countries where both Russian and Chinese ***vaccines*** are already available.

China has made sharing its homegrown ***vaccines*** a centerpiece of its "Belt and Road Initiative," a global strategy to invest in more than 70 countries and international organizations. ***China***'s ***vaccine*** diplomacy has had its glitches, most notably the lack of verified information about the efficacy of its ***vaccines***, but for many poor countries, ***China***'s ***vaccines*** are far better than nothing. Recently, for example, ***China*** announced it would donate 300,000 doses to Egypt.

Russia claims it has orders for its Sputnik V ***vaccine*** from about 20 countries -- including America's southern neighbor, Mexico, which has contracted to receive 7.4 million doses between February and April. After a bout of ***Covid-19*** in late January, President Andrés Manuel López Obrador of Mexico reported that he had received a warm phone call from President Vladimir Putin of Russia and that he had invited Mr. Putin to visit Mexico. At about the same time, the president and vice president of Argentina, Alberto Fernández and Cristina Fernández de Kirchner, both received their first jabs of Sputnik V.

India, among the world's largest producers of generic medicines, has also moved to develop its own ***vaccines*** and to ship them abroad, in part as a counter to ***China***'s outreach. Though India has a population of more than 1.3 billion, it has already sent 3.2 million free doses to neighboring countries and has contracted with a host of governments around the world to supply ***vaccines***. One reason India can do this is that it's producing more ***vaccine*** than it can currently distribute domestically. The United Arab Emirates, which is vaccinating its residents faster than any country except Israel, has also begun donating Chinese-made Sinopharm to countries where it has strategic or commercial interests.

vaccine diplomacy has drawbacks. Dr. Ghebreyesus of the W.H.O. has complained that too many countries and ***vaccine*** manufacturers are focused on making bilateral or selective deals, which pushes the poorest countries to the side. That is the advantage of the W.H.O.'s Covax initiative, and the Biden administration has made a good start in supporting it.

President Biden has assured Americans that most will be vaccinated by the end of summer. He should also assure them that it is very much in their interest, for reasons of morality, common sense and national interest, to be at the forefront of the global war against that vicious little spiked blob.

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*https://www.nytimes.com/2021/02/28/opinion/covid-**vaccine**-global.html*

Graphic

PHOTO (PHOTOGRAPH BY ABDELJALIL BOUNHAR/ASSOCIATED PRESS)

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Company: ASTRAZENECA PLC (56%)

Organization: COUNCIL ON FOREIGN RELATIONS (55%); WORLD HEALTH ORGANIZATION (54%)

Ticker: AZN (STO) (56%); AZN (NYSE) (56%); AZN (LSE) (56%)

Industry: NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (56%); SIC2834 PHARMACEUTICAL PREPARATIONS (56%); ***vaccineS*** (93%); MANUFACTURING (90%); PHARMACEUTICALS & BIOTECHNOLOGY (90%); PHARMACEUTICALS INDUSTRY (90%); ***VACCINATION*** & IMMUNIZATION (90%); PHARMACEUTICAL PREPARATION MFG (89%); BIOLOGICS MFG (78%); HEALTH DEPARTMENTS (78%); EPIDEMIOLOGY (71%)

Person: JOE BIDEN (79%); EMMANUEL MACRON (78%); DONALD TRUMP (50%)

Geographic: UNITED STATES (96%); GHANA (92%); AFRICA (79%); ***CHINA*** (79%); INDIA (79%)

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89 I.O.C. Agrees to Buy vaccines From China For Olympians to 2021 and 2022 Games

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Body

The agreement with a powerful Olympic partner may help reassure a skeptical Japanese population fearful of thousands of visitors to this summer's Games.

In what amounts to a public relations coup for ***China*** and a solution to a problem for the International Olympic Committee, the I.O.C. president, Thomas Bach, announced on Thursday that ***China*** had agreed to provide ***coronavirus*** ***vaccines*** for any participant requiring one ahead of this summer's Tokyo Olympics and next year's Beijing Winter Games.

Bach said the Olympic committee would cover the cost of the ***vaccines*** for any Olympic and Paralympic competitors who needed them, and that distribution would take place through existing international agencies. It is unknown how many doses will be purchased or what the program will cost, but if vaccinating participants before they arrive reassures a skeptical public that the Games will not turn into a superspreader event for Japan -- where polling has trended strongly against the Games and a national ***vaccination*** program is still in its early stages -- the payoff for the I.O.C. will be incalculable.

Thursday's announcement by Bach, elected to a new four-year term a day earlier, will help the I.O.C. resolve a sensitive matter that has been one of the many questions hanging over the Tokyo Games: how to ensure that thousands of visitors to Japan from around the world will be vaccinated when they arrive, and how to do so without making it look as if fit, young, elite athletes and their teams have jumped the line while the global death toll from the ***coronavirus*** continues to grow.

For ***China***, the agreement with the I.O.C. -- which will include two ***vaccines*** for the general population in an athlete's home country for every one given to an Olympics participant -- may help to deflect mounting public scrutiny and criticism about the country's human rights record ahead of next year's Beijing Winter Games.

While ***China*** has brushed aside any talk of losing its Games, activists have focused on the country stripping Hong Kong of its promised democratic freedoms and the mass incarceration of Uighur Muslims in Xinjiang. In January, the United States government said the forced detentions of Uighurs amounted to "genocide."

Bach gave few details about the program, the amount of ***vaccine*** that will be procured, or the potential cost. But it is unlikely to amount to a significant figure for the sports organization, which has been fostering closer links with ***China*** under Bach. In 2015, ***China*** stepped in to save Olympic officials in a tough spot with an offer to host the

2022 Winter Games, after the I.O.C. had a series of bids collapse amid growing public opposition. More recently, Chinese companies have agreed to partner with the Olympic movement, committing millions of dollars of support.

In recent months, ***China*** has also made ***vaccines*** a tool of its foreign policy, at times exporting precious doses even as it still needs tens of millions of them at home. It has approved four ***vaccines***, and all are in either domestic or foreign use. The country produces single- and two-dose ***vaccines***, but in trials each has produced varying degrees of efficacy.

Bach said the offer for ***vaccines*** was made by the Chinese Olympic Committee, confirming vague statements he had made earlier this year about securing batches of ***vaccine*** doses before the Games.

"The offer is to make additional ***vaccine*** doses available to participants for Tokyo 2020 and Beijing 2022," Bach said in an address Thursday to the I.O.C.'s annual meeting.

"The Chinese Olympic Committee is ready in cooperation with the I.O.C. to make these additional doses available in two ways: either via collaboration with international partners, or directly in the numerous countries where agreements regarding Chinese ***vaccines*** are already in place."

Bach emphasized that the I.O.C. would also pay for the extra doses for the general population of countries that require its assistance.

A growing number of countries, a group as diverse as India, Hungary and Israel, have announced already that they will push their Olympians to the front of their ***vaccination*** lines. Mexico's president this month placed his country's athletes in a priority group alongside medical workers and teachers. Lithuania has moved even faster; it began administering ***vaccine*** shots to its Olympians weeks ago.

*https://www.nytimes.com/2021/03/11/sports/olympics/ioc-**vaccines**-**china**-thomas-bach.html*

Graphic

PHOTO: Thomas Bach was re-elected as I.O.C. president on Wednesday. He didn't say how much the ***vaccine*** deal could cost. (PHOTOGRAPH BY GREG MARTIN/IOC, VIA GETTY IMAGES)

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DEATH & DYING (70%); GENOCIDE (66%); HUMAN RIGHTS (61%); ETHNIC CONFLICTS (60%); RELIGION (50%)

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Industry: ***vaccineS*** (94%); ***VACCINATION*** & IMMUNIZATION (77%)

Geographic: BEIJING, ***CHINA*** (92%); TOKYO, JAPAN (73%); NORTH CENTRAL ***CHINA*** (92%); NORTHWEST ***CHINA*** (73%); XINJIANG, ***CHINA*** (58%); ***CHINA*** (95%); JAPAN (92%); HONG KONG (79%); UNITED STATES (79%)

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90 U.S. Takes Step To Use vaccine For Diplomacy

The New York Times

March 13, 2021 Saturday

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Length: 1754 words

Byline: By Sheryl Gay Stolberg and Michael Crowley

Body

Under pressure to play catch-up on "vaccine diplomacy," President Biden says he will help finance vaccine manufacturing capacity but is still resisting exports of doses.

WASHINGTON -- President Biden, under intense pressure to donate excess coronavirus vaccines to needy nations, moved on Friday to address the global shortage in another way, partnering with Japan, India and Australia to expand global vaccine manufacturing capacity.

In a deal announced at the so-called Quad Summit, a virtual meeting of leaders of the four countries, the Biden administration committed to providing financial support to help Biological E, a major vaccine manufacturer in India, produce at least 1 billion doses of coronavirus vaccines by the end of 2022.

That would address an acute vaccine shortage in Southeast Asia and beyond without risking domestic political blowback from exporting doses in the coming months, as Americans clamor for their shots.

The United States has fallen far behind China, India and Russia in the race to marshal coronavirus vaccines as an instrument of diplomacy. At the same time, Mr. Biden is facing accusations of vaccine hoarding from global health advocates who want his administration to channel supplies to needy nations that are desperate for access.

Insisting that Americans come first, the president has so far refused to make any concrete commitments to give away American-made vaccines, even as tens of millions of doses of the vaccine made by the British-Swedish company AstraZeneca sit idly in American manufacturing facilities.

"If we have a surplus, we're going to share it with the rest of the world," Mr. Biden said this week, adding, "We're going to start off making sure Americans are taken care of first, but we're then going to try and help the rest of the world."

In fact, the president has a lot of work ahead of him domestically to make good on the promises he has made in recent days: that all states must make all adults eligible for vaccinations by May 1, that enough vaccine doses will exist by the end of May to inoculate every American adult, and that by July 4, if Americans continue to follow public health guidance, life should be returning to a semblance of normalcy.

vaccine supply appears on track to fulfill those goals, but the president must still create the infrastructure to administer the doses and overcome reluctance in large sectors of the population to take them.

Still, Mr. Biden has also made restoring U.S. leadership a centerpiece of his foreign policy agenda after his predecessor frayed alliances and strained relationships with allies and global partners. His secretary of state, Antony J. Blinken, said in a recent BBC interview that a global ***vaccination*** campaign would be part of that effort; Washington, he said, was "determined" to be an "international leader" on ***vaccinations***.

Foreign policy experts and global health activists see clear diplomatic, public health and humanitarian reasons for doing so.

"It's time for U.S. leaders to ask themselves: When this pandemic is over, do we want the world to remember America's leadership helping distribute lifesaving ***vaccines***, or will we leave that to others?" said Tom Hart, the North America executive director of the One Campaign, a nonprofit founded by the U2 singer Bono and dedicated to eradicating world poverty.

The federal government has purchased 453 million excess ***vaccine*** doses, the group says. It has called on the Biden administration to share 5 percent of its doses abroad when 20 percent of Americans have been vaccinated, and to gradually increase the percentage of shared doses as more Americans receive their ***vaccines***.

As of Friday, 13.5 percent of people in the United States who are 18 or older have been fully vaccinated, according to the Centers for Disease Control and Prevention.

The authoritarian governments of ***China*** and Russia, which are less buffeted by domestic public opinion, are already using ***vaccines*** to expand their spheres of influence. While the Biden administration plans its strategy to counter ***China***'s growing global clout, Beijing is burnishing its image by shipping ***vaccines*** to dozens of countries on several continents, including in Africa, Latin America and particularly in its Southeast Asian backyard.

Russia has supplied its ***vaccine***, Sputnik V, to Hungary and Slovakia, and the Czech Republic's president has called for the use of that ***vaccine***, at a time when Biden officials want to keep the European Union unified against Russian influence on the continent.

"We may be outcompeted by others who are more willing to share, even if they're doing it for cynical reasons," said Ivo H. Daalder, a former NATO ambassador and the president of the Chicago Council on Global Affairs. "I think countries are going to remember who was there for us when we needed them."

With worrisome and highly infectious new variants emerging in the United States and around the world, public health experts say vaccinating people overseas is also necessary to protect Americans.

"It has to be sold to Americans as an essential strategy to make Americans safe and secure over the long term, and it has to be sold to a highly divided, toxic America," said J. Stephen Morrison, a global health expert at the Centers for Strategic and International Studies. "I don't think that's impossible. I think Americans are beginning to understand that in a world of variants, everything that happens outside our borders ups the urgency to move really fast."

Mr. Blinken said as much to the BBC: "Until everyone in the world is vaccinated, then no one is really fully safe."

The Quad ***vaccine*** Partnership announced at the summit meeting on Friday involves different commitments from each of the nations, according to the White House.

Beyond assistance for the Indian ***vaccine*** manufacturer, the United States pledged at least $100 million to bolster ***vaccination*** capacity abroad and aid public health efforts. Japan, it said, is "in discussions" to provide loans for the Indian government to expand manufacturing of ***vaccines*** for export and will aid ***vaccination*** programs for developing countries. Australia will contribute $77 million to provide ***vaccines*** and delivery support with a focus on Southeast Asia.

The four countries will also form a â€¯Quad ***vaccine*** Experts Group of â€¯top scientists and government officials who will work to address manufacturing hurdles and financing plans.

Mr. Morrison said the administration deserved "some credit" for the effort, adding, "It shows diplomatic ingenuity and speed." But a spokesman for the One Campaign, which focuses on extreme poverty, said his group would still like to see a plan for the United States' ***vaccine*** stockpile and noted that Africa had administered far fewer doses per capita than Asia.

Mr. Biden's efforts to ramp up ***vaccine*** production have helped put the United States on track to produce as many as a billion doses by the end of the year -- far more than necessary to vaccinate the roughly 260 million adults in the United States.

A deal the administration brokered to have the pharmaceutical giant Merck manufacture Johnson & Johnson's one-dose ***vaccine***, which the president celebrated at the White House on Wednesday, will help advance that goal. Also on Wednesday, Mr. Biden directed federal health officials to secure an additional 100 million doses of Johnson & Johnson's ***vaccine***.

The administration has said those efforts are aimed at having enough ***vaccine*** for children, booster doses to confront new variants and unforeseen events. But Jeffrey D. Zients, Mr. Biden's ***coronavirus*** response coordinator, told reporters on Friday that the deal between Johnson & Johnson and Merck would also "help expand capacity and ultimately benefits the world."

In addition to resisting a push to give away excess doses, Mr. Biden has drawn criticism from liberal Democrats by blocking a request by India and South Africa for a temporary waiver to an international intellectual property agreement that would give poorer countries easier access to generic versions of ***coronavirus*** ***vaccines*** and treatments.

"I understand why we should be prioritizing our supply with Americans -- it was paid for by American taxpayers, President Biden is president of America," said Representative Ro Khanna, a liberal Democrat from California. "But there is no reason we have to prioritize the profits of pharmaceutical companies over the dignity of people in other countries."

Mr. Biden recently announced a donation of $4 billion to Covax, the international ***vaccine*** initiative backed by the World Health Organization. David Bryden, the director of the Frontline Health Workers Coalition, a nonprofit aimed at supporting health workers in low- and middle-income countries, said money was also desperately needed to help train and pay those workers to administer ***vaccines*** overseas.

But that donation, and the announcement on Friday of the Quad's financial support for ***vaccine*** production, still falls short of the urgent calls by public health advocates for the United States to immediately supply ready-to-use doses that can quickly be injected.

The Quad's focus on Southeast Asia, however, most likely reflects an awareness of the gratitude to ***China*** in the region, which Beijing has made a focus of its ***vaccine*** distribution efforts.

If Mr. Biden is widely seen as helping the world recover from the ***coronavirus*** pandemic, it could become part of his legacy, as when President George W. Bush responded to the AIDS crisis in Africa in the 2000s with a huge investment of public health funding. More than a decade later, Mr. Bush and the United States remain venerated across much of the continent for the President's Emergency Plan for AIDS Relief, or Pepfar, which the government says spent $85 billion and saved 20 million lives.

Michael Gerson, a former White House speechwriter under Mr. Bush and a policy adviser who helped devise the Pepfar program, said that its effect had been both moral and strategic, and that the program had earned the United States "a tremendous amount of good will" in Africa.

"I think the principle here should be that the people who need it most should get it no matter where they live," he said. "It doesn't make much moral sense to give a healthy American 24-year-old the vaccine before a frontline worker in Liberia."

But, he added, "that's very hard for an American politician to explain."

Ana Swanson contributed reportingAna Swanson contributed reporting

Graphic

PHOTOS: Loading doses of AstraZeneca vaccine into a truck in Hanoi, Vietnam, this week. Nations in Southeast Asia and beyond have faced an acute vaccine shortage. (PHOTOGRAPH BY LUONG THAI LINH/EPA, VIA SHUTTERSTOCK)

President Biden, left, and Vice President Kamala Harris, right, holding a virtual meeting with leaders of Japan, India and Australia on Friday about expanding vaccine manufacturing capacity. (PHOTOGRAPH BY DOUG MILLS/THE NEW YORK TIMES) (A6)

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Company: ASTRAZENECA PLC (54%)

Ticker: AZN (STO) (54%); AZN (NYSE) (54%); AZN (LSE) (54%)

Industry: NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (54%); SIC2834 PHARMACEUTICAL PREPARATIONS (54%); vaccineS (97%); BIOLOGICS MFG (92%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); MANUFACTURING (90%); MANUFACTURING OUTPUT (90%); MANUFACTURING SECTOR PERFORMANCE (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS

INDUSTRY (90%); PLANT CAPACITY (90%); DRUG AVAILABILITY (89%); MANUFACTURING FACILITIES (89%); ***VACCINATION*** & IMMUNIZATION (89%); DRUG SHORTAGES (78%); NEW MANUFACTURING FACILITIES (73%)

Person: JOE BIDEN (89%); ANTONY BLINKEN (58%)

Geographic: UNITED STATES (99%); INDIA (93%); ASIA (79%); ***CHINA*** (79%); JAPAN (79%); SOUTH-EASTERN ASIA (79%); RUSSIAN FEDERATION (72%)

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91 Coronavirus Update

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Byline: By James Barron

Body

Numbers have played a role -- usually an ominous role -- in defining and describing the pandemic. But the week ended with a milestone number that was not ominous at all. The Centers for Disease Control and Prevention said on Friday that more than 100 million ***vaccine*** doses had been administered in the United States -- 101,128,005, to be precise, a figure the C.D.C. said represented 19.9 percent of the population. It said the total included 35 million people who were fully vaccinated, about 871,000 of them from the one-shot Johnson & Johnson ***vaccine***, the rest from the two-dose ***vaccines*** from Pfizer-BioNTech and Moderna.

The United States is administering about 2.2 million doses a day, on average. But President Biden, who in his nationwide address on Thursday directed states to make ***vaccines*** available to all adults by May 1, focused on Friday on global ***vaccine*** supplies. The administration joined Australia, India and Japan in underwriting a major augmentation of ***vaccine*** manufacturing capacity. The goal, senior administration officials said, was to address acute ***vaccine*** shortages in Southeast Asia.

China and India are already giving away ***vaccines*** in the name of ***vaccine*** diplomacy, and more than 50 countries have placed orders for Russia's Sputnik V ***vaccine***. Mr. Biden would probably risk a political outcry if he sent ***vaccines*** abroad before there were more than enough in this country. The journal Science reported this week that by contracting with multiple pharmaceutical companies, the Biden administration had essentially over-ordered ***vaccines***. There could be several times the number of ***vaccines*** needed to cover the population, the journal suggested -- more than a billion extra doses in all.

The Centers for Disease Control and Prevention turned its focus to children, updating its guidance for child-care centers to operate safely. Dr. Rochelle P. Walensky, the director of the agency, said that children older than 2 should wear masks except when eating or sleeping, as should staff members. The guidance also favored "cohorting," the practice of keeping groups of children together with the same staff members to reduce the risk of transmission throughout a child-care center. She said that opening child-care centers, Head Start programs and prekindergarten programs -- or keeping them open -- was essential, noting that the ***coronavirus*** relief package provided $24 billion for child-care providers that could be spent on "***Covid-19*** prevention strategies" as well as rent, utilities and staff salaries. President Biden later called it the biggest investment in child care since World War II."

'People Are Giving In'

It was a week when states in the U.S. moved to relax restrictions -- and when people's behavior seemed to relax in places where some restrictions remain. "It is clear from walking around the city that people are giving in and relaxing rules, probably because of progression in ***vaccinations*** and because people are experiencing extreme

fatigue," said Emanuela Taioli, the director of the Institute for Translational Epidemiology at Mount Sinai Hospital in New York, adding that positivity rates that had been falling had reached a plateau. "This means that we have to keep going with the precautions until we are all vaccinated, and that may take another couple of months or more."

But Texas ended its mask mandate. Oklahoma followed suit, having lifted most other pandemic restrictions last June. "The standard for normal cannot be zero cases," Gov. Kevin Stitt said on Thursday. "In Oklahoma, the standard for normal is freedom."

By contrast, Italy was tightening restrictions. The office of Italy's new prime minister, Mario Draghi, said a lockdown would cover many of Italy's regions starting Monday and would expand to the entire country over Easter weekend, from April 3 to 5, when schools, restaurants and stores would have to close. Italy, which recorded its 100,000th death from the ***coronavirus*** this week, is fighting another wave of infections, propelled by new and more contagious variants, especially the one first identified in Britain.

vaccine Suspensions

More countries on Friday shied away from the ***vaccine*** developed by AstraZeneca and the University of Oxford, one day after decisions by Denmark, Iceland and Norway to stop administering it over blood-clotting issues in people who had been given shots from a particular batch.

The sudden suspensions came as the World Health Organization said it was "carefully assessing" the ***vaccine***, which has been authorized for use in more than 70 countries. And AstraZeneca has asked the Biden administration to send doses currently stockpiled in the United States, which has not approved the ***vaccine***, to the European Union. But at least some in the administration are not ready to relinquish them, according to senior administration officials.

But Bulgaria, which is enduring a third wave of the virus, temporarily suspended ***vaccinations*** on Friday after the death of a 57-year-old woman who had been given her first dose on Thursday. Thailand also suspended plans to roll out the AstraZeneca ***vaccine*** over concerns about blood clots. The announcement came hours before Prime Minister Prayuth Chan-ocha was scheduled to be the first person in the country to be inoculated with it. The suspension did not affect Thailand's distribution of Chinese-made Sinovac ***vaccines***.

News agencies said that Romania had stopped using shots from a particular batch of AstraZeneca ***vaccines***. Australia also halted doses from a single, but different, batch. In Bulgaria, Kostadin Angelov, the health minister, said there was no indication that the woman's death had resulted from the ***vaccine***, though the health authorities were continuing their investigation. She had several pre-existing conditions, including heart disease, Mr. Angelov said. But an autopsy did not show any traces of blood clots, and the AstraZeneca shot that she received had not come from the batches suspected of leading to blood clots elsewhere.

AstraZeneca said in a statement that it had found "no evidence" of an increased risk of blood clots from its ***vaccine***, and France, Poland and Nigeria said they would continue administering it. Jens Spahn, Germany's top health official, also stood by the AstraZeneca-Oxford ***vaccine***, saying that the "benefit is far greater than the risk" and that he regretted the suspensions in other countries.***Coronavirus*** Update wraps up the day's developments with information from across the virus report.

https://www.nytimes.com/2021/03/12/nyregion/12virus-print.html

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Company: PFIZER INC (90%); JOHNSON & JOHNSON (71%)

Organization: CENTERS FOR DISEASE CONTROL & PREVENTION (84%)

Ticker: PFZ (LSE) (90%); PFE (NYSE) (90%); JNJ (NYSE) (71%)

Industry: NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (90%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (90%); SIC2834 PHARMACEUTICAL PREPARATIONS (90%); NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (90%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (90%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (90%); NAICS339115 OPHTHALMIC GOODS MANUFACTURING (71%); NAICS339113 SURGICAL APPLIANCE & SUPPLIES MANUFACTURING (71%); NAICS339112 SURGICAL & MEDICAL INSTRUMENT MANUFACTURING (71%); NAICS334510 ELECTROMEDICAL & ELECTROTHERAPEUTIC APPARATUS MANUFACTURING (71%); NAICS325620 TOILET PREPARATION MANUFACTURING (71%); NAICS325611 SOAP & OTHER DETERGENT MANUFACTURING (71%); NAICS325413 IN-VITRO DIAGNOSTIC SUBSTANCE MANUFACTURING (71%); SIC3851 OPHTHALMIC GOODS (71%); SIC3842 ORTHOPEDIC, PROSTHETIC, & SURGICAL APPLIANCES & SUPPLIES (71%); SIC3841 SURGICAL & MEDICAL INSTRUMENTS & APPARATUS (71%); SIC3829 MEASURING & CONTROLLING DEVICES, NEC (71%); SIC3089 PLASTICS PRODUCTS, NEC (71%); SIC3069 FABRICATED RUBBER PRODUCTS, NEC (71%); SIC2844 PERFUMES, COSMETICS, & OTHER TOILET PREPARATIONS (71%); SIC2841 SOAPS & OTHER DETERGENTS, EXCEPT SPECIALTY CLEANERS (71%); SIC2835 IN VITRO & IN VIVO DIAGNOSTIC SUBSTANCES (71%); SIC2499 WOOD PRODUCTS, NEC (71%); ***vaccineS*** (97%); COSMETICS & TOILETRIES (91%); MANUFACTURING (91%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); SOAPS & DETERGENTS MFG (91%); TOILETRIES MFG (91%); BIOELECTRONIC MEDICINE (90%); BIOLOGICS MFG (90%); CHEMICALS (90%); CHEMICALS MFG (90%); DRUG AVAILABILITY (90%); HEALTH DEPARTMENTS (90%); HERBAL MEDICINE (90%); IN VITRO DIAGNOSTICS MFG (90%); MANUFACTURING OUTPUT (90%); MEDICAL DEVICES (90%); OPHTHALMIC GOODS (90%); OPHTHALMIC GOODS MFG (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); SURGICAL & MEDICAL INSTRUMENT MFG (90%); PLASTICS (89%); COSMETICS (78%); DIAGNOSTIC IMAGING (78%); ORTHOPEDICS (78%); RUBBER & SILICONE PRODUCTS (78%); SOAPS & DETERGENTS (75%); DRUG SHORTAGES (72%); PROSTHETICS & ORTHOTICS (70%); EARLY CHILDHOOD EDUCATION (60%)

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92 China approves a fifth Covid-19 vaccine.

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Highlight: The ***vaccine*** has several drawbacks. One is that it does not produce many T-cells, which help clear infected cells and prevent them from spreading.

Body

The ***vaccine*** has several drawbacks. One is that it does not produce many T-cells, which help clear infected cells and prevent them from spreading.

China has approved its fifth ***Covid-19*** ***vaccine***, one produced by Anhui Zhifei Longcom Biopharmaceutical Co. and the Chinese Academy of Sciences. It was developed by a team led by George Gao, the head of the Chinese Center for Disease Control and Prevention.

The Chinese Academy of Sciences said in a statement on Tuesday that the Chinese government had given the shot authorization for emergency use on March 10. This is the fourth ***vaccine*** ***China*** has approved for emergency use after two ***vaccines*** made by *Sinopharm*, a state-owned ***vaccine*** maker, and one developed by Sinovac, a private Beijing company. It has also approved a fifth ***vaccine***, made by the Chinese company CanSino Biologics in partnership with the military, for general use.

Neither the company nor the institute behind the latest ***vaccine*** to be approved has published efficacy data from its Phase 3 trials, which are taking place in ***China***, Ecuador, Indonesia, Pakistan and Uzbekistan.

Uzbekistan has approved the ***vaccine***. The Chinese Academy of Sciences said that Phase 3 clinical trials, which involve 29,000 volunteers, were “progressing smoothly.”

In Phase 1 and 2 trials in ***China***, the Chinese Academy of Sciences said, there were no serious adverse reactions among the volunteers and the ***vaccine*** produced neutralizing antibodies at levels on par with those of other ***coronavirus*** shots. Those results have not been peer-reviewed.

The process of manufacturing the ***vaccine*** begins when the genetic code for the ***coronavirus*** spike protein is transferred into a cell line originally derived from hamster ovary tissue. This type of cell is easily grown in laboratories and is commonly used in medical research.

The cells start to make the protein, and once they reach a sizable volume they are harvested and purified. The ***vaccine*** is completed with an adjuvant, an ingredient that shores up the immune system.

The Chinese Academy of Sciences said that production of the ***vaccine*** could be easily scaled up in ***China*** and elsewhere, and that it would be convenient for storage and transportation.

But the ***vaccine*** has several drawbacks. One is that it does not produce many T-cells, which help clear infected cells and prevent them from spreading.

Without *these cells,* a person's antibody levels may not be high enough to clear the infection, said Ooi Eng Eong, a professor of microbiology and immunology at the National University of Singapore. "You are more likely to get a breakthrough infection," he said.

Correction: March 18, 2021 An earlier version of this item referred imprecisely to the process for manufacturing this ***vaccine***. The process begins when the genetic code for the ***coronavirus*** spike protein is placed into a cell line established from hamster ovaries and grown in Petri dishes. The process does not involve implanting the protein into the ovary cells of live hamsters.

Elsie Chen contributed research.

Elsie Chen contributed research.

PHOTO: A ***vaccination*** center in Beijing last month. (PHOTOGRAPH BY EPA, via Shutterstock FOR THE NEW YORK TIMES)

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Subject: ***vaccineS*** (97%); ***COVID-19 CORONAVIRUS*** (92%); ***COVID CORONAVIRUS*** (91%); ***COVID-19 CORONAVIRUS vaccine*** (91%); APPROVALS (90%); BIOLOGICS MFG (90%); CORONAVIRUSES (90%); DRUG & MEDICAL DEVICES APPROVAL (90%); INFECTIOUS DISEASE (90%); ***VACCINATION*** & IMMUNIZATION (90%); AMINO ACIDS, PEPTIDES & PROTEINS (89%); SCIENCE & TECHNOLOGY (89%); VIRUSES (89%); GENES & CHROMOSOMES (86%); BIOLOGY (78%); CLINICAL TRIALS (78%); DISEASE IMMUNITY (78%); DISEASES & DISORDERS (78%); IMMUNOLOGY (78%); MEDICAL RESEARCH (78%); PREVENTION & WELLNESS (78%); PUBLIC HEALTH (78%); PUBLIC HEALTH ADMINISTRATION (78%); MEDICINE & HEALTH (77%); MICROBIOLOGY (73%); COLLEGE & UNIVERSITY PROFESSORS (60%); internal-essential (%); ***China*** (%); ***Coronavirus*** (***2019-nCoV***) (%); ***Vaccination*** and Immunization (%)

Company: ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (56%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (56%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (56%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (56%); ***vaccineS*** (97%); PHARMACEUTICALS & BIOTECHNOLOGY (92%); ***COVID-19 CORONAVIRUS vaccine*** (91%); PHARMACEUTICALS INDUSTRY (91%); BIOLOGICS MFG (90%); BIOPHARMACEUTICALS (90%); DRUG & MEDICAL DEVICES APPROVAL (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); ***VACCINATION*** & IMMUNIZATION (90%); IMMUNOLOGIC

FACTORS (89%); CLINICAL TRIALS (78%); DRUG EFFICACY (78%); IMMUNOLOGY (78%); PHARMACEUTICALS PRODUCT DEVELOPMENT (78%); COLLEGE & UNIVERSITY PROFESSORS (60%)

Geographic: BEIJING, ***CHINA*** (73%); EAST ***CHINA*** (79%); NORTH CENTRAL ***CHINA*** (79%); ANHUI, ***CHINA*** (78%); ***CHINA*** (98%); UZBEKISTAN (91%); INDONESIA (79%); PAKISTAN (79%); SINGAPORE (79%)

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93 China asks more visa applicants to take Chinese vaccines.

The New York Times

March 16, 2021 Tuesday 23:49 EST

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Section: WORLD

Length: 402 words

Byline: Keith Bradsher

Highlight: To avoid extensive paperwork requirements, people in a growing list of countries who want to enter ***China*** must first be inoculated — and only ***vaccines*** made in ***China*** count.

Body

To avoid extensive paperwork requirements, people in a growing list of countries who want to enter ***China*** must first be inoculated — and only ***vaccines*** made in ***China*** count.

Chinese embassies in a rapidly growing number of countries, *including the United States*, have begun requiring that foreigners entering ***China*** must first be fully inoculated with a Chinese-made ***coronavirus vaccine*** if they want to avoid extensive paperwork requirements.

Complying with the rule will be difficult for people applying for Chinese visas in places that are not offering ***vaccines*** produced in ***China***. No Chinese-made ***vaccine*** has been approved in the United States or most of Europe.

Many regulators outside ***China*** have been wary of ***vaccines*** made by companies in ***China***, notably Sinovac and Sinopharm. The companies have released relatively little data from Phase 3 trials to allow independent assessments of the ***vaccines***' efficacy and safety.

The Chinese Foreign Ministry announced similar rules for foreigners wanting to enter the Chinese mainland from Hong Kong. It *said on Saturday* that if they received a Chinese-made ***vaccine*** they would not need to meet other requirements, including a negative nucleic acid test, detailed health and travel records, and a personal invitation from a Chinese provincial government agency.

Some foreigners who live and work in the Chinese mainland but left early in the pandemic have been living in limbo for a year or more in Hong Kong, which has authorized the Sinovac and BioNTech ***vaccines***, and elsewhere.

By Tuesday morning, Chinese embassies had issued identical rules in Britain, Japan, Norway, Pakistan, the Philippines, Thailand, the United States, Vietnam and at least a dozen other countries.

The Chinese stance puts pressure on other countries to give regulatory approval to ***China***'s ***vaccines***. Beijing has not allowed ***vaccines*** developed in other countries to be produced or administered in ***China***.

Thousands of businesspeople and students have been seeking visas to resume their work or studies in ***China***. The country's borders have been among the most tightly closed in the world to prevent the ***coronavirus*** from re-entering the country after being largely stamped out. Business leaders say the new ***vaccine*** recommendation adds to the hurdles.

China asks more visa applicants to take Chinese **vaccine**s.

PHOTO: Waiting to receive the Sinovac ***vaccine*** in Hong Kong last month. (PHOTOGRAPH BY Isaac Lawrence/Agence France-Presse — Getty Images FOR THE NEW YORK TIMES)

Classification

Language: ENGLISH

Document-Type: Live Blog Post

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Subject: ***vaccineS*** (97%); EMBASSIES & CONSULATES (90%); PASSPORTS & VISAS (90%); DRUG & MEDICAL DEVICES APPROVAL (89%); PHOTOGRAPHY (89%); ***COVID-19*** ***CORONAVIRUS*** (78%); EPIDEMICS (78%); INFECTIOUS DISEASE (78%); INTERNATIONAL RELATIONS & NATIONAL SECURITY (78%); US FEDERAL GOVERNMENT (78%); VIRUSES (78%); APPROVALS (76%); CORONAVIRUSES (76%); STATE DEPARTMENTS & FOREIGN SERVICES (73%); REGIONAL & LOCAL GOVERNMENTS (72%); GOVERNMENT & PUBLIC ADMINISTRATION (69%); internal-essential (%)

Company: ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (56%); AGENCE FRANCE-PRESSE (51%); GETTY IMAGES INC (51%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (56%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (56%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (56%); SIC7375 INFORMATION RETRIEVAL SERVICES (51%); NAICS541922 COMMERCIAL PHOTOGRAPHY (51%); NAICS541430 GRAPHIC DESIGN SERVICES (51%); NAICS518210 DATA PROCESSING, HOSTING & RELATED SERVICES (51%); SIC7374 COMPUTER PROCESSING & DATA PREPARATION & PROCESSING SERVICES (51%); SIC7336 COMMERCIAL ART & GRAPHIC DESIGN SERVICES (51%); ***vaccineS*** (97%); GRAPHIC DESIGN SERVICES (94%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); PROFESSIONAL SERVICES (91%); INFORMATION MANAGEMENT (90%); MANUFACTURING (90%); MISC INFORMATION SERVICES (90%); PASSPORTS & VISAS (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); DRUG & MEDICAL DEVICES APPROVAL (89%); PHOTOGRAPHY (89%)

Geographic: BEIJING, ***CHINA*** (73%); NORTH CENTRAL ***CHINA*** (79%); ***CHINA*** (99%); HONG KONG (93%); UNITED STATES (93%); EUROPE (79%); JAPAN (79%); NORWAY (79%); PAKISTAN (79%); PHILIPPINES (79%); THAILAND (79%)

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94 China Is Giving Latin America vaccines and Gaining Leverage

The New York Times

March 16, 2021 Tuesday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 1

Length: 1801 words

Byline: By Ernesto Londoño and Letícia Casado

Body

China is a major supplier of **coronavirus** **vaccine**, giving it enormous leverage in pandemic-ravaged nations. Brazil, recently hostile to the Chinese company Huawei, has suddenly changed its stance.

RIO DE JANEIRO -- **China** was on the defensive in Brazil.

The Trump administration had been warning allies across the globe to shun Huawei, the Chinese telecommunications giant, denouncing the company as a dangerous extension of **China**'s surveillance system.

Brazil, ready to build an ambitious 5G wireless network worth billions of dollars, openly took President Trump's side, with the Brazilian president's son -- an influential member of Congress, himself -- vowing in November to create a secure system "without Chinese espionage."

Then pandemic politics upended everything.

With **Covid-19** deaths rising to their highest levels yet, and a dangerous new virus variant stalking Brazil, the nation's communications minister went to Beijing in February, met with Huawei executives at their headquarters and made a very unusual request of a telecommunication company.

"I took advantage of the trip to ask for **vaccines**, which is what everyone is clamoring for," said the minister, Fábio Faria, recounting his meeting with Huawei.

Two weeks later, the Brazilian government announced the rules for its 5G auction, one of the biggest in the world. Huawei, which the government appeared to have barred just months before, will be allowed to participate.

The about-face is a sign of how politics in the region have been scrambled by the pandemic and Mr. Trump's departure from the White House -- and how **China** has begun to turn the tide.

China spent months batting away resentment and distrust as the place where the pandemic began, but in recent weeks its diplomats, pharmaceutical executives and other power brokers have been fielding scores of requests for **vaccines** from desperate officials in Latin America, where the pandemic is taking a devastating toll that grows by the day.

Beijing's ability to mass-produce **vaccines** and ship them to countries in the developing world -- while rich countries, including the United States, are hoarding many millions of doses for themselves -- has offered a diplomatic and public relations opening that **China** has readily seized.

Suddenly, Beijing finds itself with enormous new leverage in Latin America, a region where it has a vast web of investments and ambitions to expand trade, military partnerships and cultural ties.

Only last year, President Jair Bolsonaro of Brazil, a right-wing leader who was closely aligned with Mr. Trump, disparaged the Chinese ***vaccine*** while it was undergoing clinical trials in Brazil, and shut down an effort by the health ministry to order 45 million doses.

"The Brazilian people WON'T BE ANYONE'S GUINEA PIG," he wrote on Twitter.

But with Mr. Trump gone and Brazilian hospitals overwhelmed by a surge of infections, Mr. Bolsonaro's government scrambled to mend fences with the Chinese and asked them to expedite tens of millions of ***vaccine*** shipments, as well as the ingredients to mass-produce the shots in Brazil.

The precise connection between the ***vaccine*** request and Huawei's inclusion in the 5G auction is unclear, but the timing is striking, and it is part of a stark change in Brazil's stance toward ***China***. The president, his son and the foreign minister abruptly stopped criticizing ***China***, while cabinet officials with inroads to the Chinese, like Mr. Faria, worked furiously to get new ***vaccine*** shipments approved. Millions of doses have arrived in recent weeks.

"With the desperation in Latin America for ***vaccines***, this creates a perfect position for the Chinese," said Evan Ellis, a professor of Latin American studies at the United States Army War College, who specializes on the region's relationship with ***China***.

With the coveted 5G contracts at stake -- a source of intense geopolitical jockeying worldwide, including in countries like Britain and Germany -- Huawei has mounted a well-timed charm offensive in Brazil.

It supplied hospitals with software to help doctors on the front lines of the pandemic. More recently, it donated 20 oxygen-making machines to the city of Manaus, where Covid patients suffocated to death in February as hospitals ran out of oxygen.

"May our joint efforts save lives!" the Chinese embassy in Brazil said in a message on Twitter announcing the gift.

Before the first ***vaccines*** rolled off assembly lines, Huawei seemed to be losing the 5G contest in Brazil, knocked to the sidelines by the Trump administration's campaign against it. Latin America's largest nation was only months away from holding an auction to create its 5G network, a sweeping upgrade that will make wireless connections faster and more accessible.

Huawei, along with two European competitors, Nokia and Ericsson, aspired to play a leading role in partnering with local telecommunications companies to build the infrastructure. But the Chinese company needed the green light from Brazilian regulators to take part.

The Trump administration moved aggressively to thwart it. During a visit to Brazil last November, Keith Krach, then the State Department's top official for economic policy, called Huawei an industry pariah that needed to be locked out of 5G networks.

"The Chinese Communist Party cannot be trusted with our most sensitive data and intellectual property," he said in a Nov. 11 speech in Brazil, during which he referred to Huawei as "the backbone of the CCP surveillance state."

Mr. Krach argued that "free nations" needed to agree to coalesce around a "clean network" that excluded Huawei, because "our chain of security is only as strong as its weakest link."

Weeks after the visit, Brazil appeared to be on board with Washington's efforts to blacklist Huawei. In a statement issued after Mr. Krach's meeting, Brazil's foreign ministry said Brazil "supports the principles contained in the Clean Network proposal made by the United States."

Eduardo Bolsonaro, a son of the president, who headed the foreign affairs committee in the lower house of Congress, said in a tweet that Brazil would back Washington's push.

China had already faced scorn in some corners of Latin America early in the pandemic, as concerns that it had been careless in allowing the virus to slip beyond its borders took root. Beijing's reputation took an additional hit in Peru, after exporting cheap, unreliable Covid tests that became an early misstep in the country's efforts to rein in contagion.

But ***China*** found an opportunity to shift the narrative early this year, as its CoronaVac became the cheapest and most accessible inoculation for countries in the developing world.

With the pandemic under control in ***China***, Sinovac, the maker of CoronaVac, began shipping millions of doses abroad, offering free samples to 53 countries and exporting it to 22 nations that placed orders.

As the first doses of CoronaVac were administered in Latin America, ***China*** took a swipe at wealthy nations that were doing little to guarantee prompt access to ***vaccines*** in poorer countries.

"Global distribution of ***vaccines*** must be fair and in particular, accessible and affordable to developing countries," the foreign minister, Wang Yi, said in a speech late last month. "We hope that all countries that have the capability will join hands and make due contributions."

In late February, as the first doses of ***China***'s ***vaccines*** were being administered in Brazil, the country's telecom regulatory agency announced rules for the 5G auction, which is scheduled to take place in July, that do not exclude Huawei.

The change in Brazil reflects how the campaign against Huawei driven by Mr. Trump has lost momentum since his defeat in the November election. Britain said it would not ban equipment made by Huawei from its new high-speed 5G wireless network. Germany has signaled a similar approach to Britain's.

Thiago de Aragão, a Brasília-based political risk consultant who focuses on ***China***'s relationships in Latin America, said two factors saved Huawei from a humiliating defeat in Brazil. The election of President Biden, who has harshly criticized Brazil's environmental record, made the Brazilian government unenthusiastic about being in lock step with Washington, he said, and ***China***'s ability to make or break the early phase of Brazil's ***vaccination*** effort made the prospect of angering the Chinese by banning Huawei untenable.

"They were facing certain death by October and November and now they're back in the game," Mr. de Aragão said of Huawei.

The request for ***vaccines*** by the Brazilian communications minister, Mr. Faria, occurred as it became clear Beijing held the keys to accelerate or throttle the ***vaccination*** campaign in Brazil, where more than 270,000 people have died of ***Covid-19***.

The only reason Brazil had a few million doses of CoronaVac on hand in early February was that one of Mr. Bolsonaro's rivals, São Paulo Governor João Doria, had negotiated directly with the Chinese.

In an interview, Mr. Faria said there was no quid pro quo suggested in his request to Huawei for help with ***vaccines***. In fact, he said, he also asked executives at competing telecommunications companies in Europe if they could help Brazil obtain shots.

"It wasn't put on the table, ***vaccines*** versus 5G," he said, describing the request for help with ***vaccines*** as appropriate.

On Feb. 11, Mr. Faria posted a letter from ***China***'s ambassador to Brazil in which the ambassador noted the request and wrote that "I give this matter great importance."

In a statement, Huawei did not say it would provide ***vaccines*** directly but said the company could help with "communication in an open and transparent manner in a topic involving the two governments."

China is also the dominant supplier of ***vaccines*** in Chile, which has mounted the most aggressive inoculation campaign in Latin America, and it is shipping millions of doses to Mexico, Peru, Colombia, Ecuador and Bolivia.

In a sign of ***China***'s growing leverage, Paraguay, where ***Covid-19*** cases are surging, has struggled to gain access to Chinese ***vaccines*** because it is among the few countries in the world that have diplomatic relations with Taiwan, which ***China*** considers part of its territory.

In an interview, Paraguay's foreign minister, Euclides Acevedo, said his country is seeking to negotiate access to CoronaVac through intermediary countries. Then he made an extraordinary overture to ***China***, which has spent years trying to get the last few countries that recognize Taiwan to switch their alliances.

"We would hope the relationship does not end at ***vaccines***, but takes on another dimension in the economic and cultural spheres," he said. "We must be open to every nation as we seek cooperation and to do so we must have a pragmatic vision."

*https://www.nytimes.com/2021/03/15/world/americas/brazil-**vaccine**-**china**.html*

Graphic

PHOTOS: Doses of ***China***'s CoronaVac ***vaccine*** being prepared and distributed in Brazil. The Chinese are becoming a go-to source as countries like the United States hoard doses. (PHOTOGRAPHS BY VICTOR MORIYAMA FOR THE NEW YORK TIMES

PILAR OLIVARES/REUTERS) (A8)

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Industry: ***vaccineS*** (93%); ***COVID-19 CORONAVIRUS vaccine*** (90%); TELECOMMUNICATIONS (90%); HEALTH DEPARTMENTS (78%); MEDIA & TELECOMMUNICATIONS (78%); PHARMACEUTICALS & BIOTECHNOLOGY (78%); TELECOMMUNICATIONS DEPARTMENTS (77%); 5G WIRELESS (76%); HEALTH CARE POLICY (75%); INTERNET SOCIAL NETWORKING (75%); BIOLOGICS MFG (73%); CLINICAL TRIALS (73%); WIRELESS INDUSTRY (72%); TELECOMMUNICATIONS SERVICES (71%); WIRELESS REGULATION (71%)

Person: DONALD TRUMP (89%); JAIR BOLSONARO (79%)

Geographic: BEIJING, ***CHINA*** (90%); RIO DE JANEIRO, BRAZIL (79%); NORTH CENTRAL ***CHINA*** (93%); BRAZIL (98%); ***CHINA*** (95%); LATIN AMERICA (93%); UNITED STATES (79%)

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95 ***Biden's Goals Converge In Top Envoys' Trip to Asia***

The New York Times

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Length: 1470 words

Byline: By Lara Jakes, John Ismay and Steven Lee Myers

Body

A flurry of diplomacy, which includes talks in Tokyo and Seoul, is a prelude to the administration's first in-person meeting with top Chinese envoys.

WASHINGTON -- Two ambitions lie at the center of President Biden's foreign policy agenda: rebuilding ties with frustrated allies and assembling a united front on ***China***.

This week, he is attempting both as he dispatches two of his most senior envoys to Japan and South Korea in his administration's highest-level foreign travel since it took office in January.

The visits to the United States' strongest partners in East Asia are a prelude to the Biden administration's opening round of face-to-face contact with Beijing. One of the envoys, Secretary of State Antony J. Blinken, will travel on to Alaska and join Jake Sullivan, the national security adviser, in a meeting with ***China***'s two top diplomats.

The administration sees the gathering as a chance to establish ground rules and set red lines for a relationship that Mr. Blinken has called ''the biggest geopolitical test of the 21st century.'' American officials have described it as ''a one-off session'' to identify issues where Washington can work with Beijing -- and then ''lay out, in very frank terms, the many concerns that we have,'' Mr. Blinken told Congress last week.

The flurry of diplomacy, which began on Friday with a virtual summit with the U.S.' so-called Quad allies -- Australia, India and Japan -- establishes the Asia-Pacific as a top priority for the Biden administration after Barack Obama's halting ''pivot'' to Asia and Donald J. Trump's bluntly transactional approach to alliances in the region.

The dialogue with allies less than two months into the new administration also underlines the president's goal of shoring up international partnerships to face down adversaries and, in turn, further American interests.

''The more ***China*** hears, not just our opprobrium, but a course of opprobrium from around the world, the better the chance that we'll get some changes,'' Mr. Blinken told a House Foreign Affairs Committee hearing in Washington last week.

It will not be easy. ***China***, having brought the ***coronavirus*** to heel early in the pandemic, has only bolstered its economic position as rivals in the West struggle to recover. And militarily it has narrowed the gap with the United States through huge investments. Those strengths have helped embolden ***China*** on the global stage.

Even as Washington tries to chart a new, if still wary, relationship with Beijing, American officials on Friday downplayed the notion that ***China*** would overshadow the three days of discussions in Tokyo and Seoul. Mr. Blinken

and Defense Secretary Lloyd J. Austin III are expected to discuss a range of subjects, including the pandemic, climate change and the large U.S. troop presence in the region.

Relations between Japan and South Korea, which have reached a low point over historical disputes, are likely to be a topic of conversation. Also on the agenda will be the month-old military coup in Myanmar and North Korea's nuclear and missile programs, which remain firmly in place after the Trump administration's failed flirtation with the North's leader, Kim Jong-un.

The decision to make Japan the first destination for Mr. Blinken and Mr. Austin was seen as a significant and reassuring development in Tokyo, which worked hard to maintain close ties with Mr. Trump even as he demanded huge increases in payments to keep American troops in the country. On Friday, the White House announced that Prime Minister Yoshihide Suga would be the first foreign leader to meet with Mr. Biden in Washington.

"At the end of the Trump administration, with regard to Asia, we were bickering with our allies over how much to pay for the cost sharing in terms of defense," said Victor Cha, who oversaw Asia policy at the White House during the George W. Bush administration and advises the Center for Strategic and International Studies in Washington. "We had a very unilateral view when it came to alliances as a nation, almost a disdainful view with regard to them."

"At the same time," Mr. Cha said, "***China*** was using its economic leverage all around the region to bully other countries."

The Trump administration took an often contradictory approach toward ***China***. Mr. Trump often flattered its authoritarian leader, Xi Jinping, as he tried to strike trade deals. At the same time, his administration criticized Beijing's human rights abuses, military and cyberspace incursions, and assaults on democracy.

The Biden administration's strategy could prove just as dizzying. Mr. Blinken has described seeking a relationship that is based at once on cooperation, competition and, as needed, confrontation with ***China***.

To make it work, the United States is banking on backup from allies like Japan and South Korea. Both countries have tried to walk a fine line on ***China***: Their prosperity depends on trade with Beijing, but they break with ***China*** on matters of security, democracy and human rights.

Tokyo has grown more vocal as the Chinese military has made incursions around islands that Japan administers in the East ***China*** Sea, known in Japan as the Senkakus and in ***China*** as the Diaoyu. Seoul has used its temperate relations with Beijing as a pressure tactic against North Korea, which depends on ***China*** to keep its economy afloat.

For their part, ***China***'s leaders have said they are eager to get the relationship with the United States back on an even keel. Some analysts have warned that any steps toward a détente could just buy ***China*** more time to develop technological and military capabilities before a diplomatic breakdown.

"As two countries with different social systems, ***China*** and the United States naturally have differences and disagreements," Wang Yi, the Chinese foreign minister, said at a news conference in Beijing on March 7. Mr. Wang and Yang Jiechi, ***China***'s top diplomat, will be meeting with Mr. Blinken in Alaska.

Mr. Wang called it normal to have a "healthy competition on a fair and just basis for the purpose of self-improvement and mutual enhancement, rather than finger-pointing or zero-sum competition."

Yet Chinese leaders also appear concerned about the Biden strategy of rallying allies into a coherent bloc against ***China***, something that could hurt Beijing politically and economically. Last week, for example, the Quad countries announced an effort to ship ***coronavirus*** ***vaccines*** to Southeast Asia, countering ***China***'s own efforts at so-called ***vaccine*** diplomacy.

Mr. Wang cited the pandemic, the economic recovery from it and climate change as areas where ***China*** and the United States could cooperate, though he provided no details. But he said that the United States and others had no right to interfere in what he described as internal matters -- human rights abuses against ethnic Uighurs in ***China***'s western Xinjiang region, efforts to subvert democracy in Hong Kong and surveillance and repression in Tibet.

He also drew a "red line" on the question of Taiwan, the self-governing democratic island that Beijing claims as an inalienable part of a greater ***China***.

Days later, an American destroyer passed through the Taiwan Strait. The United States describes such voyages as routine, but they are seen as hostile by ***China***. It was the third since Mr. Biden came into office, signaling support of Taiwan.

While Japanese officials are sure to seek assurances from Mr. Austin that the U.S. military would come to Japan's aid in the event of a conflict with ***China*** over the Senkaku Islands, his time in Seoul is expected to be consumed with the question of whether to resume regular large-scale military exercises with South Korea, which Mr. Trump abruptly canceled.

Last week, the two countries reached a cost-sharing agreement for stationing American troops in South Korea, a presence that Mr. Trump had also threatened to end.

After the meetings in Tokyo and Seoul, Mr. Austin will travel to India, which is at its lowest point in relations with ***China*** in decades after a deadly border incursion last summer. Mr. Blinken will arrive in Alaska on Thursday for the meeting with the Chinese envoys.

As he wished Mr. Blinken luck for the talks, Representative Michael McCaul of Texas, the top Republican on the House Foreign Affairs Committee, warned that "we cannot treat them as a normal adversary."

"We are truly in an ideological struggle fighting for democracy against authoritarianism and promoting freedom over oppression," Mr. McCaul said. He added that the United States had for four decades "turned a blind eye" to ***China***'s ruling Communist Party in hopes of persuading its leaders to follow international norms.

"Unfortunately, it just didn't work," Mr. McCaul said.

Lara Jakes and John Ismay reported from Washington, and Steven Lee Myers from Seoul.

https://www.nytimes.com/2021/03/15/world/asia/blinken-japan-south-korea.html

Graphic

PHOTO: Chinese officials bristle at American attempts to confront Beijing over rights abuses in Xinjiang. (PHOTOGRAPH BY AGENCE FRANCE-PRESSE -- GETTY IMAGES)

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Industry: INTERNATIONAL TOURISM (77%); DEFENSE DEPARTMENTS (68%)

Person: JOE BIDEN (90%); ANTONY BLINKEN (79%); BARACK OBAMA (79%); DONALD TRUMP (57%)

Geographic: BEIJING, ***CHINA*** (88%); SEOUL, KOREA, REPUBLIC OF (88%); TOKYO, JAPAN (73%); NORTH CENTRAL ***CHINA*** (93%); UNITED STATES (96%); ***CHINA*** (94%); ASIA (92%); JAPAN (92%); EASTERN ASIA (79%); INDIA (79%); KOREA, REPUBLIC OF (79%)

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96 ***Coronavirus Update***

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Body

With increased ***vaccine*** distribution continuing, states are racing to administer shots and stay ahead of the ***coronavirus*** and potentially more dangerous new variants.

Massachusetts on Wednesday joined the roll of states that have expanded ***vaccine*** eligibility. Officials said that residents who are 60 or older, who work in small spaces or who interact with the public could be vaccinated starting Monday. Officials also outlined a timetable that would make ***vaccinations*** available to everyone 16 or older starting April 19. At least six other states -- Colorado, Connecticut, Michigan, Montana, Ohio and Utah -- have announced plans to make all residents eligible this month or next. Three other states -- Maine, Virginia and Wisconsin -- and Washington, D.C., have said that they will expand eligibility to all adults by May 1, the deadline that President Biden set last week.

The announcement from Massachusetts came as the Biden administration said it had allotted $10 billion for states to expand ***coronavirus*** testing, which epidemiologists say has dropped off lately. That is a concern because without testing, the virus -- or new variants -- could spread silent and undetected. The money, from the $1.9 trillion ***coronavirus*** relief package, will help "ramp up the safety of schools and get them back open," said Andy Slavitt, a senior White House pandemic adviser. Carole Johnson, the administration's testing coordinator, said schools could use the money to set up "sustained regular screening testing programs."

The Centers for Disease Control and Prevention also issued new guidance on testing in workplaces beyond hospitals, calling for screening of employees "at least weekly." The C.D.C. also called for testing before the start of each term at colleges and universities.

With the C.D.C. saying that more than 113 million doses have now been administered, ***vaccination*** picked up an endorsement from an unexpected source: Former President Donald J. Trump told Fox News that Americans should get vaccinated. He himself was vaccinated in secret in January. But polling has indicated that the partisan divide on ***vaccine*** hesitancy has only widened with time, with Republicans more reluctant than Democrats to get vaccinated. And Dr. Deborah L. Birx, the ***coronavirus*** response coordinator in Mr. Trump's administration, said she had been "extraordinarily uncomfortable" when he appeared at a White House briefing and mentioned injecting disinfectant as a ***coronavirus*** treatment.

"Frankly, I didn't know how to handle that episode," Dr. Birx told ABC News. "I still think about it every day." She also said that when Mr. Trump turned to her during the briefing, she said that disinfectant was "not a treatment." "I guess some people thought I should run up onstage and interrupt this dialogue that was going on between the

D.H.S. scientists and the president," she added, but she said that nothing in her training had prepared her "to react that way."

Europe's Struggles With Cases and ***Vaccinations***

Besides problems with its ***vaccine*** rollout, Europe is facing new surges in case numbers. In Norway, which has largely opted for localized restrictions, Bent Hoie, the health minister, said that "we are now setting a record that no one wants to set." He said that Norway had posted more than 5,300 new cases in the last week, the most since the beginning of the pandemic. Dr. Bjorn Guldvog, the head of the Norwegian Directorate of Health, said that 80 percent of the new cases were in Oslo, which has closed restaurants, bars and stores that do not sell food. Oslo has also set a limit on visitors in private homes -- no more than two guests -- and has switched universities and upper schools to remote learning.

There has also been a surge in the Netherlands, where parliamentary elections ended on Wednesday. The voting was stretched out over three days to help maintain social distancing, and the candidates mainly campaigned on television, which reduced the shouting -- and the possible transmission of viral drops -- of conventional campaign appearances.

In Poland, which reported more than 25,000 new cases on Wednesday, the seven-day average for new cases has climbed back to where it was on the way down from its peak in November. Officials ordered shopping malls, theaters and sports arenas closed for three weeks, starting Saturday. Adam Niedzielski, the health minister, also said that young schoolchildren, the only students called back to school so far, would return to remote learning. Hospitals are nearing their limits: 71 percent of Poland's hospital beds are now filled with patients who have ***Covid-19***. Of 3,000 ventilators available across Poland, almost 2,200 are in use.

Even Serbia, which has posted the second-highest ***vaccination*** rate in Europe, after Britain, announced a nationwide lockdown for the rest of the week, closing all nonessential shops and businesses. At more than 4,500 cases a day, its seven-day average of new cases is 8 percent of the average in the United States.

Serbia's ***vaccination*** campaign has succeeded thanks to deals for doses that officials made last year when the ***vaccines*** were still in development or in clinical trials. Serbia arranged its first agreement, for 2.2 million shots, with Pfizer in August. Contracts for 11 million more doses from Russia and ***China*** soon followed. Prime Minister Ana Brnabic said Serbia's strategy was to "treat this as a health issue, not a political issue. We negotiated with all, regardless of whether East or West." But the ***vaccination*** program has been a public relations triumph for the increasingly authoritarian government of President Aleksandar Vucic, adding a new twist to the geopolitics of ***vaccines***.

The enthusiasm in Serbia could evaporate if the non-Western ***vaccines*** -- which have so far not been approved by the European Union -- prove to be washouts. Sinopharm, the maker of the Chinese ***vaccines*** Serbia has contracted for, has not published detailed information from its Phase 3 trials. When the Chinese government approved the Sinopharm ***vaccine*** in December, the company put the efficacy at 79.34 percent, significantly below the comparable rates of the Pfizer-BioNTech and Moderna ***vaccines***.***Coronavirus*** Update wraps up the day's developments with information from across the virus report.

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Company: FOX ENTERTAINMENT GROUP INC (81%)

Organization: CENTERS FOR DISEASE CONTROL & PREVENTION (54%)

Industry: NAICS515120 TELEVISION BROADCASTING (81%); SIC4833 TELEVISION BROADCASTING STATIONS (81%); ***vaccineS*** (91%); BROADCASTING INDUSTRY (90%); ENTERTAINMENT & ARTS (90%); TELEVISION INDUSTRY (90%); ***VACCINATION*** & IMMUNIZATION (89%); TELEVISION PROGRAMMING (78%); HEALTH DEPARTMENTS (77%); EDUCATIONAL SERVICES (76%); EPIDEMIOLOGY (72%)

Person: DEBORAH BIRX (79%); DONALD TRUMP (79%); JOE BIDEN (67%)

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97 *An Embarrassment of vaccine Riches*

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Byline: By Zeynep Tufekci

Body

The United States has more ***vaccine*** lined up than it needs. It should be distributing them to countries that have few to none.

Finally, the United States appears to have an enviable record in one aspect of the pandemic.

We are vaccinating our population at a rapid pace, and our supply has ramped up so much that the Biden administration predicts that by May, any adult in the United States will be eligible to get shots. Pfizer and Moderna are on track to deliver a total of 400 million doses by the end of May and 600 million by the end of July -- that's enough to fully vaccinate 300 million people. Johnson & Johnson says it will deliver 20 million doses this month, with tens of millions more on the way soon. Just those numbers would provide at least 80 million more ***vaccinations*** than are needed for everyone in America over the age of 16.

Why, then, are we sitting on tens of millions of doses of the AstraZeneca ***vaccine*** gathering dust in our warehouses when they could immediately be distributed elsewhere? As of one month ago, there were 130 countries that had not yet administered a single dose of any ***Covid-19*** ***vaccines***. It's not that much better now.

While not yet authorized by the Food and Drug Administration, and thus unavailable to be used in the United States, the AstraZeneca ***vaccine*** is already approved by the World Health Organization to be distributed as part of the Covax initiative to provide equitable global access to ***Covid-19*** ***vaccines***. So it could immediately start going to many countries that desperately need it right now. What's more, it has much simpler storage requirements than other ***vaccines***, which makes it less difficult to distribute.

Unfortunately, the decision this week by several European countries to suspend its use because several recipients developed blood clots is only the latest in a variety of problems AstraZeneca has had in its trials, reporting and rollout. A dosing error in an initial trial muddied the interpretation of efficacy results; insufficient initial data on older populations made European regulators skeptical.

However, that ***vaccine*** has been widely used successfully, especially in Britain, where more than 10 million doses have been administered. The results are more than encouraging. Data shows the risk of hospitalization among those vaccinated with it in Scotland was reduced by 94 percent, for example.

Despite those pauses in ***vaccinations*** in Europe, the European regulatory agency has said there was "no indication that ***vaccination*** has caused" the clots and it was "firmly convinced" of the ***vaccine***'s benefits. From what data was released, health experts said that it does not appear that the incidents exceeded what would be expected

in the general population -- Germany, for example, said it was investigating seven incidents out of 1.6 million people who received the ***vaccine*** there. The W.H.O., too, has urged countries to continue with the ***vaccination*** program.

The F.D.A. has indicated that it wants to see results from AstraZeneca's ongoing U.S. trial before considering the ***vaccine*** for emergency use authorization. Judging by previous approval processes, we are at least one month, if not more, away from the earliest possible date for giving Americans shots of the AstraZeneca ***vaccine***. That would be late April or even May -- when there will be plenty of Pfizer, Moderna and Johnson & Johnson ***vaccines*** for American adults.

The rocky rollout of the AstraZeneca ***vaccine*** affirms the importance of proper trials like the one in the United States. But that doesn't mean we also have to keep all the doses to ourselves.

In the meantime, South America is experiencing a resurgence of cases, and only about 5 percent of the continent's population has received any ***vaccine***. The number is less than 1 percent for all of Africa.

To make this inequality worse, new variants are further threatening these countries, with unwelcome news recently that the B.1.1.7 variant, first identified in Britain, may be more lethal in addition to being more transmissible, and is now spreading around the world. Lab and real-world evidence suggest that ***vaccines*** provide substantial protection against B.1.1.7, but that is cold comfort to those who lack them.

Worse, higher transmissibility, which makes it harder to hold the line with masking and distancing, renders distributing ***vaccines*** as soon as possible even more crucial. When facing an exponential threat like a more transmissible variant, a ***vaccine*** in arms today is much more valuable than one in a few months.

Besides providing AstraZeneca ***vaccine*** doses, we should immediately consider transferring even more doses of the other ***vaccines***, too. The United States overbooked ***vaccines*** early because we didn't know which ones would work and how many would be delivered. Now we do, so it's time to adjust. We already have 100 million doses ordered from the American company Novavax; its British trial has just concluded, and it is expected to apply for emergency authorization in the United States soon. We won't need most of those either, not this round.

Another advantage we have is that the United States makes its ***vaccines*** here, and the Biden administration has, wisely, looked to increase manufacturing capacity and thus supply. The White House brokered a deal recently between Merck and Johnson & Johnson to use Merck plants in the United States to produce more of the latter's ***vaccine***, and reportedly put in hundreds of millions of public dollars to upgrade Merck's facilities as needed.

That's great, and puts our supply even further beyond our needs. The Johnson & Johnson ***vaccine*** is easily stored and requires only a single dose, making it a valuable tool in hard-to-reach areas around the world. We should let some of those doses go as well.

One argument for holding on to all the ***vaccines*** here seems to be a version of "better safe than sorry," that it's preferable to have an excess rather than a shortage. This isn't right or moral when so many countries can't even vaccinate their health care workers, and besides, our excess is practically guaranteed at this point. It's true that we may need to manufacture and distribute boosters that are even more effective against the variants, perhaps as early as this year, but that's for the future, and our supply of old variant AstraZeneca won't help us there.

Another concern that comes up is that we may need some of those ***vaccines*** for children. But the earliest timeline for that is this fall for those 12 to 16 and next year for younger kids, as their trial has just begun. Hoarding ***vaccines*** for potential uses beyond our need in the next six months isn't defensible, especially since we should keep increasing capacity to make more.

Letting our excess doses do some good in the world now is also smart politically after the previous administration did so little to engender good will around the world.

While the United States is holding on to more vaccine doses than it needs, China and Russia have been engaging in "vaccine diplomacy" -- distributing vaccines as part of their political outreach. At the same time, Chinese state media outlets and, reportedly, Russian-government-linked sources have been casting baseless doubts on Western vaccines.

While President Biden is clearly aware of the weight of history and is said to have modeled the initial days of his presidency after Franklin Roosevelt's first 100 days, a more enduring legacy may be hinted at in Roosevelt's last address to the American people. "The brotherly spirit of science," he said, citing Thomas Jefferson, "unites into one family all its votaries of whatever grade, and however widely dispersed throughout the different quarters of the globe."

The vaccines are a gift of that spirit of science to the world. Mr. Biden's legacy will surely include not just how he oversees the outstanding campaign to vaccinate Americans but also how his administration steps up to help vaccinate the rest of the planet against this scourge. Along with doing whatever we can to increase vaccine supply globally, we should let our excess doses go where they're desperately needed, without waiting another day.

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Graphic

PHOTO: (PHOTOGRAPH BY Adam McCauley FOR THE NEW YORK TIMES)

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Company: PFIZER INC (90%); JOHNSON & JOHNSON (70%); ASTRAZENECA PLC (55%)

Organization: FOOD & DRUG ADMINISTRATION (54%); WORLD HEALTH ORGANIZATION (54%)

Ticker: PFZ (LSE) (90%); PFE (NYSE) (90%); JNJ (NYSE) (70%); AZN (STO) (55%); AZN (NYSE) (55%); AZN (LSE) (55%)

Industry: NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (90%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (90%); SIC2834 PHARMACEUTICAL PREPARATIONS (90%); NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (90%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (90%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (90%); NAICS339115 OPHTHALMIC GOODS MANUFACTURING (70%); NAICS339113 SURGICAL APPLIANCE & SUPPLIES MANUFACTURING (70%); NAICS339112 SURGICAL & MEDICAL INSTRUMENT MANUFACTURING (70%); NAICS334510 ELECTROMEDICAL & ELECTROTHERAPEUTIC APPARATUS MANUFACTURING (70%); NAICS325620 TOILET PREPARATION MANUFACTURING (70%); NAICS325611 SOAP & OTHER DETERGENT MANUFACTURING (70%); NAICS325413 IN-VITRO DIAGNOSTIC SUBSTANCE MANUFACTURING (70%); SIC3851 OPHTHALMIC GOODS (70%); SIC3842 ORTHOPEDIC, PROSTHETIC, & SURGICAL APPLIANCES & SUPPLIES (70%); SIC3841 SURGICAL & MEDICAL INSTRUMENTS & APPARATUS (70%); SIC3829 MEASURING & CONTROLLING DEVICES, NEC (70%); SIC3089 PLASTICS PRODUCTS, NEC (70%); SIC3069 FABRICATED RUBBER PRODUCTS, NEC (70%); SIC2844 PERFUMES, COSMETICS, & OTHER TOILET PREPARATIONS (70%); SIC2841 SOAPS & OTHER DETERGENTS, EXCEPT SPECIALTY CLEANERS (70%); SIC2835 IN VITRO & IN VIVO DIAGNOSTIC SUBSTANCES (70%); SIC2499 WOOD PRODUCTS, NEC (70%); ***vaccineS*** (94%); PHARMACEUTICALS INDUSTRY (92%); COSMETICS & TOILETRIES (91%); MANUFACTURING (91%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); SOAPS & DETERGENTS MFG (91%); TOILETRIES MFG (91%); BIOELECTRONIC MEDICINE (90%); CHEMICALS (90%); CHEMICALS MFG (90%); DRUG & MEDICAL DEVICES APPROVAL (90%); HERBAL MEDICINE (90%); IN VITRO DIAGNOSTICS MFG (90%); MEDICAL DEVICES (90%); OPHTHALMIC GOODS (90%); OPHTHALMIC GOODS MFG (90%); PHARMACEUTICAL PREPARATION MFG (90%); SURGICAL & MEDICAL INSTRUMENT MFG (90%); MANUFACTURING OUTPUT (89%); ***VACCINATION*** & IMMUNIZATION (89%); ***COVID-19*** ***CORONAVIRUS*** ***vaccine*** (78%); DRUG SAFETY (78%); COSMETICS (77%); DIAGNOSTIC IMAGING (77%); ORTHOPEDICS (77%); RUBBER & SILICONE PRODUCTS (77%); HEALTH DEPARTMENTS (76%); SOAPS & DETERGENTS (75%); PROSTHETICS & ORTHOTICS (69%); PLASTICS (68%)

Geographic: UNITED STATES (94%); EUROPE (93%); SCOTLAND (79%); UNITED KINGDOM (79%); GERMANY (77%)

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98 ***Think Covid's Messed Up Your Travel Plans? Try Getting Into China.***

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Byline: Sui-Lee Wee and Keith Bradsher

Highlight: To keep the virus out, Beijing has enacted some of the world's toughest border controls. Lives have been upended, and business has been disrupted.

Body

To keep the virus out, Beijing has enacted some of the world's toughest border controls. Lives have been upended, and business has been disrupted.

Leave your partner and children behind. Quarantine for up to a month. Get inoculated with a ***Covid-19*** ***vaccine*** from ***China***, if you can find one. And prepare yourself for an anal swab.

For the past year, people trying to go to ***China*** have run into some of the world's most formidable barriers to entry. To stop the ***coronavirus***, ***China*** bans tourists and short-term business travelers outright, and it sets tough standards for all other foreigners, even those who have lived there for years.

The restrictions have hampered the operations of many companies, separated families and upended the lives of thousands of international students. Global companies say their ranks of foreign workers in the country have dwindled sharply.

At a time of strained tensions *with the United States* and *other countries*, ***China*** is *keeping itself safe from the pandemic*. At the same time, it risks further isolating its economy, the world's second-largest, at a moment when its major trade partners are emerging from their own self-imposed slumps.

"When it comes to measures that draconian, you are going to disenfranchise people who are big ***China*** fans and are not allowed to return to the country they have made their home," said Alexander Style, the British owner of a Shanghai-based company that makes electric vehicle parts for export, who has been forced to relocate with his family to New Jersey.

Other countries have their own *travel* restrictions, though few are as tight. The United States, for example, bans foreigners traveling directly from ***China*** unless they are green card holders or certain immediate family members of American citizens. It also bans foreigners leaving from Europe, as well as Brazil and other countries.

Australia lets in just a few hundred of its citizens and permanent residents each day, while Japan has *barred the entry of foreign workers and students* since late December.

In ***China***, officials regard travel limits as crucial to their success in containing the virus. Since the outbreak started, ***China*** has reported *more than 101,000 Covid cases*. Although questions have been raised about the accuracy of

the numbers, they are far lower than in the United States, where 29.8 million people have tested positive for the virus. ***China***'s strategy reflects its strengths as well as its weaknesses.

China was *the only major economy to grow* last year. It knows businesses will find a way to keep their Chinese operations running, with or without expatriates, and it is betting that they will come back when the pandemic eases. At the same time, ***China***'s restrictions highlight the inadequacies of its ***vaccine*** rollout, which has been slow compared to those of the United States, Britain and other countries.

Foreign executives think ***China*** is likely to be one of the last countries in the world to fully reopen, perhaps as late as next year, after the Beijing Winter Olympics in February. ***China***'s restrictions will mean significant delays in building large factories or winning sales orders, according to business groups.

In recent days, Chinese embassies in at least 50 countries *have said* that foreigners wanting to enter ***China*** could avoid some visa paperwork by taking a Chinese-made ***Covid-19*** ***vaccine***. The government has presented the rule as an easing of its visa application procedures. But it does not help travelers from countries like the United States where Chinese ***vaccines*** are not available.

"It's kind of a Catch-22," said Jeff Jolly, who has been stuck in the United States since July after leaving Shanghai, where he runs a language training center and academic consultancy.

In a statement, ***China***'s foreign ministry said: "We believe this is a meaningful exploration of facilitating international travel once mass ***vaccination*** has been achieved."

As deadlier and more infectious virus variants appeared in other countries in recent months, ***China*** introduced onerous new requirements.

At the end of last year, it essentially stopped allowing anyone to bring a spouse or child into the country. Since January, travelers arriving in Beijing from countries with severe outbreaks have had to endure *weekly anal swab tests* while in quarantine, with fecal material tested for traces of the virus. The measure prompted indignant complaints from the United States and Japan.

Last month, the government announced that foreign and Chinese travelers coming from more than two dozen countries would have to do two weeks of employer-supervised quarantine overseas before they were even allowed to fly to ***China***. Then, after landing, they were expected to spend two more weeks at a government-managed quarantine facility.

The number of foreign business managers in ***China*** has slumped. A survey of 191 businesses in southern ***China*** by the American Chamber of Commerce found that 70 percent had fewer than five expatriate employees in ***China*** at the end of last year, compared to 33 percent a year earlier. The proportion of companies with no expatriates had surged to 28 percent, from 9 percent a year earlier.

Mr. Style, the owner of the electric vehicle parts company, said that the Chinese visa process now favored big companies that contribute a great deal of tax revenue, not start-ups like his business. He said he had settled down in the United States — his wife is American — and did not plan to return to ***China*** any time soon.

The foreign ministry said ***China***'s re-entry policy "treats all foreign personnel equally, and there is no so-called differential treatment."

China's restrictions have been compounded by decisions on visas and entry requirements that can seem arbitrary to those trying to return.

Glyn Wise, who had been teaching English literature at an international school in Shanghai, was able to get a work visa from the Chinese Embassy in London in October. But the agency that helped prepare his application told him later that Chinese border officials would not acknowledge the visa.

"A lot of the times they would change the rules about who they were accepting," Mr. Wise said. He said he was looking for job opportunities outside ***China***.

But many others are still hopeful, and some have organized campaigns on social media to draw attention to their plight.

Nearly 13,000 international students being kept out of ***China*** signed an online petition urging Beijing to allow them to return, while others launched a Twitter campaign called #TakeUsBackToChina.

Amanuel Tafese, an Ethiopian student enrolled at a university in the southwestern Chinese city of Chengdu, said he had tried taking his lessons online since being shut out of the country early last year. But he had to rent space to do so, because there is no electricity or internet access at his family's home, 280 miles from the capital, Addis Ababa.

Mr. Tafese says he cannot find a job, because he has no degree, and is relying on his father's small income to support himself.

"All this made me depressed," Mr. Tafese wrote in an email.

China's tough restrictions, including its recent ban on dependents, have also exacted an emotional toll on some families who have been forced to live apart for months, in some cases more than a year.

In February of last year, Jessie Astbury Allen took her two young daughters to England to wait out the outbreak as it swept across ***China***, hoping they would reunite with her husband in Shanghai by Easter.

It was a plan she would come to regret.

"I knew in my gut we were doing the wrong thing, but it was too late," she said, weeping, as she described how she felt upon landing at London's Heathrow Airport.

Like many parents coping with a lockdown, Ms. Astbury Allen has had to juggle the demands of her daughters' online classes with her job as the ***China*** director of a marketing and strategy company that helps foreign brands sell in ***China***.

In late September, the government announced that people with expired residence permits could return to ***China*** after applying for a visa. Ms. Astbury Allen rushed to apply for one in October. But by the time she reached a visa center, the rules had already changed.

China announced on Nov. 4 that it would *temporarily suspend* the entry of foreigners from Britain, even if they had visas or valid residence permits. It described the move as a "temporary response" as cases of ***Covid-19*** surged in Britain.

The situation has left Ms. Astbury Allen feeling overwhelmed. She worries most about the trauma this separation is inflicting on her daughters.

Her 12-year-old, Livia, became depressed and hid under her blanket, refusing to come out of her room for three days. When Mae, her usually cheerful 7-year-old, saw her mother crying last month, she became very upset and emotional, Ms. Astbury Allen said.

"I said, 'Do you miss your dad, honey?" said Ms. Astbury Allen. "And she said, 'Yes,' and I said: 'It's OK. We miss him, too.'"

Elsie Chen , Coral Yang and Claire Fu contributed research.

Elsie Chen , Coral Yang and Claire Fu contributed research.

PHOTOS: Above, waiting at a Beijing airport. At left, Jessie Astbury Allen with her daughters Mae, 7, and Livia, 12. They left ***China*** more than a year ago; Ms. Astbury Allen’s husband is still there. (PHOTOGRAPHS BY JADE GAO/AGENCE FRANCE-PRESSE — GETTY IMAGES; FRANCESCA JONES FOR THE NEW YORK TIMES) (A12)

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Geographic: BEIJING, ***CHINA*** (92%); SHANGHAI, ***CHINA*** (79%); NORTH CENTRAL ***CHINA*** (88%); EAST ***CHINA*** (73%); ***CHINA*** (99%); UNITED STATES (94%); EUROPE (79%); UNITED KINGDOM (79%)

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99 *Missed Chances to Share Doses in Poor Nations*

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Byline: By Selam Gebrekidan and Matt Apuzzo

Body

Despite warnings, American and European officials gave up leverage that could have guaranteed access for billions of people. That risks prolonging the pandemic.

In the coming days, a patent will finally be issued on a five-year-old invention, a feat of molecular engineering that is at the heart of at least five major ***Covid-19*** ***vaccines***. And the United States government will control that patent.

The new patent presents an opportunity -- and some argue the last best chance -- to exact leverage over the drug companies producing the ***vaccines*** and pressure them to expand access to less affluent countries.

The question is whether the government will do anything at all.

The rapid development of ***Covid-19*** ***vaccines***, achieved at record speed and financed by massive public funding in the United States, the European Union and Britain, represents a great triumph of the pandemic. Governments partnered with drugmakers, pouring in billions of dollars to procure raw materials, finance clinical trials and retrofit factories. Billions more were committed to buy the finished product.

But this Western success has created stark inequity. Residents of wealthy and middle-income countries have received about 90 percent of the nearly 400 million ***vaccines*** delivered so far. Under current projections, many of the rest will have to wait years.

Growing numbers of health officials and advocacy groups worldwide are calling for Western governments to use aggressive powers -- most of them rarely or never used before -- to force companies to publish ***vaccine*** recipes, share their know-how and ramp up manufacturing. Public health advocates have pleaded for help, including asking the Biden administration to use its patent to push for broader ***vaccine*** access.

Governments have resisted. By partnering with drug companies, Western leaders bought their way to the front of the line. But they also ignored years of warnings -- and explicit calls from the World Health Organization -- to include contract language that would have guaranteed doses for poor countries or encouraged companies to share their knowledge and the patents they control.

"It was like a run on toilet paper. Everybody was like, 'Get out of my way. I'm gonna get that last package of Charmin,'" said Gregg Gonsalves, a Yale epidemiologist. "We just ran for the doses."

The prospect of billions of people waiting years to be vaccinated poses a health threat to even the richest countries. One example: In Britain, where the ***vaccine*** rollout has been strong, health officials are tracking a virus

variant that emerged in South Africa, where ***vaccine*** coverage is weak. That variant may be able to blunt the effect of ***vaccines***, meaning even vaccinated people might get sick.

Western health officials said they never intended to exclude others. But with their own countries facing massive death tolls, the focus was at home. Patent sharing, they said, simply never came up.

"It was U.S.-centric. It wasn't anti-global." said Moncef Slaoui, who was the chief scientific adviser for Operation Warp Speed, a Trump administration program that funded the search for ***vaccines*** in the United States. "Everybody was in agreement that ***vaccine*** doses, once the U.S. is served, will go elsewhere."

President Biden and Ursula von der Leyen, the president of the European Union's executive branch, are reluctant to change course. Mr. Biden has promised to help an Indian company produce about 1 billion doses by the end of 2022 and his administration has donated doses to Mexico and Canada. But he has made it clear that his focus is at home.

"We're going to start off making sure Americans are taken care of first," Mr. Biden said recently. "But we're then going to try and help the rest of the world."

Pressuring companies to share patents could be seen as undermining innovation, sabotaging drugmakers or picking drawn-out and expensive fights with the very companies digging a way out of the pandemic.

As rich countries fight to keep things as they are, others like South Africa and India have taken the battle to the World Trade Organization, seeking a waiver on patent restrictions for ***Covid-19*** ***vaccines***.

Russia and ***China***, meanwhile, have promised to fill the void as part of their ***vaccine*** diplomacy. The Gamaleya Institute in Moscow, for example, has entered into partnerships with producers from Kazakhstan to South Korea, according to data from Airfinity, a science analytics company, and UNICEF. Chinese ***vaccine*** makers have reached similar deals in the United Arab Emirates, Brazil and Indonesia.

Addressing patents would not, by itself, solve the ***vaccine*** imbalance. Retrofitting or constructing factories would take time. More raw materials would need to be manufactured. Regulators would have to approve new assembly lines.

And as with cooking a complicated dish, giving someone a list of ingredients is no substitute to showing them how to make it.

To address these problems, the World Health Organization created a technology pool last year to encourage companies to share know-how with manufacturers in lower-income nations.

Not a single ***vaccine*** company has signed up.

"The problem is that the companies don't want to do it. And the government is just not very tough with the companies," said James Love, who leads Knowledge Ecology International, a nonprofit.

Drug company executives told European lawmakers recently that they were licensing their ***vaccines*** as quickly as possible, but that finding partners with the right technology was challenging.

"They don't have the equipment," Moderna's chief executive, Stéphane Bancel, said. "There is no capacity."

But manufacturers from Canada to Bangladesh say they can make ***vaccines*** -- they just lack patent licensing deals. When the price is right, companies have shared secrets with new manufacturers in just months, ramping up production and retrofitting factories.

It helps when the government sweetens the deal. Earlier this month, Mr. Biden announced that the pharmaceutical giant Merck would help make ***vaccines*** for its competitor Johnson & Johnson. The government pressured Johnson & Johnson to accept the help and is using wartime procurement powers to secure supplies for the company. It will also pay to retrofit Merck's production line, with an eye toward making ***vaccines*** available to every adult in the United States by May.

Despite the hefty government funding, drug companies control nearly all of the intellectual property and stand to make fortunes off the ***vaccines***. A critical exception is the patent expected to be approved soon -- a government-led discovery for manipulating a key ***coronavirus*** protein.

This breakthrough, at the center of the 2020 race for a ***vaccine***, actually came years earlier in a National Institutes of Health lab, where an American scientist named Dr. Barney Graham was in pursuit of a medical moonshot.

'We'd already done everything'

For years, Dr. Graham specialized in the kind of long, expensive research that only governments bankroll. He searched for a key to unlock universal ***vaccines*** -- genetic blueprints to be used against any of the roughly two dozen viral families that infect humans. When a new virus emerged, scientists could simply tweak the code and quickly make a ***vaccine***.

In 2016, while working on Middle East Respiratory Syndrome, another ***coronavirus*** known as MERS, he and his colleagues developed a way to swap a pair of amino acids in the ***coronavirus*** spike protein. That bit of molecular engineering, they realized, could be used to develop effective ***vaccines*** against any ***coronavirus***. The government, along with its partners at Dartmouth College and the Scripps Research Institute, filed for a patent, which will be issued this month.

When Chinese scientists published the genetic code of the new ***coronavirus*** in January 2020, Dr. Graham's team had their cookbook ready.

"We kind of knew exactly what we had to do," said Jason McLellan, one of the inventors, who now works at the University of Texas at Austin. "We'd already done everything."

Dr. Graham was already working with Moderna on a ***vaccine*** for another virus when the outbreak in ***China*** inspired his team to change focus. "We just flipped it to ***coronavirus*** and said, 'How fast can we go?'" Dr. Graham recalled.

Within a few days, they emailed the ***vaccine***'s genetic blueprint to Moderna to begin manufacturing. By late February, Moderna had produced enough ***vaccines*** for government-run clinical trials.

"We did the front end. They did the middle. And we did the back end," Dr. Graham said.

Exactly who holds patents for which ***vaccines*** won't be sorted out for months or years. But it is clear now that several of today's ***vaccines*** -- including those from Moderna, Johnson & Johnson, Novavax, CureVac and Pfizer-BioNTech -- rely on the 2016 invention. Of those, only BioNTech has paid the U.S. government to license the technology. The patent is scheduled to be issued March 30.

Patent lawyers and public health advocates say it's likely that other companies will either have to negotiate a licensing agreement with the government, or face the prospect of a lawsuit worth billions. The government filed such a lawsuit in 2019 against the drugmaker Gilead over H.I.V. medication.

This gives the Biden administration leverage to force companies to share technology and expand worldwide production, said Christopher J. Morten, a New York University law professor specializing in medical patents.

"We can do this the hard way, where we sue you for patent infringement," he said the government could assert. "Or just play nice with us and license your tech."

The National Institutes of Health declined to comment on its discussions with the drugmakers but said it did not anticipate a dispute over patent infringement. None of the drug companies responded to repeated questions about the 2016 patent.

Experts said the government has stronger leverage on the Moderna ***vaccine***, which was almost entirely funded by taxpayers. New mRNA ***vaccines***, such as those from Moderna, are relatively easier to manufacture than ***vaccines*** that rely on live viruses. Scientists compare it to an old-fashioned cassette player: Try one tape. If it's not right, just pop in another.

Moderna expects $18.4 billion in ***vaccine*** sales this year, but it is the delivery system -- the cassette player -- that is its most prized secret. Disclosing it could mean giving away the key to the company's future.

By last spring, with the Moderna ***vaccine*** in its earliest trials, ***vaccine*** science had clearly become a nationalistic competition. World leaders joined the W.H.O. in April to raise $8 billion for ***Covid-19*** ***vaccines***, tests and treatments, but ***China*** and the United States were notably absent.

"There should be no division in order to win this battle," President Emmanuel Macron of France said.

Yet European governments had backed their own champions. The European Investment Bank lent nearly $120 million to BioNTech, a German company, and Germany bought a $360 million stake in the biotech firm CureVac after reports that it was being lured to the United States.

"We funded the research, on both sides of the Atlantic," said Udo Bullmann, a German member of the European Parliament. "You could have agreed on a paragraph that says 'You are obliged to give it to poor countries in a way that they can afford it.' Of course you could have."

A People's ***vaccine***

In May, the leaders of Pakistan, Ghana, South Africa and others called for governments to support a "people's ***vaccine***" that could be quickly manufactured and given for free.

They urged the governing body of the World Health Organization to treat ***vaccines*** as "global public goods."

Though such a declaration would have had no teeth, the Trump administration moved swiftly to block it. Intent on protecting intellectual property, the government said calls for equitable access to ***vaccines*** and treatments sent "the wrong message to innovators."

World leaders ultimately approved a watered-down declaration that recognized extensive immunization -- not the ***vaccines*** themselves -- as a global public good.

That same month, the World Health Organization launched the technology-access pool and called on governments to include clauses in their drug contracts guaranteeing equitable distribution. But the world's richest nations roundly ignored the call.

In the United States, Operation Warp Speed went on a summertime spending spree, disbursing over $10 billion to handpicked companies and absorbing the financial risks of bringing a ***vaccine*** to market.

"Our role was to enable the private sector to be successful," said Paul Mango, a top adviser to the then health secretary, Alex M. Azar II.

The deals came with few strings attached.

Large chunks of the contracts are redacted and some remain secret. But public records show that the government used unusual contracts that omitted its right to take over intellectual property or influence the price and availability of ***vaccines***. They did not let the government compel companies to share their technology.

British and other European leaders made similar concessions as they ordered enough doses to vaccinate their populations multiple times over.

"You have to write the rules of the game, and the place to do that would have been these funding contracts," said Ellen 't Hoen, the director of Medicines Law and Policy, an international research group.

By comparison, one of the world's largest health financiers, the Bill & Melinda Gates Foundation, includes grant language requiring equitable access to ***vaccines***. As leverage, the organization retains some right to the intellectual property.

Dr. Slaoui, who came to Warp Speed after leading research and development at GlaxoSmithKline, is sympathetic to this idea. But it would have been impractical to demand patent concessions and still deliver on the program's primary goals of speed and volume, he said.

"I can guarantee you that the agreements with the companies would have been much more complex and taken a much longer time," he said. The European Union, for example, haggled over price and liability provisions, which delayed the rollout.

In some ways, this was a trip down a trodden path. When the H1N1 "swine flu" pandemic broke out in 2009, the wealthiest countries cornered the global ***vaccine*** market and all but locked out the rest of the world.

Experts said at the time that this was a chance to rethink the approach. But the swine flu pandemic fizzled and governments ended up destroying the ***vaccines*** they had hoarded. They then forgot to prepare for the future.

The International View

For months, the United States and European Union have blocked a proposal at the World Trade Organization that would waive intellectual property rights for ***Covid-19*** ***vaccines*** and treatments. The application, put forward by South Africa and India with support from most developing nations, has been bogged down in procedural hearings.

"Every minute we are deadlocked in the negotiating room, people are dying," said Mustaqeem De Gama, a South African diplomat who is involved in the talks.

But in Brussels and Washington, leaders are still worried about undermining innovation.

During the presidential campaign, Mr. Biden's team gathered top intellectual property lawyers to discuss ways to increase ***vaccine*** production.

"They were planning on taking the international view on things," said Ana Santos Rutschman, a Saint Louis University law professor who participated in the sessions.

Most of the options were politically thorny. Among them was the use of a federal law allowing the government to seize a company's patent and give it to another in order to increase supply. Former campaign advisers say the Biden camp was lukewarm to this proposal and others that called for a broader exercise of its powers.

The administration has instead promised to give $4 billion to Covax, the global ***vaccine*** alliance. The European Union has given nearly $1 billion so far. But Covax aims to vaccinate only 20 percent of people in the world's poorest countries this year, and faces a $2 billion shortfall even to accomplish that.

Dr. Graham, the N.I.H. scientist whose team cracked the ***coronavirus*** ***vaccine*** code for Moderna, said that pandemic preparedness and ***vaccine*** development should be international collaborations, not competitions.

"A lot of this would not have happened unless there was a big infusion of government money," he said.

But governments cannot afford to sabotage companies that need profit to survive.

Dr. Graham has largely moved on from studying the ***coronavirus***. He is searching for a universal flu ***vaccine***, a silver bullet that could prevent all strains of the disease without an annual tweak.

Though he was vaccinated through work, he spent the early part of the year trying to get his wife and grown children onto waiting lists -- an ordeal that even one of the key inventors had to endure. "You can imagine how aggravating that is," he said.

Matina Stevis-Gridneff and Monika Pronczuk contributed reporting.Matina Stevis-Gridneff and Monika Pronczuk contributed reporting.

*https://www.nytimes.com/2021/03/21/world/**vaccine**-patents-us-eu.html*

Graphic

PHOTOS: Dr. Barney Graham, left, and his deputy, Dr. Kizzmekia Corbett, right, explaining the role of spike proteins to President Biden. (PHOTOGRAPH BY PETE MAROVICH FOR THE NEW YORK TIMES)

Preparing a dose of the Moderna ***vaccine*** in San Francisco. The company expects $18.4 billion in ***vaccine*** sales this year. (PHOTOGRAPH BY MIKE KAI CHEN FOR THE NEW YORK TIMES)

Preparing to offload a refrigerated container carrying Thailand's first delivery of ***China***'s Sinovac ***vaccines*** in Bangkok last month. (PHOTOGRAPH BY ADAM DEAN FOR THE NEW YORK TIMES) (A6)

A drive-through ***Covid-19*** ***vaccination*** site, above, at Dodger Stadium in Los Angeles

at left, a protest in Johannesburg de- manding companies share technology and calling for govern- ments to suspend patent rules. In the U.S., Operation Warp Speed paid over $10 billion to handpicked companies, drawing up contracts which are largely redacted or altogether private. (PHOTOGRAPH BY PHILIP CHEUNG FOR THE NEW YORK TIMES) (A6-A7)

Taking a ***coronavirus*** test in Johannesburg in January. A variant discovered in South Africa could blunt the effect of ***vaccines***. (PHOTOGRAPH BY JOAO SILVA/THE NEW YORK TIMES) (A7)

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Organization: EUROPEAN UNION (56%)

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100 *vaccine Passes Are No Panacea*

The New York Times

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Byline: By Saskia Popescu and Alexandra Phelan

Body

Until ***coronavirus*** ***vaccines*** are distributed equitably and nations agree to immunization standards, ***vaccination*** passes will not end the spread of ***Covid-19***.

More than 448 million doses of ***coronavirus*** ***vaccines*** have been administered worldwide, and in some countries immunization campaigns are allowing people to resume quasi-normal life. In Israel, where 50 percent of the population has been immunized, residents can show a "green pass" -- proof that they have been vaccinated -- to enter restaurants, theaters and gyms. Both the European Union and ***China*** recently announced their own versions of ***vaccination*** passes. While ***vaccination*** certificates may allow holders to enter businesses within a country, governments are also hoping to use them to regulate international travel and borders.

But in much of the world, ***coronavirus*** ***vaccines*** remain in short supply and, in some cases, wholly unavailable. As governments, largely in rich countries, seek to use ***vaccine*** passports to relax restrictions, they risk relying on a fragmented system that could have the adverse effect of extending the pandemic.

In addition to the ***vaccine*** passes being prepped in Europe and ***China***, the World Economic Forum is working with a group called the Commons Project on a system for documenting ***coronavirus*** ***vaccinations***. IBM is developing a Digital Health Pass, and the International Air Transport Association, a trade association for the airline industry, is developing a smartphone app that will provide passengers with information about testing and ***vaccination*** requirements.

Mandating ***vaccine*** passports for international travel introduces several challenges. International law allows countries to require visitors to prove they have been vaccinated against diseases like yellow fever. But ***coronavirus*** ***vaccines*** are new, and they haven't all been authorized for use throughout the world.

Countries may decide to accept evidence only of ***vaccines*** approved for use within their borders. ***China*** has already said that its ***vaccine*** passport will permit foreigners entry only if they have received a Chinese ***vaccine***. None of the ***vaccines*** currently available in the United States are made by a Chinese company. The Oxford-AstraZeneca ***vaccine*** is being used in 86 countries, but it is not approved for use in the United States. And ***vaccines*** administered in some nations may not be effective against new variants that emerge either domestically or abroad.

These issues need to be addressed on a global scale, and governments should take the opportunity to tackle these questions at the meeting of the World Health Organization's World Health Assembly in May.

vaccine passport systems should clarify which shots will be accepted, and they should be equipped to update immunization requirements when public health guidance changes. These systems must also prevent countries from arbitrarily refusing to accept certificates. Without international consensus, we risk entrenching geopolitical divides with inconsistent requirements that could prolong the pandemic. ***vaccine*** passports that enable citizens of some nations to travel internationally while millions of others wait for ***vaccinations*** will serve only to deepen global inequities.

The United States hasn't announced plans for a ***vaccine*** passport. Americans who get vaccinated receive a card indicating the date and type of shot they received, but those cards aren't being used as passes and can be easily forged. And an American plan would present a number of issues. First, the ***vaccine*** rollout in the United States has been plagued by inequities: Black and Latino people are being vaccinated at much lower rates than white people. Second, not everyone can get vaccinated: The shots haven't been approved for children, and the data on the safety of ***vaccinations*** during pregnancy is limited. ***Vaccination*** passes will need a mechanism to ensure that people who can't get the shots aren't denied jobs, services or education.

A requirement by employers and businesses of proof of ***vaccination*** would carry not only ethical and legal hurdles, but also logistical challenges surrounding how that data is collected, stored, verified and protected. Businesses that require ***vaccinations*** for customers or employees will need systems for reviewing ***vaccine*** passports, which could create a significant financial burden for struggling businesses. While schools and health care providers have long required and tracked certain immunizations, many companies have never needed to contend with ***vaccine*** requirements.

If ***vaccine*** passports come in the form of a smartphone app, some people won't be able to use them. And, of course, since a ***vaccine*** passport records private health data, a failure to protect this information would create large risk of fraud, counterfeiting, discrimination and privacy violations.

People around the world are eager for the pandemic to end, and those who are vaccinated are understandably eager to take advantage of the freedom that immunization promises. But any moves to institute ***vaccine*** passports must be coordinated internationally and should be coupled with global and equitable access to ***vaccines***.

Saskia Popescu (@SaskiaPopescu) is an infectious disease epidemiologist at George Mason University who has advised the World Health Organization on infection prevention. Alexandra Phelan (@alexandraphelan) is a global health lawyer at Georgetown University who has advised the W.H.O. on legal issues related to infectious disease.

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Graphic

PHOTO: (PHOTOGRAPH BY Ana Galvañ FOR THE NEW YORK TIMES)

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101 *Spared by the First Wave And Crushed by the Next, Now Struggling to Recover*

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Byline: By Hana de Goeij and Benjamin Novak

Body

The crosses painted on a Prague street highlight a stark death toll in the Czech Republic as the ***coronavirus*** sweeps across the region.

PRAGUE -- More than 20,000 white crosses have appeared painted on the cobblestones of a medieval square in central Prague, each representing a victim of ***Covid-19*** -- an effort highlighting the ravages of a pandemic that has in recent weeks battered Eastern and Central Europe.

Like many countries in the region, the Czech Republic weathered the first wave of the ***coronavirus*** early last year far better than Italy and many other nations in Western Europe. But it has since suffered one of the world's highest Covid death rates and has struggled over the past month to contain a new wave of infections.

Hungary -- whose far-right populist leader, Prime Minister Viktor Orban, last year boasted of his government's response to the pandemic -- is also experiencing record death rates, with over 4,000 fatalities this past month.

The Czech Republic, Hungary, Serbia and other countries in the region lifted pandemic restrictions last summer after successful initial efforts to contain the virus. But with cases and deaths climbing in recent weeks, they are now scrambling to reverse the damage.

Hungary and Slovakia, both members of the European Union, are seeking help in Russia's Sputnik V ***vaccine***, even though it has not yet been approved by the bloc's regulators. Hungary has also started using a Chinese-made ***vaccine*** that has not been approved in the European Union. Serbia, which is not a member of the bloc, has purchased millions of ***vaccine*** doses from Russia and ***China***, as well as from Western companies.

A big cause of the spiking infection rates is a more contagious virus variant that was first identified in Britain in December and has since spread rapidly in the Czech Republic, Poland and elsewhere in Eastern and Central Europe.

Poland on Saturday ordered the closing of hotels and shops, other than food stores, until further notice after a surge in infections, at least 60 percent of which are the variant first detected in Britain.

Deeply polarized politics across the region have hampered countries' responses to the pandemic, with parties that are out of power -- whether pro-Western liberals or right-wing populists -- or junior partners in shaky coalitions routinely attacking whatever their rivals in government do.

Antigovernment protesters in Serbia have staged small demonstrations over the weekend closing of restaurants and bars, and public health experts in Hungary have complained about the Orban government's inconsistent response to the pandemic.

In Slovakia, a decision to import ***vaccines*** from Russia pushed a coalition government to the brink of collapse early this month after a rift among lawmakers over the move. Slovakia's per capita ***coronavirus*** death rate is twice that of France and just behind that of the Czech Republic.

The painted crosses that appeared on Monday in Old Town Square in Prague, the Czech capital, were the work of A Million Moments for Democracy, a group of activists who oppose Prime Minister Andrej Babis and have organized large street protests against him. The crosses, numbering more than 20,000, represented the nearly 25,000 people who have died from the virus in the country -- a huge number in a nation with a population of about 10 million.

The Czech Republic, like Slovakia, is bitterly split over Russia's Sputnik V ***vaccine***. Although published data indicates that it has an efficacy rate of more than 90 percent, critics of Moscow in Europe see it as a "tool of hybrid war" that is being deployed to divide the West.

The Czech president, Milos Zeman, long known for pro-Kremlin views, said last month that he had asked President Vladimir V. Putin of Russia to arrange deliveries of Sputnik to his country. When the Czech health ministry balked at the idea, Mr. Zeman demanded, without success, that the minister be fired.

vaccines, however, offer no quick escape from the pandemic. Until a large number of residents are inoculated, ***vaccines*** can give people a false sense of security, prompting them to stop wearing masks and taking other precautions. Serbia, Europe's best vaccinator after Britain, has seen infection rates spike sharply in recent weeks, prompting the authorities to impose new partial lockdowns.

Reliant on the European Union's stumbling efforts to order and distribute ***vaccines***, the Czech government has sought to get its infection and death rate down by imposing some of Europe's toughest restrictions.

After a three-week lockdown with shops and schools closed, obligatory testing of employees by companies and restrictions on movement, the number of Covid-10 patients entering hospital has started to drop. That has slowly eased the burden on hospitals that were last month at the limit of their capacity, and Czech hospitals now report that 12 percent of beds in their intensive care unit are unoccupied.

Petr Smejkal, the chief epidemiologist at Prague's Institute of Clinical and Experimental Medicine, blamed what he described as a series of misjudgments by the authorities for his country's bleak record.

"Firstly, we missed the beginning of the second wave and failed to contain the surge of infections at the end of the summer," he said. "Secondly, we relaxed restrictions before Christmas, and thirdly, we insufficiently tracked the British mutation at the beginning of January."

"Sadly, the government did not listen to its experts," he added.

The Hungarian government had been particularly resistant to the advice of experts who called for greater vigilance in response to the crisis. It has instead sought public opinion on the issue of reopening via an online questionnaire.

A report by Politico this month found that Hungary, despite having Russian, Chinese and Western ***vaccines***, had one of the lowest ***coronavirus*** inoculation rates in the European Union.

Some municipalities have urged Hungary's government to allow them to set up ***vaccination*** points to expedite the process, but have been rebuffed. Critics say Mr. Orban's government wants all of the praise for getting ***vaccines*** to people, even if that means slower inoculations in towns and cities -- some of which, like Budapest, the capital, are controlled by the opposition.

"There is utter chaos in the administering of shots and providing documentation," said Budapest's mayor, Gergely Karacsony, an opposition politician widely seen as a potential candidate for prime minister in 2022.

Mr. Orban's opponents, long unable to form a united front against him, recently agreed to mount a collective challenge to his party in next year's national elections. Critics have taken issue with the government's obscure process of securing ***vaccines*** and medical equipment.

"Obviously, it would be much more effective to involve the municipalities" in the ***vaccine*** rollout, Mr. Karacsony said. "But they won't do it, because they don't want the opposition to capitalize on it."

Hana de Goeij reported from Prague, and Benjamin Novak from Budapest. Andrew Higgins contributed reporting from Warsaw.Hana de Goeij reported from Prague, and Benjamin Novak from Budapest. Andrew Higgins contributed reporting from Warsaw.

https://www.nytimes.com/2021/03/23/world/europe/covid-czech-republic-hungary-poland.html

Graphic

PHOTO: More than 20,000 white crosses were painted on the cobblestones of a public square in central Prague, representing those who have died of ***Covid-19*** in the Czech Republic, a nation of 10 million. (PHOTOGRAPH BY MARTIN DIVISEK/EPA, VIA SHUTTERSTOCK)

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Organization: EUROPEAN UNION (55%)

Industry: ***vaccineS*** (90%); RESTAURANTS (66%); PRESCRIPTION DRUG IMPORTS (65%); HOTELS & MOTELS (50%)

Person: VIKTOR ORBAN (79%)

Geographic: PRAGUE, CZECH REPUBLIC (92%); CZECH REPUBLIC (94%); EUROPE (94%); HUNGARY (94%); RUSSIAN FEDERATION (93%); SERBIA (93%); SLOVAKIA (93%); EUROPEAN UNION MEMBER STATES (92%); POLAND (92%); ***CHINA*** (79%); WESTERN EUROPE (79%)

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102 ***Mistrust, Lies And a Variant Ravage Brazil***

The New York Times

March 28, 2021 Sunday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 1

Length: 1580 words

Byline: By Ernesto Londoño, Letícia Casado and Mauricio Lima

Body

PORTO ALEGRE, Brazil -- The patients began arriving at hospitals in Porto Alegre far sicker and younger than before. Funeral homes were experiencing a steady uptick in business, while exhausted doctors and nurses pleaded in February for a lockdown to save lives.

But Sebastião Melo, Porto Alegre's mayor, argued there was a greater imperative.

"Put your life on the line so that we can save the economy," Mr. Melo appealed to his constituents in late February.

Now Porto Alegre, a prosperous city in southern Brazil, is at the heart of an stunning breakdown of the country's health care system -- a crisis foretold.

More than a year into the pandemic, deaths in Brazil are at their peak and highly contagious variants of the ***coronavirus*** are sweeping the nation, enabled by political dysfunction, widespread complacency and conspiracy theories. The country, whose leader, President Jair Bolsonaro, has played down the threat of the virus, is now reporting more new cases and deaths per day than any other country in the world.

"We have never seen a failure of the health system of this magnitude," said Ana de Lemos, the executive director of Doctors Without Borders in Brazil. "And we don't see a light at the end of the tunnel."

On Wednesday, the country surpassed 300,000 ***Covid-19*** deaths, with roughly 125 Brazilians succumbing to the disease every hour. Health officials in public and private hospitals were scrambling to expand critical care units, stock up on dwindling supplies of oxygen and procure scarce intubation sedatives that are being sold at an exponential markup.

Intensive care units in Brasília, the capital, and 16 of Brazil's 26 states report dire shortages of available beds, with capacity below 10 percent, and many are experiencing rising contagion (when 90 percent of such beds are full the situation is considered dire.)

In Rio Grande do Sul, the state that includes Porto Alegre, the waiting list for intensive care unit beds doubled over the past two weeks, to 240 critically ill patients.

At Hospital Restinga e Extremo Sul, one of the main medical facilities in Porto Alegre, the emergency room has become a crammed Covid ward where many patients received care in chairs, for lack of a free bed. Last week, the military built a tent field hospital outside the main entrance, but hospital officials said the additional bed space is of little use for a medical staff stretched beyond its limit.

"The entire system is on the verge of collapse," said Paulo Fernando Scolari, the hospital's director. "People are coming in with more serious symptoms, lower oxygen levels, in desperate need of treatment."

The breakdown is a stark failure for a country that, in past decades, was a model for other developing nations, with a reputation for advancing agile and creative solutions to medical crises, including a surge in H.I.V. infections and the outbreak of Zika.

Mr. Melo, who campaigned last year on a promise to lift all pandemic restrictions in the city, said a lockdown would cause people to starve.

"Forty percent of our economy, our labor force, is informal," he said in an interview. "They're people who need to go out and work in order to have something to eat at night."

President Bolsonaro, who continues to promote ineffective and potentially dangerous drugs to treat the disease, has also said lockdowns are untenable in a country where so many people live in poverty. While several Brazilian states have ordered business shutdowns in recent weeks, there have been no strict lockdowns.

Some of the president's supporters in Porto Alegre have protested business shutdowns in recent days, organizing caravans that stop outside of hospitals and blast their horns while inside Covid wards overflow.

Epidemiologists say Brazil could have avoided additional lockdowns if the government had promoted the use of masks and social distancing and aggressively negotiated access to the ***vaccines*** being developed last year.

Instead, Mr. Bolsonaro, a close ally of former President Donald J. Trump, called ***Covid-19*** a "measly flu," often encouraged large crowds and created a false sense of security among supporters by endorsing anti-malaria and anti-parasite drugs -- contradicting leading health officials who warned that they were ineffective.

Last year, Mr. Bolsonaro's government took a pass on Pfizer's offer of tens of millions of doses of its ***Covid-19 vaccine***. Later, the president celebrated setbacks in clinical trials for CoronaVac, the Chinese-made ***vaccine*** that Brazil came to largely rely on, and joked that pharmaceutical companies would not be held responsible if people who got newly developed ***vaccines*** turned into alligators.

"The government initially dismissed the threat of the pandemic, then the need for preventive measures, and then goes against science by promoting miracle cures," said Natália Pasternak, a microbiologist in São Paulo. "That confuses the population, which means people felt safe going out in the street."

Terezinha Backes, a 63-year-old retired shoemaker living in a municipality on the outskirts of Porto Alegre, had been exceedingly careful over the past year, venturing out only when necessary, said her nephew, Henrique Machado.

But her 44-year-old son, a security guard tasked with taking the temperature of people entering a medical facility, appears to have brought the virus home early this month.

Ms. Backes, who had been in good health, was taken to a hospital on March 13 after she began having trouble breathing. With no beds to spare, she was treated with oxygen and an IV in the hallway of an overflowing wing. She died three days later.

"My aunt was not given the right to fight for her life," said Mr. Machado, 29, a pharmacist. "She was left in a hallway."

Her body was among the scores that have made March the busiest month ever at a funeral home owned by a family friend, Guaraci Machado. Sitting in his office on a recent afternoon, Mr. Machado said he has been struck by the number of young ***Covid-19*** patients who have been brought to his facility in coffins over the past few weeks.

Yet Mr. Machado, 64, who took his face mask off halfway through an interview, said he's opposed to lockdowns or business closures. From the beginning, he said, he has been convinced that the virus was created by ***China*** so it could sell medical supplies around the world, and ultimately develop a profit-making ***vaccine***.

When he had ***Covid-19*** in June of last year, Mr. Machado said he took the anti-malaria drug championed by the president, hydroxychloroquine, which he credited with "keeping me alive."

Mr. Machado will be eligible in the coming weeks for a ***Covid-19*** ***vaccine*** in Brazil. But he won't get one even if he were "being beaten with a stick," Mr. Machado said, noting that he recently read online that ***vaccines*** are more lethal than the virus.

Such conspiracy theories about ***Covid-19*** ***vaccines*** have spread widely on social media, including on WhatsApp and Facebook. A recent public opinion poll by the firm IPEC found that 46 percent of respondents believed at least one widely disseminated falsehood about ***vaccines***.

Mistrust of ***vaccines*** and science is new in Brazil and a dangerous feature of the Bolsonaro era, said Dr. Miguel Nicolelis, a Brazilian neurologist at Duke University who led a ***coronavirus*** task force in the country's northeast last year.

"In Brazil, when the president of the republic speaks, people listen," Dr. Nicolelis said. "Brazil never had an anti-***vaccine*** movement -- ever."

But many hard-core supporters of Mr. Bolsonaro, who retains the support of roughly 30 percent of the electorate, argue that the president's instincts on the pandemic have been sound.

Geraldo Testa Monteiro, a retired firefighter in Porto Alegre, praised the president as he and his family were preparing to bury his sister, Maria de Lourdes Korpalski, 70, who died of ***Covid-19*** last week.

In recent months, Mr. Monteiro said he began taking the anti-parasite drug ivermectin as a preventive measure. The drug is part of the so-called Covid kit of drugs, which also includes the antibiotic azithromycin and the anti-malaria drug hydroxychloroquine. Mr. Bolsonaro's health ministry has endorsed their use.

Leading medical experts in Brazil, the United States and Europe have said those drugs are not effective to treat ***Covid-19*** and some can have serious side effects, including kidney failure.

"Lies," Mr. Monteiro, 63, said about the scientific consensus on the Covid kit. "There are so many lies and myths."

He said medical professionals have sabotaged Mr. Bolsonaro's plan to rein in the pandemic by refusing to prescribe those drugs more decisively at the early stages of illness.

"There was one solution: to listen to the president," he said. "When people elect a leader it is because they trust him."

The mistrust and the denials -- and the caravans of Bolsonaro supporters blasting their horns outside hospitals to protest pandemic restrictions -- are crushing for medical professionals who have lost colleagues to the virus and to suicide in recent months, said Claudia Franco, the president of the nurses union in Rio Grande do Sul.

"People are in such denial," said Ms. Franco, who has been taking care of ***Covid-19*** patients. "The reality we're in today is we don't have enough respirators for everyone, we don't have oxygen for everyone."

Ernesto Londoño reported from Porto Alegre. Letícia Casado reported from Brasília.

https://www.nytimes.com/2021/03/27/world/americas/virus-brazil-bolsonaro.html

Graphic

PHOTOS: Guaraci Machado, right, a critic of lockdowns, receiving the coffin of a ***Covid-19*** patient at his funeral home in São Leopoldo.

Henrique Machado, left, the nephew of Terezinha Backes, who died from ***Covid-19***, at a pharmacy near Pôrto Alegre, Brazil.

Health care workers at a rally organized by labor unions in favor of ***coronavirus*** restrictions and against President Jair Bolsonaro.

Patients waiting for a bed at Hospital Restinga e Extremo Sul. "The entire system is on the verge of collapse," the hospital's director said. Below, Maria de Lourdes Korpalski's burial. Her brother, Geraldo Testa Monteiro, remains a Bolsonaro supporter. (PHOTOGRAPHS BY MAURICIO LIMA FOR THE NEW YORK TIMES) (A6)

Classification

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Organization: DOCTORS WITHOUT BORDERS (55%)

Industry: NURSES & NURSING (90%); PHYSICIANS & SURGEONS (90%); HOSPITALS (89%); INTENSIVE CARE UNITS (89%); EMERGENCY ROOMS (78%); HEALTH CARE (78%); HEALTH DEPARTMENTS (78%); MILITARY HOSPITALS (78%); PRIVATE HEALTH CARE (78%); HEALTH CARE PROFESSIONALS (77%)

Person: JAIR BOLSONARO (73%)

Geographic: BRASILIA, BRAZIL (58%); BRAZIL (96%)

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103 *Serbia Hails Chinese Investors as Saviors, at a Cost to Locals*

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Byline: By Andrew Higgins

Body

While the government is welcoming Chinese investors to save moribund businesses and bring much-needed capital, many Serbians are complaining of environmental and political impacts.

METOVNICA, Serbia -- The well in the retired couple's yard, their only source of clean water, began to dry up two years ago. Last year, dead fish started washing up on the banks of the river that runs by their home in a bucolic village in southeastern Serbia.

But most disturbing of all for Verica Zivkovic and her husband, Miroslav, are the ever-widening cracks in the walls of the house they built after moving to the countryside more than a decade ago to raise goats.

"We came here for the peace and quiet," said Ms. Zivkovic, 62, but that all changed when a Chinese company arrived.

In 2018, the company, the Zijin Mining Group, took control of a money-losing copper smelter in the nearby city of Bor and began blasting away in the nearby hills in search of copper and gold.

While the couple and many other locals bemoan the arrival of the miners, the Serbian government has enthusiastically welcomed Chinese companies like Zijin, despite their record of flouting environmental rules. Many of the companies bring in workers from ***China*** rather than hiring Serbs, and critics say some are helping Serbia's government roll back democratic freedoms.

When Zijin purchased the previously state-owned smelter, after a different Chinese company bought an ailing steel plant near the capital, Belgrade, Serbia's president, Aleksandar Vucic, hailed Chinese investors as his country's saviors.

Chinese money had kept afloat two of Serbia's biggest but badly listing manufacturing enterprises, saving more than 10,000 jobs and fortifying what the two countries describe as their "friendship of steel."

For others, however, this friendship highlights the peril of transferring to Europe an approach to investment and its impact on locals that Chinese companies have employed in poorer regions of the world.

"***China*** is operating in Serbia the same way it did in Africa -- it has the same strategy," said Dragan Djilas, a businessman and former Belgrade mayor who now leads Serbia's biggest opposition party.

The linchpin of that strategy around the world has been to establish close relations with a local strongman -- in Serbia's case, Mr. Vucic, democratically elected but increasingly authoritarian in his ways.

Mr. Vucic has become perhaps ***China***'s biggest cheerleader in Europe. He has brushed aside complaints about its business practices and declared ***China***, which has not only invested hundreds of millions of dollars but also provided millions of doses of ***Covid-19 vaccines***, to be "the only ones who can help us."

China's leader, Xi Jinping, Mr. Vucic said last year, is "not only a dear friend but a brother."

That was a role previously played by Russia, which is tied to Serbia by a shared Orthodox Christian faith and deep cultural and political bonds going back centuries.

But, said Mr. Djilas, the former Belgrade mayor, "we now have a new Big Brother."

Prime Minister Ana Brnabic disputed this, noting that while "Chinese companies are helping Serbia enormously," German businesses employ more of its people.

But it is often the nature as much as the scale of ***China***'s role that attracts criticism. The Chinese telecommunications giant Huawei, for example, has installed hundreds of surveillance cameras equipped with facial recognition technology around Belgrade, which the government says will help reduce crime. But privacy advocates say they have been used to identify and deter protesters, and show how Mr. Vucic is using ***China*** to advance what critics see as a steady reduction of freedoms.

The love-in between the elected leader of Serbia, which aspires to join the European Union and claims to share its democratic values, and Mr. Xi, leader of one of the world's most repressive countries, has dismayed Serbians who want to join Europe, not tilt eastward.

By offering big loans, ***vaccines*** and investment free of the constraints that would be imposed by the European bloc, ***China*** has helped Mr. Vucic deliver on promises to develop Serbia's economy.

But, said Marinika Tepic, a prominent opposition politician, it is also helping "to build a police state."

That exaggerates Mr. Vucic's grip, but the U.S.-based pro-democracy group Freedom House downgraded Serbia in 2019 from "free" to "partly free," citing a tightening grip on politics, civil liberties and the media.

In January, 26 members of the European Parliament demanded a review of the "growing impact of ***China***'s economic footprint in Serbia," including "reckless projects with potentially devastating multiple impacts on the wider environment as well as surrounding population."

The roots of Serbia's tilt toward ***China*** date to 1999, during the Kosovo war, when U.S. warplanes mistakenly bombed the Chinese embassy in Belgrade, killing three Chinese journalists. On that site now stands a huge Chinese cultural center. A marble memorial stone outside bears inscriptions in Serbian and Chinese hail ***China***'s "martyrs."

But memories of shared suffering at American hands have faded in places like Bor, site of the Chinese-owned smelter.

Pollution from the Bor plant skyrocketed to many times the legally permitted level in 2019 and 2020, setting off a series of street protests and prompting Zijin Mining's general manager in Serbia to tell his managers last October that he was "very dissatisfied" with the "frightening" level of pollution, according to leaked minutes of the meeting.

He blamed the bad publicity, which he said had damaged "the government of the People's Republic of ***China***," on "people who are in favor of the West and receive support" who "have stood in opposition to our work."

Bor's mayor, Aleksandar Milikic, a Vucic loyalist, initially dismissed the protests as the work of political agitators.

But, apparently worried about losing votes, he announced last year that he would file a court case against Zijin for negligence. It is not clear whether he actually did so. The mayor declined to be interviewed. Zijin Mining did not respond to requests for comment.

Milenko Jovanovic, an air pollution expert, said he was fired in November from Serbia's Environmental Protection Agency after raising concerns about dangerously high levels of sulfur dioxide and arsenic in the air around Bor.

The government, he said, rejected anything that might upset ***China*** and its investors. "It lets them do whatever they want to do," he said.

A court in Belgrade ruled this month that Mr. Jovanovic had been unfairly dismissed and ordered that he be given his job back.

Activists concede that air pollution levels in Bor have fallen since protests, but say that the main danger has now shifted to towns and villages to the south, where hundreds of Chinese workers brought in by Zijin are developing one of the world's biggest unexploited copper deposits, and digging for gold.

The earth around the new mine trembles from blasting work and the heavy trucks, driven by Chinese workers, that rumble along roads adorned with ***China***'s red national flag. Rivers and streams are discolored by effluent.

The government has added to public anger by issuing expropriation orders so that Zijin can build access roads and expand its mine. Dragan Viacic, a farmer, said he had received a letter from Serbia's finance ministry informing him that he must sell 13 acres of his land at a fraction of the market price.

"They said this was necessary in the public interest but in reality this is just the interest of the Chinese," he said.

In Metovnica, a village near the mine, Mr. Zivkovic and his wife used to have 25 goats but, with no clean water on hand after their well dried up, they now keep just one.

"Why don't we have any water anymore? Why are there no fish in the river?" The answer, he said, is Zijin Mining Group.

Pointing to fissures radiating across the wall of his house that appeared last year after Chinese miners started using explosives, Mr. Zivkovic said: "It was a tiny crack at first but then it spread."

Confident that it has the support of Mr. Vucic and his officials, the mining company and other Chinese ventures in Serbia have mostly ignored complaints and shrouded their operations in secrecy.

Sasa Stankovic, an environmental activist and elected member of the Bor regional council, said he had tried unsuccessfully to contact Zijin to discuss pollution levels. The copper smelter in Bor, he said, had been hazardous to health for decades, but the dangers jumped sharply after Zijin arrived and ramped up production.

Bor now accounts for a stunning 80 percent of Serbian exports to ***China***, repeating a pattern widely seen in Africa of Chinese firms extracting natural resources for shipment back to ***China***.

At Slatina, a village down the road, Miodrag Zivkovic, a local farmer stood on a rickety bridge over the Bor River, its waters thick with sludge and garbage, and said: "We didn't go to the Chinese mine but the mine came to us."

All the same, he said, given the few jobs available in the region, his son would still like to get work at the smelter, which pays relatively well. "Everyone here needs a salary and is ready to risk everything," he lamented.

Cao Li contributed reporting from Hong Kong and Monika Pronczuk from Brussels.

https://www.nytimes.com/2021/03/27/world/europe/serbia-chinese-companies-pollution.html

Graphic

PHOTOS: Clockwise from top: A copper smelter, background, operated by Zijin Mining Group of ***China*** in Bor, Serbia

Miroslav Zivkovic showing the cracks that he said appeared in his house's walls after the miners began using explosives

a river near a mine owned by Zijin. (PHOTOGRAPHS BY LAURA BOUSHNAK FOR THE NEW YORK TIMES)

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Industry: IRON & STEEL INDUSTRY (86%); MANUFACTURING (78%); COPPER SMELTING & REFINING (73%); ***COVID-19*** ***CORONAVIRUS*** ***vaccine*** (73%); MANUFACTURING FACILITIES (73%); MINES & MINING (73%); MINING & EXTRACTION (73%); IRON & STEEL MILLS (69%); ***vaccineS*** (61%); GOAT FARMING (54%); SHEEP & GOAT FARMING (54%)

Person: ALEKSANDAR VUCIC (92%); XI JINPING (78%)

Geographic: BELGRADE, SERBIA (92%); ***CHINA*** (96%); SERBIA (94%); EUROPE (92%); AFRICA (79%)

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104 *If You Got a Pfizer Shot, Could Your 2nd Be Moderna? Researchers Want to Know.*

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Byline: By Carl Zimmer

Body

Researchers are exploring the possible benefits of pairing doses from two different ***Covid-19*** ***vaccines***.

In January, Britain made a change to its ***vaccine*** guidelines that shocked many health experts: If the second dose of one ***vaccine*** wasn't available, patients could be given a different one.

The new rule was based on sheer guesswork; there was no scientific data at the time demonstrating that mixing two ***coronavirus*** ***vaccines*** was safe and effective. But that may change soon.

In February, researchers at the University of Oxford began a trial in which volunteers received a dose of the Pfizer-BioNTech ***vaccine*** followed by a dose of AstraZeneca's formulation, or vice versa. This month, the researchers will start analyzing the blood of the subjects to see how well the mix-and-match approach works.

As growing numbers of ***vaccines*** are being authorized, researchers are testing other combinations. A few are in clinical trials, while others are being tested in animals for now.

Mixing ***vaccines*** might do more than just help overcome supply bottlenecks. Some researchers suspect that a pair of different ***vaccines*** might work better than two doses of the same one.

"I think we're on the cusp of some interesting data," said Adam Wheatley, an immunologist at the University of Melbourne in Australia.

The concept of mixing ***vaccines*** -- sometimes called a heterologous prime-boost -- is not new to our pandemic era. For decades, researchers have investigated the approach, hoping to find potent combinations against a range of viruses, such as influenza, H.I.V. and Ebola.

But scientists had little to show for all that research. It was easy enough to demonstrate that two ***vaccines*** may work well together in a mouse. But running full-blown clinical trials on a combination of ***vaccines*** is a tall order.

"For a single company to develop two parallel arms of a ***vaccine*** is twice the work and twice the cost," Dr. Wheatley said.

Some of the early successes for heterologous prime-boosts came in the search for ***vaccines*** for Ebola. Many researchers focused their efforts on presenting the immune system with a protein found on the surface of the Ebola virus.

The gene for that protein was inserted into a different, harmless virus. When people received an injection of the ***vaccine***, the harmless virus entered their cells; the cells then read the instructions in the Ebola gene and mass-produced Ebola's surface protein. The immune system encountered the Ebola protein and made antibodies against it. And those antibodies protected the vaccinated people if they became infected with a full-blown Ebola virus.

This type of ***vaccine***, called a viral vector ***vaccine***, came with a big risk: The recipients might develop immunity to the viral vector after just the first dose. When the second dose arrived, their immune systems could swiftly wipe out the viral vector before it delivered its payload.

A number of ***vaccine*** makers decided to sidestep this potential threat by using different viruses for each dose. That way, the viral vectors in the second dose would be as new to the immune system as the first was. In 2017, for example, researchers at the Gamaleya Research Institute in Russia created an Ebola ***vaccine*** whose first dose contained a virus called an adenovirus. The second shot used another virus, called vesicular stomatitis virus.

When the ***Covid-19*** pandemic began last year, the Gamaleya researchers used a similar strategy to create ***vaccines*** against the new ***coronavirus***. The first dose used the same adenovirus as in their Ebola ***vaccine***, called Ad5. The second dose contained a different human adenovirus, Ad26. The researches inserted a gene into both viruses for the protein on the surface of the ***coronavirus***, called spike.

Studies revealed that the ***vaccine***, now known as Sputnik V, provided a strong defense against ***Covid-19***. In clinical trials, the researchers found that it had an efficacy of 91.6 percent. Sputnik V is now in use in Russia and 56 other countries.

Recently, the Gamaleya institute joined forces with AstraZeneca, which makes its own ***Covid-19*** ***vaccine***. AstraZeneca's consists of two doses of a chimpanzee adenovirus called ChAdOx1. Last week, the company reported that its ***vaccine*** had an efficacy of 76 percent.

The Gamaleya and AstraZeneca teams want to see how well their ***vaccines*** work together. They have registered a pair of clinical trials in which volunteers will receive a dose of AstraZeneca's ChAdOx1 and another of Sputnik V's Ad26.

A spokesman for AstraZeneca said that one trial in Azerbaijan is underway, and a second, in Russia, is still under review by the country's ministry of health.

Dr. Jakob Cramer, the head of clinical development at CEPI, a ***vaccine*** development organization, said that ***vaccines*** using viral vectors were not the only kind that might benefit from mixing. In fact, certain combinations might provoke a different, more effective immune response than a single type of ***vaccine***. "Immunologically, there are several arguments in favor of exploring heterologous priming," Dr. Kramer said.

Another kind of ***Covid-19*** ***vaccine*** being tested contains the actual spike protein, rather than genetic instructions for it. Some of the ***vaccines*** contain the entire protein; others contain just a fragment of it. Currently, there are 29 protein-based ***vaccines*** for ***Covid-19*** in clinical trials, although none have been authorized yet.

Dr. Wheatley and his colleagues have been testing protein-based ***vaccines*** in mice. They injected the full spike protein into the animals as a first dose. For the second dose, they injected only the tip of the spike, a region known as the receptor-binding domain, or R.B.D.

Dr. Wheatley and his colleagues found that the mixture worked better than two doses of the spike or of the R.B.D.

The researchers suspect that the first dose produces a broad range of antibodies that can stick to spots along the length of the spike protein, and that the second dose delivers a big supply of particularly potent antibodies to the tip of the spike. Together, the assortment of antibodies does a better job of stopping the ***coronavirus***.

"You're able to basically take that initial immunity that was elicited to that spike ***vaccine***, and then really focus it down onto that R.B.D.," Dr. Wheatley said.

Other combinations of ***vaccines*** may bring benefits of their own. Some ***vaccines***, especially protein-based ones, do a good job of generating antibodies. Others, such as viral vectors, are better at training immune cells. A viral vector followed by a protein boost might offer the best of both worlds.

John Moore, a virologist at Weill Cornell Medicine, cautioned that there was no guarantee that clinical trials would reveal a benefit to mixing ***vaccines***. In the search for an H.I.V. ***vaccine***, researchers tried combining viral vectors and protein boost without success, he noted. Still, Dr. Moore said, the story might turn out differently for ***coronavirus*** ***vaccines***.

"I'd like to see these studies done," he said. "Doing it in the Covid space is completely rational, but may not be necessary."

Some researchers are investigating heterologous ***vaccines*** not to find a superior mixture, but simply to open up more options for countries desperate to vaccinate their populations. Last week, India held back exports of ***vaccines*** to other countries as it grappled with a surge of ***Covid-19***. For countries that were counting on those ***vaccines***, a safe alternative for second doses could save lives.

After Britain was criticized in January for suggesting that ***vaccines*** could be mixed, researchers at the University of Oxford set out to put the idea to a formal test. In a trial called Com-Cov, they recruited 830 volunteers to test the two ***vaccines*** authorized by the British government: AstraZeneca's adenovirus-based ***vaccine*** and the ***vaccine*** by Pfizer-BioNTech.

Pfizer-BioNTech's ***vaccine*** uses a fundamentally different technology to produce spike proteins in the body. It contains tiny bubbles with genetic molecules called RNA. Once the bubbles fuse to cells, the cells use the RNA to make spike proteins.

One group of volunteers is receiving a Pfizer-BioNTech shot followed by AstraZeneca, while another will receive them in the reverse order. The other volunteers are receiving the standard two-dose version of the ***vaccines***.

Later this month, the Oxford team will draw blood from the volunteers, examining their antibodies and immune cells to see whether the heterologous prime-boost creates an immune response roughly as strong as two doses of each of the authorized ***vaccines***.

If more ***vaccines*** are authorized in Britain, the Com-Cov team may add them to the trial. Dr. Matthew Snape, who is leading the Com-COV trial, hopes it will be useful not just to his own country but to others that will be trying to vaccinate their citizens over the next few years.

"It might be that actually this flexibility becomes essential in the future," he said.

Dr. Cramer said CEPI is planning to support additional heterologous prime-boost studies. There are plenty of possible studies to run. Worldwide, 13 ***vaccines*** are now in use against ***Covid-19***, with 67 more in clinical trials.

"In the current situation, we have a quite a luxurious position of having so many advanced, effective ***vaccines***," Dr. Wheatley said.

As the number of authorized ***vaccines*** grows, the possible combinations in which they can be used will explode. Recently, researchers at ***China***'s National Institutes for Food and Drug Control scaled up their research on

heterologous prime-boosts by trying out four different ***vaccines*** that have either been authorized in ***China*** or are in late-stage clinical trials there -- ***vaccines*** based on adenoviruses, proteins, RNA and coronaviruses that have been inactivated with chemicals.

The researchers injected mice with a first dose of one ***vaccine***, then a second dose of another. Some of the combinations caused the mice to produce stronger immune responses than mice that received the same ***vaccine*** for both doses.

Whether scientists carry out more experiments on other ***vaccines*** will depend on the willingness of the ***vaccine*** manufacturers. "You're requiring quite large pharmaceutical companies to play nice together," Dr. Wheatley said.

Dr. Bernard Moss, a virologist at the National Institute of Allergy and Infectious Diseases, suspects that a number of companies will be willing to let their ***vaccines*** be tested in combinations. "It's always better to be a part of something that is going to be used," he said, "than to wholly own something that isn't."

*https://www.nytimes.com/2021/03/30/health/**coronavirus**-**vaccine**-astrazeneca-pfizer.html*

Graphic

PHOTO: A ***vaccination*** center in Salisbury Cathedral in England. Britain allows a different ***vaccine*** to be used for the second shot. (PHOTOGRAPH BY ANDREW TESTA FOR THE NEW YORK TIMES)

Classification

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Publication-Type: Newspaper

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Company: PFIZER INC (92%); ASTRAZENECA PLC (57%)

Ticker: PFZ (LSE) (92%); PFE (NYSE) (92%); AZN (STO) (57%); AZN (NYSE) (57%); AZN (LSE) (57%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (92%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (92%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (92%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC

SUBSTANCES (92%); SIC2834 PHARMACEUTICAL PREPARATIONS (92%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (92%); ***vaccineS*** (97%); PHARMACEUTICALS INDUSTRY (92%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); CHEMICALS (90%); CHEMICALS MFG (90%); ***COVID-19 CORONAVIRUS vaccine*** (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); CLINICAL TRIALS (89%); IMMUNOLOGIC FACTORS (89%); PHARMACEUTICALS PRODUCT DEVELOPMENT (89%); IMMUNOLOGY (79%); DRUG SAFETY (78%); COLLEGES & UNIVERSITIES (70%)

Geographic: MELBOURNE, AUSTRALIA (54%); AUSTRALIA (54%)

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105 ***With Swarms of Ships, Beijing Tightens Its Grip on the South China Sea***

The New York Times

April 4, 2021 Sunday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 10

Length: 1399 words

Byline: By Steven Lee Myers and Jason Gutierrez

Body

After building artificial islands, ***China*** is using large fleets of ostensibly civilian boats to press other countries' vessels out of disputed waters.

The Chinese ships settled in like unwanted guests who wouldn't leave.

As the days passed, more appeared. They were simply fishing boats, ***China*** said, though they did not appear to be fishing. Dozens even lashed themselves together in neat rows, seeking shelter, it was claimed, from storms that never came.

Not long ago, ***China*** asserted its claims on the South ***China*** Sea by building and fortifying artificial islands in waters also claimed by Vietnam, the Philippines and Malaysia. Its strategy now is to reinforce those outposts by swarming the disputed waters with vessels, effectively defying the other countries to expel them.

The goal is to accomplish by overwhelming presence what it has been unable to do through diplomacy or international law. And to an extent, it appears to be working.

"Beijing pretty clearly thinks that if it uses enough coercion and pressure over a long enough period of time, it will squeeze the Southeast Asians out," said Greg Poling, the director of the Asia Maritime Transparency Initiative at the Center for Strategic and International Studies in Washington, which tracks developments in the South ***China*** Sea. "It's insidious."

China's actions reflect the country's growing confidence under its leader, Xi Jinping. They could test the Biden administration, as well as Beijing's neighbors in the South ***China*** Sea, who are increasingly dependent on ***China***'s strong economy and supply of ***Covid-19*** ***vaccines***.

The latest incident has unfolded in recent weeks around Whitsun Reef, a boomerang-shaped feature that emerges above water only at low tide. At one point in March, 220 Chinese ships were reported to be anchored around the reef, prompting protests from Vietnam and the Philippines, which both have claims there, and from the United States.

The Philippine defense secretary, Delfin Lorenzana, called their presence "a clear provocation." Vietnam's foreign ministry accused ***China*** of violating the country's sovereignty and demanded that the ships leave.

By this past week, some had left but many remained, according to satellite photographs taken by Maxar Technologies, a company based in Colorado. Others moved to another reef only a few miles away, while a new

swarm of 45 Chinese ships was spotted 100 miles northeast at another island controlled by the Philippines, Thitu, according to the satellite photos and Philippine officials.

"The Chinese ambassador has a lot of explaining to do," Mr. Lorenzana said in a statement on Saturday.

The buildup has inflamed tensions in a region that, along with Taiwan, threatens to become another flash point in the intensifying confrontation between ***China*** and the United States.

Although the United States has not taken a position on disputes in the South ***China*** Sea, it has criticized ***China***'s aggressive tactics there, including the militarization of its bases. For years, the United States has sent Navy warships on routine patrols to challenge ***China***'s asserted right to restrict any military activity there -- three times just since President Biden took office in January.

Secretary of State Antony J. Blinken expressed support for the Philippines over the presence of the Chinese vessels. "We will always stand by our allies and stand up for the rules-based international order," he wrote on Twitter.

The buildup has highlighted the further erosion of the Philippines' control of the disputed waters, which could become a problem for the country's president, Rodrigo Duterte.

The country's defense department dispatched two aircraft and one ship to Whitsun Reef to document the buildup but did not otherwise intervene. It is not known whether Vietnamese forces responded.

Critics say ***China***'s disregard for the Philippine claims reflects the failure of Mr. Duterte's efforts to cozy up to the Communist Party leadership in Beijing.

"People need to hear from the commander in chief himself, a coward to ***China*** but a bully to his own people," said Mr. Duterte's staunchest political opponent, Senator Leila de Lima. Mr. Duterte has not publicly addressed the matter, though his spokesman suggested that quiet efforts to defuse the situation were underway.

China has brushed off the protests. A spokeswoman for the foreign ministry, Hua Chunying, said that Chinese fishermen "have been fishing in the waters near the reef all along." Officials in the Philippines and experts said there was no evidence of that.

Whitsun Reef is part of an atoll known as Union Banks, about 175 nautical miles from Palawan, a Philippine island. The Philippines, ***China*** and Vietnam each claim that the atoll lies within their country's exclusive economic zones, but only ***China*** and Vietnam have established a regular physical presence there, giving each a secure, if not legal, advantage in asserting control.

Vietnam has occupied four islets in the atoll since the 1970s, while ***China*** has built two outposts on previously submerged reefs as part of its program, underway since 2014, to dredge up seven artificial islands. Two of the outposts -- Grierson Reef, occupied by Vietnam, and Hughes Reef, occupied by ***China*** -- are less than three nautical miles apart.

An international tribunal convened under the United Nations Convention on the Law of the Sea ruled in 2016 that ***China***'s expansive claim to almost all of the South ***China*** Sea had no legal basis, though it stopped short of dividing the territory among its various claimants. ***China*** has based its claims on a "nine-dash line" drawn on maps before the establishment of the People's Republic of ***China*** in 1949.

A Philippine patrol first reported the large number of ships at Whitsun Reef on March 7. According to Mr. Poling, satellite photographs have shown a regular, though smaller, Chinese presence over the past year at the reef.

By March 29, 45 ships remained at Whitsun, according to a statement on Wednesday by the National Task Force-West Philippines Sea, an agency that reports to the Philippine president's office. The task force counted 254 ships

as well as four Chinese warships that day in the Spratlys, an archipelago of more than 100 islands, cays and other outcroppings between the Philippines and Vietnam.

The task force said the 254 ships were not fishing vessels, as Beijing claimed, but part of ***China***'s maritime militia, an ostensibly civilian force that has become an integral instrument of ***China***'s new maritime strategy. Many of these boats, while unarmed, are operated by reservists or others who carry out the orders of the Coast Guard and People's Liberation Army.

"They may be doing illicit activities at night and their lingering (swarming) presence may cause irreparable damage to the marine environment," the task force's statement said.

The presence of so many Chinese ships is meant to intimidate. "By having them there, and spreading them out across these expanses of water around the reefs the others occupy, or around oil and gas fields or fishing grounds, you are steadily pushing the Filipinos and the Vietnamese out," Mr. Poling said.

"If you're a Filipino fisherman, you're always getting harassed by these guys," he said. "They're always maneuvering a little too close, blowing horns at you. At some point you just give up and stop fishing there."

Patrols and statements aside, Mr. Duterte's government does not seem eager to confront ***China***. His spokesman, Harry Roque, echoed the Chinese claims that the ships were merely sheltering temporarily.

"We hope the weather clears up," he said, "and in the spirit of friendship we are hoping that their vessels will leave the area."

The Philippines has become increasingly dependent on Chinese trade and, as it fights the pandemic, largess.

On Monday, the first batch of ***Covid-19*** ***vaccines*** arrived in Manila from ***China*** with great fanfare. As many as four million doses are scheduled to arrive by May, some of them donations. ***China***'s ambassador, Huang Xilian, attended the ***vaccines***' arrival and later met with Mr. Duterte.

"***China*** is encroaching on our maritime zone, but softening it by sending us ***vaccines***," said Antonio Carpio, an outspoken retired Supreme Court justice who is expert in the maritime dispute. "It's part of their P.R. effort to soften the blow, but we should not fall for that."

*https://www.nytimes.com/2021/04/03/world/asia/swarms-ships-south-**china**-sea.html*

Graphic

PHOTOS: Satellite photos of Whitsun Reef in the South ***China*** Sea showing Chinese ships lashed together. A U.S. Navy reconnaissance plane during a mission to observe activity in the area. (PHOTOGRAPHS BY MAXAR TECHONOLOGIES

ADAM DEAN FOR THE NEW YORK TIMES)

Classification

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Organization: US NAVY (59%)

Industry: MARINE VESSELS (78%); ***COVID-19 CORONAVIRUS vaccine*** (73%); DEFENSE DEPARTMENTS (61%); ***vaccineS*** (52%)

Person: XI JINPING (78%)

Geographic: BEIJING, ***CHINA*** (90%); PACIFIC OCEAN (94%); SOUTH ***CHINA*** SEA (94%); NORTH CENTRAL ***CHINA*** (93%); PHILIPPINES (94%); UNITED STATES (94%); VIET NAM (93%); ASIA (79%); MALAYSIA (79%); SOUTH-EASTERN ASIA (79%); TAIWAN (79%)

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106 How to Push 560 Million Doses? Try Free Ice Cream.

The New York Times

April 7, 2021 Wednesday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 7

Length: 1342 words

Byline: By Vivian Wang and Keith Bradsher

Body

China's ***Covid-19*** ***vaccination*** campaign got off to a slow start. It is now trying to catch up, through a mixture of freebies and the occasional threat.

In Beijing, the vaccinated qualify for buy-one-get-one-free ice cream cones. In northern Gansu Province, a county government published a 20-stanza poem extolling the virtues of the jab. In the southern town of Wancheng, officials warned parents that if they refused to get vaccinated, their children's schooling and future employment and housing were all at risk.

China is deploying a medley of tactics, some tantalizing and some threatening, to achieve mass ***vaccination*** on a staggering scale: a goal of 560 million people, or 40 percent of its population, by the end of June.

China has already proven how effectively it can mobilize against the ***coronavirus***. And other countries have achieved widespread ***vaccination***, albeit in much smaller populations.

But ***China*** faces a number of challenges. The country's near-total control over the ***coronavirus*** has left many residents feeling little urgency to get vaccinated. Some are wary of ***China***'s history of ***vaccine***-related scandals, a fear that the lack of transparency around Chinese ***coronavirus*** ***vaccines*** has done little to assuage. Then there is the sheer size of the population to be inoculated.

To get it done, the government has turned to a familiar tool kit: a sprawling, quickly mobilized bureaucracy and its sometimes heavy-handed approach. This top-down, all-out response helped tame the virus early on, and now the authorities hope to replicate that success with ***vaccinations***.

Already, uptake has skyrocketed. Over the past week, ***China*** has administered an average of about 4.8 million doses a day, up from about one million a day for much of last month. Experts have said they hope to reach 10 million a day to meet the June goal.

"They say it's voluntary, but if you don't get the ***vaccine***, they'll just keep calling you," said Annie Chen, a university student in Beijing who received two such entreaties from a school counselor in about a week.

Worried about possible side effects, Ms. Chen had not planned to sign up. But after the counselor warned that she could soon face restrictions on access to public places, she relented -- in part because she felt bad for him. "The counselor seemed to think his job was pretty hard, too. He sounded exhausted," she said.

Public anxiety about the ***vaccines*** emerged early. One survey in February, co-authored by the head of ***China***'s Center for Disease Control and Prevention, found that less than half of medical workers in the eastern province of Zhejiang were willing to be vaccinated, many citing fear of side effects. By mid-March, ***China*** had administered only about 65 million doses for a population of 1.4 billion.

Even with the recent surge in ***vaccinations***, ***China*** still lags far behind dozens of other countries. Though ***China*** has approved five homegrown ***vaccines***, it has administered 10 shots for every 100 residents. Britain has administered 56 for every 100; the United States, 50.

Prominent doctors have warned that ***China***'s sluggish pace threatens to undermine the country's successful containment measures.

"***China*** is at a very critical moment," Zhong Nanshan, a top respiratory disease expert, said in a recent interview with the Chinese news media. "When other countries have been very well vaccinated, and ***China*** still lacks immunity, then that will be very dangerous."

The warnings have been accompanied by a sweeping propaganda campaign and copious consumerist bait.

On Monday, the Wangfujing shopping district in Beijing was teeming with bargains for the vaccinated. A Lego store offered a free kit to assemble a chick emerging from an egg. A street stall touted a 10 percent discount on tea. A state-run photo studio even advertised a discount on wedding photos.

The promotion seemed to be working at one ***vaccination*** center, where people lined up for two-for-one soft serve at a bright yellow McDonald's ice cream truck parked outside.

Wang Xuan, an employee inside the truck, described how the advertisement caught the attention of one passer-by.

"He went straight inside to get the ***vaccine*** and then came out to us to buy ice cream," Mr. Wang said.

Other localities have opted for more stick than carrot (or ice cream).

In Chongqing, a company notice ordered workers between 18 and 59 without underlying health conditions to be vaccinated by the end of April, or be "held accountable," though it did not elaborate. A government bulletin in the city of Haikou, in Hainan, said companies with less than 85 percent ***vaccination*** rates would be issued a warning and could be suspended for "rectification."

The city of Ruili, in southwestern ***China***, last week became the first to adopt mandatory ***vaccination*** for eligible residents, after a small outbreak there. An official said the city expected to vaccinate the entire population of more than 200,000 people in five days by running ***vaccination*** sites 24 hours a day.

Some social media users have complained that the pressure campaigns restrict their right of choice. But Tao Lina, a ***vaccination*** expert and former immunologist at the Shanghai Center for Disease Control and Prevention, said it was justifiable to impose somewhat punitive measures in the name of public health.

"At this time, overly emphasizing freedom of choice is not a good idea," Dr. Tao said. "Look at America: They wanted to choose not to wear face masks. That seems like a kind of freedom, but then what happened?"

Governments and companies in other countries have also adopted what some see as coercive measures. The Italian prime minister recently issued a decree requiring ***vaccinations*** for health care workers. A waitress in New York City was fired for refusing ***vaccination***. Many countries are considering issuing ***vaccine*** passports for entry into public facilities.

Still, even ***China***'s state-owned media has acknowledged that some local officials have been overzealous in their enforcement.

Xinhua, the state news agency, published an opinion piece last week denouncing "one-size-fits-all, simple and crude methods" that it said could engender even more public opposition.

"These harmful developments are in reality the product of a small number of regions and companies that are anxious to complete their ***vaccination*** responsibilities," it said. (The Wancheng government later apologized for its warning about children's futures.)

It's unclear how many of the promised restrictions are being enforced. Wu Kunzhou, a community worker in Haikou, the city where businesses were threatened with suspension, said he had marked a few businesses with red posters. "Company that does not meet ***vaccination*** standards," the posters said. But there were no accompanying fines, and he said he could not force anyone to get vaccinated.

"The main thing is, there are orders from above," Mr. Wu said.

Some residents have remained staunchly opposed to ***vaccination***, despite the barrage of messaging.

Lu Xianyun, a 51-year-old construction industry employee in Guangzhou, cited a number of revelations in recent years of children in ***China*** being injected with faulty ***vaccines***. "I don't trust them," he said of the ***vaccine*** manufacturers.

Local officials have also issued conflicting guidance on the safety of ***vaccination*** for pregnant women. Some have reassured women trying to conceive that they should sign up, while others have urged those women to delay pregnancy.

Dr. Tao said officials had not done enough to instill public confidence in the ***vaccines***. He said that he could think of only one prominent official, Dr. Zhang Wenhong -- often compared to ***China***'s Dr. Anthony S. Fauci -- who had been publicly vaccinated. It doesn't help that Chinese ***vaccine*** companies have been slow to share clinical trial data.

"If our country wants to improve public enthusiasm," Dr. Tao said, "it would be best to share videos of leaders, cadres and Communist Party members getting vaccinated."

Liu Yi, Joy Dong and Elsie Chen contributed research.

*https://www.nytimes.com/2021/04/06/world/asia/**china**-**vaccination**-drive.html*

Graphic

PHOTOS: An ice cream truck outside a ***vaccination*** center in Beijing. (PHOTOGRAPH BY GILLES SABRIÉ FOR THE NEW YORK TIMES)

University students getting shots in Qingdao, ***China***, last month. (PHOTOGRAPH BY AGENCE FRANCE-PRESSE -- GETTY IMAGES)

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Industry: ***vaccineS*** (95%); ***VACCINATION*** & IMMUNIZATION (91%); ***COVID-19 CORONAVIRUS vaccine*** (90%); ANTI-***vaccine*** MOVEMENT (73%)

Geographic: BEIJING, ***CHINA*** (91%); NORTH CENTRAL ***CHINA*** (89%); GANSU, ***CHINA*** (79%); NORTHWEST ***CHINA*** (79%); ZHEJIANG, ***CHINA*** (79%); EAST ***CHINA*** (74%); ***CHINA*** (98%)

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107 Vaccination Passports Could Unlock World Travel and Cries of Discrimination

The New York Times

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Byline: By Mark Landler

Body

vaccine rollouts in some countries have a long-locked-down world dreaming of travels abroad again. But they have also set off a fraught debate about the fairness of a two-tier system for haves and have-nots.

LONDON -- For Aruba, a Caribbean idyll that has languished since the pandemic drove away its tourists, the concept of a "***vaccine*** passport" is not just intriguing. It is a "lifeline," said the prime minister, Evelyn Wever-Croes.

Aruba is already experimenting with a digital certificate that allows visitors from the United States who tested negative for the ***coronavirus*** to breeze through the airport and hit the beach without delay. Soon, it may be able to fast-track those who arrive with digital confirmation that they have been vaccinated.

"People don't want to stand in line, especially with social distancing," Ms. Wever-Croes said in an interview this week. "We need to be ready in order to make it hassle-free and seamless for the travelers."

vaccine passports are increasingly viewed as the key to unlocking the world after a year of pandemic-induced lockdowns -- a few bytes of personal health data, encoded on a chip, that could put an end to suffocating restrictions and restore the freewheeling travel that is a hallmark of the age of globalization. From Britain to Israel, these passports are taking shape or already in use.

But they are also stirring complicated political and ethical debates about discrimination, inequality, privacy and fraud. And at a practical level, making them work seamlessly around the globe will be a formidable technical challenge.

The debate may play out differently in tourism- or trade-dependent outposts like Aruba and Singapore, which view passports primarily as a tool to reopen borders, than it will in vast economies like the United States or ***China***, which have starkly divergent views on civil liberties and privacy.

The Biden administration said this week that it would not push for a mandatory ***vaccination*** credential or a federal ***vaccine*** database, attesting to the sensitive political and legal issues involved. In the European Union and Britain, which have taken tentative steps toward ***vaccine*** passports, leaders are running into thorny questions over their legality and technical feasibility.

And in Japan, which has lagged the United States and Britain in vaccinating its population, the debate has scarcely begun. There are grave misgivings there about whether passports would discriminate against people who cannot get a shot for medical reasons or choose not to be vaccinated.

Japan, like other Asian countries, has curbed the virus mainly through strict border controls.

"Whether or not to get vaccinated is up to the individual," said Japan's health minister, Norihisa Tamura. "The government should respond so that people won't be disadvantaged by their decision."

Still, almost everywhere, the pressure to restart international travel is forcing the debate. With tens of millions of people vaccinated, and governments desperate to reopen their economies, businesses and individuals are pushing to regain more freedom of movement. Verifying whether someone is inoculated is the simplest way to do that.

"There's a very important distinction between international travel and domestic uses," said Paul Meyer, the founder of the Commons Project, a nonprofit trust that is developing CommonPass, a scannable code that contains Covid testing and ***vaccination*** data for travelers. Aruba was the first government to sign up for it.

"There doesn't seem to be any pushback on showing certification if I want to travel to Greece or Cyprus," he said, pointing out that schools require students to be vaccinated against measles and many countries demand proof of yellow fever ***vaccinations***. "From a public health perspective, it's not fair to say, 'You have no right to check whether I'm going to infect you.'"

CommonPass is one of multiple efforts by technology companies and others to develop reliable, efficient systems to verify the medical status of passengers -- a challenge that will deepen as more people resume traveling.

At Heathrow Airport in London, which is operating at a fraction of its normal capacity, arriving passengers have had to line up for hours while immigration officials check whether they have proof of a negative test result and have purchased a mandatory kit to test themselves twice more after they enter the country.

Saudi Arabia announced this week that pilgrims visiting the mosques in Mecca and Medina during the Muslim holy month of Ramadan would have to show proof on a mobile app of being "immunized," which officials defined as having been fully vaccinated, having gotten a single dose of a ***vaccine*** at least 14 days before arrival, or having recovered from Covid.

In neighboring United Arab Emirates, residents can show their ***vaccination*** status on a certificate through a government-developed app. So far, the certificate is not yet widely required for anything beyond entering the capital, Abu Dhabi, from abroad.

Few countries have gone farther in experimenting with ***vaccine*** passports than Israel. It is issuing a "Green Pass" that allows people who are fully vaccinated to go to bars, restaurants, concerts and sporting events. Israel has vaccinated more than half its population and the vast majority of its older people, which makes such a system useful but raises a different set of questions.

With people under 16 not yet eligible for the ***vaccine***, the system could create a generational divide, depriving young people of access to many of the pleasures of their elders. So far, enforcement of the Green Pass has been patchy, and in any event, Israel has kept its borders closed.

So has ***China***, which remains one of the most sealed-off countries in the world. In early March, the Chinese government announced it would begin issuing an "international travel health certificate," which would record a user's ***vaccination*** status, as well as the results of antibody tests. But it did not say whether the certificate would spare the user from ***China***'s draconian quarantines.

Nor is it clear how eager other countries would be to recognize ***China***'s certificate, given that Chinese companies have been slow in disclosing data from clinical trials of their homegrown ***vaccines***.

Singapore has also maintained strict quarantines, even as it searches for way to restart foreign travel. Last week, it said it would begin rolling out a digital health passport, allowing passengers to use a mobile app to share their ***coronavirus*** test results before flying into the island nation.

Like ***China***, Singapore has not said whether that would be enough to avoid quarantine. The heavy focus on international travel points up another inconsistency in the use of passports: between those who can afford to travel freely overseas and those who continue to live under onerous restrictions at home.

Free movement across borders is the goal of the European Union's "Digital Green Certificate." The European Commission last month set out a plan for verifying ***vaccination*** status, which would allow a person to travel freely within the bloc. It left it up to its 27 member states to decide how to collect the health data.

That could avoid the pitfalls of the European Union's ***vaccine*** rollout, which was heavily managed by Brussels and has been far slower than that in the United States or Britain. Yet analysts noted that in data collection, there is a trade-off between decentralized and centralized systems: the former tends to be better at protecting privacy but less efficient; the latter, more intrusive but potentially more effective.

"Given the very unequal access to ***vaccines*** we are witnessing in continental Europe, there is also an issue of equal opportunity and potential discrimination," said Andrea Renda, a senior research fellow at the Center for European Policy Studies in Brussels.

For some countries, the legal and ethical implications have been a major stumbling block to domestic use of a passport. As Prime Minister Justin Trudeau of Canada put it last month, "There are questions of fairness and justice."

And yet in Britain, which has a deeply rooted aversion to national ID cards, the government is moving gingerly in that direction. Prime Minister Boris Johnson last week outlined broad guidelines for a Covid certificate, which would record ***vaccination*** status, test results, and whether the holder had recovered from Covid, which confers a degree of natural immunity for an unknown duration.

Mr. Johnson insisted that shops, pubs and restaurants would not be required to demand the certificate, though they could opt to do so on their own. That did not stop dozens of lawmakers, from his Conservative Party and the opposition Labour Party, from opposing the plan on grounds that were legal, ethical and plainly commercial -- that it could keep people out of the country's beloved pubs.

Government officials now suggest that the plan is targeted less at pubs and restaurants and more at higher-risk settings, like nightclubs and sporting events.

"Would we rather have a system where no one can go to a sports ground or theater?" said Jonathan Sumption, a former justice on Britain's Supreme Court, who has been an outspoken critic of the government's strict lockdowns. "It's better to have a ***vaccine*** passport than a blanket rule which excludes these pleasures from everybody."

Reporting was contributed by Stephen Castle in London, Motoko Rich in Tokyo, Shashank Bengali in Singapore, Vivian Wang in Hong Kong, Vivian Yee in Cairo, Asmaa al-Omar in Beirut, and Ian Austen in Ottawa.

*https://www.nytimes.com/2021/04/09/world/europe/**vaccine**-passports-virus-issues-legal-ethical.html*

Graphic

PHOTO: A woman showing her Green Pass, Israel's proof of ***vaccination***, before entering a show last month at an opera house in Tel Aviv. (PHOTOGRAPH BY DAN BALILTY FOR THE NEW YORK TIMES)

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Industry: ***vaccine*** CERTIFICATIONS & PASSPORTS (91%); ***VACCINATION*** & IMMUNIZATION (90%); ***vaccineS*** (90%); HEALTH DEPARTMENTS (78%); INTERNATIONAL TOURISM (78%); MANDATORY ***VACCINATIONS*** (74%)

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108 One Family's Global Quest for Vaccination

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Length: 2405 words

Byline: By Pui-Wing Tam

Body

In early February, my sister posted a video in our family's WhatsApp group.

It was a seven-minute CNN report on Malawi, a country in East Africa that is one of the world's poorest. ***Coronavirus*** ***vaccines*** were nowhere to be found in Malawi, the report said, because richer countries were hogging the supplies. The video focused on Queen Elizabeth Central Hospital in Blantyre, Malawi's second-largest city, showing the strain the facility was under as it battled the virus. The hospital's workers were tending to infected patients but had little prospect of getting vaccinated soon.

My sister Pui-Ying, a pediatrician, was one of those unprotected workers.

"Sorry to see this," I texted back, lamely.

Unwritten was a question: Would Pui-Ying, a frontline doctor who would have been vaccinated against ***Covid-19*** months ago if she worked in the United States, be the last of my family to be inoculated?

For more than a year, the pandemic has divided families around the world, with relatives unable to travel to see one another without fearing for their health, waiting out quarantines and navigating red tape. But even as ***vaccines*** become available, the hopes for reunions have been tempered by the higgledy-piggledy nature of the rollouts.

Many families are at the mercy of a global game of ***vaccine*** geopolitics, as wealthier countries struggle to balance immunizing their own citizens against providing supplies to others. Some nations have no doses. Where there are supplies, there are also ***vaccine*** misinformation, technological hurdles and personal doubts about the efficacy and safety of ***vaccines***.

My family, spread across three continents, has been a microcosm of these forces. Our parents live in Hong Kong; Pui-Ying in Blantyre; and another sister, Pui Ling, and I in the San Francisco Bay Area. We are separated by many time zones and thousands of miles.

My parents have worried about the safety of the ***vaccines***, their anxiety fueled by a combination of media reports and their political views and health histories. Pui Ling and I have grumbled about our chaotic local ***vaccine*** situations, knowing that we would soon get our chance -- even as Pui-Ying, who works in a two-room Covid ward for children, wondered if she would get any shot at all.

Dr. Kate O'Brien, director of immunizations and ***vaccines*** at the World Health Organization, said that what my family faced was the result of a "very discoordinated and incoherent set of approaches, where every country was

making decisions for their own context." Many families -- including her own -- were grappling with the same inequities, she said.

Once countries procure ***vaccines***, they generally give priority access to the highest-risk groups, including health care workers and seniors. If that were the case with my family, Pui-Ying would be at the front of the line, along with Dad and Mom, who are in their mid-70s. Pui Ling, who works at a foundation, and I, a New York Times editor, would be at the back of the queue.

That was not how it turned out.

Hong Kong

As Britain and the United States began administering ***vaccines*** in December, Mom and Dad surprised us. Maybe, they said during a WhatsApp video call, they wouldn't get vaccinated. What if the shots were unsafe?

I was shocked. The ***coronavirus*** had made it impossible for us to see one another in person. Hong Kong, a densely packed city of 7.5 million, had instituted strict travel and quarantine rules. In the United States, the pandemic was out of control. ***vaccines*** held the key to freeing us from a year of stifling restrictions.

And it wasn't like my parents to fall for anti-***vaccine*** conspiracy theories. What was I missing?

They explained that their concerns were rooted in Mom's medical history. She had once had a severe allergic reaction to medication (something that they hadn't deemed important enough to tell us at the time). And they were closely following Chinese and Western media reports about people suffering health problems after getting vaccinated, even if it was unclear whether those were coincidences or actual reactions to the shots.

I called Benjamin Cowling, the head of epidemiology and biostatistics at Hong Kong University. ***vaccine*** hesitancy was widespread in Hong Kong, he said. In a January survey, 50 percent of respondents said they intended to get vaccinated, compared with 89 percent in ***China*** and 75 percent in the United States.

The low numbers in part reflected Hong Kong's success at containing the virus, Dr. Cowling said. Roughly one-tenth of 1 percent of the city's population had received a Covid diagnosis. With the risk of infection seemingly small, people were in no hurry to be inoculated.

That didn't stop us from urging Mom and Dad to get the ***vaccines***. Pui-Ying, who carries the voice of authority as a doctor, told them that she might be able to visit Hong Kong this summer and would prefer them to be alive.

Our parents' thinking evolved. It helped when an 80-year-old uncle in Tallahassee, Fla., was vaccinated in January. He was the first in our extended family to be inoculated, and the news sparked much excitement on a WhatsApp thread among my aunts, uncles and parents.

"It would be safer to get it" than not to, Dad concluded.

Then came another curveball. Mom and Dad announced that they were willing to get only ***vaccines*** made in ***China***. At least four Chinese biopharmaceutical companies, such as Sinovac and Sinopharm, had developed Covid ***vaccines***, joining a field that also included Britain and Sweden's AstraZeneca, Russia's Gamaleya Research Institute and America's Johnson & Johnson, Moderna and Pfizer, the last of which had teamed up with the German company BioNTech.

The wrinkle was that Sinovac's two-shot ***vaccine*** had an efficacy rate of about 50 percent, according to clinical trials. That was substantially lower than the European and American ***vaccines***, in particular the shots from Pfizer-BioNTech and Moderna. Those prevented about 90 percent of infections, according to the Centers for Disease Control and Prevention.

Yet Dad was firm. Years of a deteriorating relationship between ***China*** and the United States, including a trade war, had made him skeptical of American superpower. A proponent of a strong, united ***China***, he was proud of the country's rise in recent decades. "I'm patriotic," he said about the ***vaccine*** choice.

China and other countries have nurtured such ***vaccine*** patriotism. Last month, Beijing promised expedited visa processing to foreigners inoculated with Chinese-made ***vaccines***. Britain has also wrapped the Union Jack around the AstraZeneca ***vaccine***, which was developed with researchers at Oxford University, said Claire Wardle, the U.S. director of First Draft, a nonprofit focused on global misinformation.

My sisters and I were simply relieved that Dad and Mom would take a ***vaccine***. Get whatever you can, we told them, because any ***vaccine*** was better than none.

Ultimately, the matter of which one they could get was dictated not by nationalism but by supply. In late February, Hong Kong got its first ***vaccine*** shipments: one million doses of Sinovac. (Hong Kong would later receive 585,000 doses of the BioNTech ***vaccine*** via a Chinese company, Fosun.)

On Feb. 22, Mom texted that she and Dad had booked a March 11 appointment to get their first shots, followed by second doses in April. A day later, she reported that Dad hadn't pressed the button to confirm the appointment on the online booking system and had lost the slots.

The next week, they texted again: They had walked to a private clinic that was dispensing Sinovac shots. After a short wait, they received the ***vaccine***. On April 2, they told us that they had gotten their second dose of Sinovac and were feeling fine. Mom groused that even though they had an appointment, they "still need to wait for half an hour."

Our responses were more enthusiastic.

"Great news," I wrote.

"Yay!" Pui-Ying texted, followed by celebratory emojis.

"Congrats!" Pui Ling said.

Blantyre, Malawi

Pui-Ying had moved with her family to Malawi in 2016 to work as a doctor and conduct clinical research on children's health. Resources at the Queen Elizabeth Central Hospital, where she works, were limited. When Madonna's charity helped finance the construction of a new children's wing at the hospital, which opened in 2017, it was big news.

Staffing was tight even before the ***coronavirus***, Pui-Ying said. When the pandemic came, the hospital decided on a one-week-on, one-week-off routine to reduce staff exposure to ***Covid-19*** while ensuring that enough medical professionals would be working at all times. Masks, gloves and other protective equipment were scarce.

In pediatrics, Pui-Ying and her colleagues set up a "respiratory zone" for children with ***Covid-19***. It was essentially a two-room ward, with about a dozen beds in the main room. The second room, which was an isolation unit, had space for four children.

For a while, Malawi kept the ***coronavirus*** under control. But in December, the country was crushed by a second wave of ***Covid-19***, which may have been supercharged by a South African variant.

Positivity rates for ***Covid-19*** soared at one point to 40 percent, said Dr. Queen Dube, who was head of pediatrics at Queen Elizabeth Central Hospital and recently was appointed chief of health services at Malawi's Ministry of

Health. (By comparison, the peak positivity rate in the United States was around 22 percent last April, according to Johns Hopkins University.)

The number of adult Covid patients at Pui-Ying's hospital tripled to 106; it had to open two additional wards, Dr. Dube said.

"I don't remember in my career such a ravaging disease," Dr. Dube said. "We lost colleagues. We lost close friends."

Fortunately, Pui-Ying only glimpsed the worst. The isolation room for children never had more than three patients, she said.

Britain, the United States and other wealthy countries began ramping up campaigns to immunize their populations -- something that was possible because they had spent billions of dollars last year placing advance orders for hundreds of millions of doses. Malawi did not have a single dose of a ***vaccine***. The CNN report about the country's lack of ***vaccines***, which aired on Feb. 8, was forwarded throughout the medical community there.

"I don't think we knew what to expect with ***vaccines***," Pui-Ying said after she posted the video in our family WhatsApp group. "We just knew we wouldn't be able to afford them."

In early March, after an application from Malawi's government, the ***vaccine***-sharing initiative Covax sent 360,000 doses of the AstraZeneca ***vaccine***. When the shipment arrived at the airport in Malawi's capital, Lilongwe, health workers there were photographed flashing celebratory V-signs.

The bad news was that the shipment covered less than 2 percent of the population.

Dr. Dube said she hoped for 960,000 more doses soon. The goal was to be able to vaccinate 60 percent of the country by the end of next year. By contrast, the United States is inoculating more than three million people a day, and all adults who want a ***vaccine*** will be able to get one by this summer.

In the meantime, what doses there were had been earmarked for high-risk groups. Pui-Ying, who was eligible, said she was elated. Based on what she had read in the media, she hoped she would get a shot within days.

San Francisco

As Pui-Ying waited to hear about a ***vaccine***, the situation in California brightened.

The rollouts of the Moderna and Pfizer-BioNTech ***vaccines***, which the U.S. Food and Drug Administration authorized for emergency use in December, were rocky. Federal, state and local officials had underestimated the challenges of a mass-***vaccination*** campaign. Supplies were tight, yet thawed ***vaccines*** sometimes had to be discarded.

Slowly, though, the situation improved. In February, as segments of the general population became eligible for ***vaccines***, ballparks and conference centers -- such as the Coliseum stadium in Oakland and the giant Moscone Center in San Francisco -- were transformed into efficient ***vaccination*** hubs. Most important, supplies were becoming abundant.

As of April 1, more than 18.4 million ***vaccine*** doses had been administered in California, up from 3.5 million two months earlier. Gov. Gavin Newsom declared that everyone 16 and older would be eligible for the ***vaccines*** on April 15.

Even with the occasional hiccup, California's situation mirrored the country's, said Dr. Bob Wachter, chairman of the department of medicine at the University of California, San Francisco. He called it a "true triumph of science and

policy." The United States has commitments from manufacturers for enough doses to cover 400 million people, about 70 million more than its total population.

Even so, ***Covid-19*** continues to spread. In early March, my husband's aunt and uncle, both in their 70s and living in Queens, N.Y., died from ***Covid-19***. The disease has killed more than 550,000 Americans.

As more ***vaccines*** became available in California, colleagues and friends urged one another to make appointments or seek leftovers, sending spreadsheets of various inoculation sites. I signed up for a slot.

On the evening of March 10, I got one of the last Pfizer-BioNTech shots of the day at a Walgreens. A bored pharmacist injected me with the ***vaccine*** in a screened-off area of the dimly lit drugstore. It was strangely anticlimactic. But after a year of lockdowns, it was also a great relief.

I texted the good news to Mom and Dad, using many exclamation marks. They were pleased and immediately quizzed me on whether I felt any side effects. (I didn't, apart from a slightly sore shoulder.) I called Pui Ling and prodded her to try to get a shot. She said she would wait, knowing her turn would come before long.

A few days later, Mom forwarded a photo to our family WhatsApp group. It was of Pui-Ying, mask on and with a sleeve of her T-shirt pushed up. She was getting an AstraZeneca shot outside Queen Elizabeth Central Hospital. Malawi had started vaccinating people on March 11, when a live broadcast showed top officials being immunized. Pui-Ying got hers five days later.

I had gotten the ***vaccine*** six days before my sister, the frontline doctor.

In a phone call, I mentioned to Pui-Ying that it looked like she was smiling underneath her mask when she got the ***vaccine***. "I was!" she said.

I asked when her second dose was.

"May," she said.

I got mine on Wednesday.

*https://www.nytimes.com/2021/04/10/health/**coronavirus**-**vaccine**s-global-journey.html*

Graphic

PHOTOS: Dr. Pui-Ying Tam at the Queen Elizabeth Central Hospital in Blantyre, Malawi, center row, far right, and outside the hospital's makeshift ***Covid-19*** wards, top, far right. Center row, near right, Dr. Tam receiving her first shot of the AstraZeneca ***vaccine*** last month in Malawi. (PHOTOGRAPHS BY THOKO CHIKONDI FOR THE NEW YORK TIMES

PUI-YING TAM)

Top, the parents of Pui-Wing Tam, the writer of this article, in Hong Kong

they were initially reluctant to be vaccinated, but their thinking evolved. Above, Pui-Wing Tam, right, and her sister Pui Ling Tam in Emeryville, Calif. By April, more than 18.4 million doses had been administered in the state. (PHOTOGRAPHS BY LAM YIK FEI FOR THE NEW YORK TIMES

CAYCE CLIFFORD FOR THE NEW YORK TIMES) (BU8)

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Industry: ***vaccineS*** (95%); ***VACCINATION*** & IMMUNIZATION (90%); ***COVID-19 CORONAVIRUS vaccine*** (89%); DRUG AVAILABILITY (78%); DRUG SAFETY (78%); DRUG EFFICACY (77%); HEALTH CARE (76%); PHYSICIANS & SURGEONS (76%); HEALTH CARE PROFESSIONALS (73%); HEALTH DEPARTMENTS (73%)

Geographic: SAN FRANCISCO, CA, USA (79%); CALIFORNIA, USA (79%); MALAWI (94%); AFRICA (79%); EASTERN AFRICA (79%); HONG KONG (79%); UNITED STATES (79%)

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109 *Paraguay Covid Crisis Gives China Leverage*

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Byline: By Ernesto Londoño

Body

Paraguay desperately needs ***Covid-19*** ***vaccines***, which ***China*** could supply. That has led the South American nation to reconsider its relationship with Taiwan, which precludes it from dealing with Beijing.

RIO DE JANEIRO -- Taiwan has built thousands of homes for the poor in Paraguay, upgraded the country's health care system, awarded hundreds of scholarships and even helped fund the futuristic Congress building in the capital, spending generously over decades to nurture their diplomatic ties.

But the alliance, which makes Paraguay one of only 15 nations to have full diplomatic relations with Taiwan, and the only one in South America, is facing an existential threat as Paraguay's quest for ***vaccines*** becomes increasingly desperate.

With its health care system buckling as ***Covid-19*** cases soar, Paraguayan officials across the political spectrum say the time has come to consider dumping Taiwan, which doesn't export ***vaccines***, in order to establish diplomatic ties with ***China***, which does.

"This is really a life and death situation," said Pepe Zhang, an associate director at the Atlantic Council who specializes in relations between Latin America and ***China***. "In this very acute phase of the pandemic, less resourceful countries like Paraguay are asking where they're going to get the ***vaccine***."

Mr. Zhang and a growing number of Paraguayans have come to see ***China*** as the most likely path to getting the ***vaccines*** they need -- at least in the short run.

Western pharmaceutical companies have prioritized shipments to wealthy nations that placed orders early, leaving Latin America to rely predominantly on Chinese ***vaccines*** to blunt an epidemic that has left a brutal toll.

That has given Beijing considerable leverage in a region where it has a broad constellation of investments and projects. Suddenly, wresting Paraguay from Taiwan's orbit -- which would advance Beijing's goal of politically isolating an island it regards as its territory -- appears within reach.

Euclides Acevedo, Paraguay's foreign minister, said recently that Beijing has made it clear it is interested in establishing ties with Paraguay. He has dangled that prospect of making the diplomatic switch as he has sought to pressure Taiwan and its ally, the United States, to get ***vaccines*** to Paraguay quickly.

"What good is a fraternal embrace that leaves us in a state of respiratory failure," Mr. Acevedo said late last month in an interview on the television network Telefuturo. "I think our strategic allies, including the United States and Taiwan, must respond."

Beijing's one-***China*** principle forces countries to choose between having full diplomatic relations with Beijing or Taipei. Three countries in Latin America blindsided and angered the United States government in recent years by abruptly severing ties with Taiwan following secret negotiations with Beijing.

The switch by those nations -- Panama, the Dominican Republic and El Salvador -- came with promises of growing trade with Beijing and has made them early recipients of Chinese ***vaccines***.

Mr. Acevedo said Paraguay should explore what it would gain by doing the same.

"President Xi Jinping has keen interest in partnering with us," he said. "It's a political debate that should draw input from all segments of the state and all of society."

Yet, it's not clear that Paraguay has taken formal steps toward exploring a flip.

Charles Andrew Tang, who heads the ***China***-Paraguay Chamber of Commerce, said he advised officials at the health ministry earlier this year on the paperwork they would need to fill out to request purchasing Chinese ***vaccines***.

Mr. Tang, who is seen in Paraguay as a key interlocutor with the Chinese government, said it is conceivable that Chinese ***vaccine*** manufacturers would sell ***vaccines*** to Paraguay even without formal diplomatic relations. But he said the onus was on officials in Paraguay to make the first move.

"If the Paraguayan government would like to speak to ***China***, they can speak to ***China***," he said. "It's very simple. ***China*** is there, not pressuring Paraguay, not threatening Paraguay."

Officials in Taiwan recently accused ***China*** of using "***vaccine*** diplomacy" to pressure Paraguay to sever ties with Taipei. ***China***'s foreign ministry spokesman, Zhao Lijian, said ***China*** was doing nothing of the sort, calling its ***vaccine*** deals "completely aboveboard" and humanitarian minded.

"The virus can spread across borders, but mankind's love also transcends borders," he told reporters.

This week ***China***'s main ***Covid-19*** ***vaccine*** manufacturer, Sinovac, made a gesture that is certain to fuel speculation about Beijing's plans in Paraguay. The South American soccer federation Conmebol, which is based in Paraguay, announced it was receiving a donation of 50,000 doses of CoronaVac, the ***Covid-19*** ***vaccine*** produced by Beijing-based Sinovac.

"The leaders of this company have understood the enormous social and cultural value of soccer in South American countries," the federation's president, Alejandro Domínguez, said in a statement, calling the donation a "noble gesture."

Despite all these signals, Taiwan's position in Paraguay may be safer than it appears, said Lee McClenny, who served as the U.S. ambassador in Paraguay until last September. While cabinet members and businessmen have pressured President Mario Abdo Benítez to forge ties with ***China***, the Chinese government didn't show much interest in getting Paraguay to flip, he said.

"On the ground I didn't see very effective efforts to make this happen," Mr. McClenny said.

Besides, Mr. McClenny added, the Paraguayan president takes a special pride in the relationship with Taiwan, which was brokered in the 1950s by his late father, who served as the personal secretary to Alfredo Stroessner, the

dictator who ran the country for 35 years. And Taiwanese aid has made a major impact in the landlocked, impoverished nation.

"It's effective and benefits people's lives in real ways," Mr. McClenny said about Taiwan's assistance.

The Biden administration has signaled its unease about the prospect that Paraguay could cut a deal with ***China***. In a phone call with Mr. Abdo Benítez last month, Secretary of State Antony J. Blinken urged the Paraguay government to continue to "work with democratic and global partners, including Taiwan, to overcome this global pandemic," according to a summary of the call provided by the State Department.

That message rankles opposition lawmakers, including the leftist Senator Esperanza Martínez, who served as health minister from 2008 to 2012. Ms. Martínez has long favored establishing relations with ***China***, arguing that Paraguay stands to benefit in the long run by expanding trade. She said Washington's exhortation was immoral.

"We're being loyal to people who impose rules on us while we die," she said. "Our allies are vaccinating people morning, afternoon and night while they block us from getting ***vaccines***, saying we'll turn into communists."

Ernesto Londoño reported from Rio de Janeiro. Santi Carneri contributed reporting from Asunción, Amy Qin contributed reporting from Taipei, Taiwan and Sui-Lee Wee contributed reporting from Singapore.

*https://www.nytimes.com/2021/04/16/world/americas/paraguay-**china**-**vaccine**-diplomacy.html*

Graphic

PHOTOS: In Barrio Obrero, Paraguay, there is a statue of Chiang Kai-shek, who led the Chinese Nationalist government of Taiwan, as well as an avenue named for him.

Shangrila, the largest Taiwanese restaurant in Asunción, Paraguay's capital, is owned by a longtime Taiwanese resident, Benny Lee.

Among Taiwan's financial contributions to Paraguay was money to help build the Congress building in Asunción. (PHOTOGRAPHS BY SANTI CARNERI FOR THE NEW YORK TIMES)

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Industry: ***vaccineS*** (93%); ***COVID-19 CORONAVIRUS vaccine*** (90%); PHARMACEUTICALS INDUSTRY (78%); PHARMACEUTICALS & BIOTECHNOLOGY (73%); PHARMACEUTICAL PREPARATION MFG (50%)

Geographic: BEIJING, ***CHINA*** (94%); TAIPEI, TAIWAN (79%); NORTH CENTRAL ***CHINA*** (91%); PARAGUAY (99%); TAIWAN (97%); ***CHINA*** (95%); LATIN AMERICA (93%); UNITED STATES (93%); SOUTH AMERICA (92%); BRAZIL (79%); DOMINICAN REPUBLIC (79%); EL SALVADOR (79%)

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110 China's Gain Is Hardly Felt by the People

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Body

The world's traditional growth engine reported an 18.3 percent leap in the first quarter. But consumers and small business aren't fully sharing in the spoils.

Factories are whirring, new apartments are being snapped up, and more jobs are up for grabs. When ***China*** released its new economic figures on Friday, they showed a remarkable postpandemic surge.

The question is whether small businesses and Chinese consumers can fully share in the good times.

China reported on Friday that its economy grew by a jaw-dropping 18.3 percent in the first three months of the year compared with the same period last year. While the figure is steep, it is as much a reflection of the past -- the country's output shrank 6.8 percent in the first quarter of 2020 from a year earlier -- as it is an indication of how ***China*** is doing now.

A year ago, entire cities were shut down, planes were grounded and highways were blocked to control the spread of a relentless virus. Today, global demand for computer screens and video consoles that ***China*** makes is soaring as people work from home and as a pandemic recovery beckons. That demand has continued as Americans with stimulus checks look to spend money on patio furniture, electronics and other goods made in Chinese factories.

China's recovery has also been powered by big infrastructure. Cranes dot city skylines. Construction projects for highways and railroads have provided short-term jobs. Property sales have also helped strengthen economic activity.

But exports and property investment can carry ***China***'s growth only so far. Now ***China*** is trying to get its consumers to return to their prepandemic ways, something that other countries will soon have to grapple with once more ***vaccines*** become available.

Demand for Chinese exports is expected to weaken later in the year. Policymakers have moved to tamp down overheating in the property market and in the corporate sector, where some firms have borrowed beyond their means. Many economists are looking for signs of a broader recovery that relies less on exports and the government and more on Chinese consumers to juice growth.

A slow ***vaccination*** rollout and fresh memories of lockdowns have left many consumers in the country skittish. Restaurants are still struggling to bounce back. Waiters, shopkeepers and students are not ready yet for the

"revenge spending" that economists hope will power growth. When virus outbreaks occur, the Chinese authorities are quick to put new lockdowns in place, hurting small businesses and their customers.

To avoid a wave of outbreaks in February, the authorities canceled the travel plans of millions of migrant workers for the Lunar New Year holiday, the biggest holiday in ***China***.

"***China***'s Covid strategy has been to crush it when it reappears, but there seems to be a lot of voluntary social distancing, and that's affecting services," said Shaun Roache, chief economist for Asia Pacific at S&P Global. "It's holding back normalization."

Wu Zhen runs a family business of 13 restaurants and dozens of banquet halls in Yingtan, a city in ***China***'s southeastern Jiangxi Province. When ***China*** began to bounce back last year, more people started going to her restaurants for their favorite dishes, like braised pork. But just as she and her employees began preparing for the Lunar New Year, a new ***Covid-19*** outbreak prompted the authorities to limit the number of people allowed to gather in one place to 50.

"It should have been the best time of the year for our business," said Ms. Wu, 33.

This year, Ms. Wu decided that closing the entire business over the holiday would be cheaper. "If we want to serve Lunar New Year's Eve dinner, the labor wage for one day is three times higher than the usual time. We save more money by just closing the doors and the business," she said. It will be the second year in a row that the restaurants shut their doors over the holiday.

Ms. Wu inherited the business from her father two years ago and employs more than 800 people. Before the pandemic, three-quarters of the business revenue came from big banquets for weddings and family reunions. She said business had yet to return to normal after months of crushing virus restrictions.

The setbacks facing small-business owners like Ms. Wu are also affecting regular consumers who are jittery about opening their wallets. According to Zhaopin, ***China***'s biggest job recruitment platform, more jobs in hotels and restaurants, entertainment services and real estate are available than a year ago. But households are still being cautious about spending.

Families continue to save at a higher rate than they did before the pandemic, something that worries economists like Louis Kuijs, who is head of Asian economics at Oxford Economics. Mr. Kuijs is looking at household savings as an indication of whether Chinese consumers are ready to start splurging after months of being stuck at home.

"More people still seem to not go all the way in terms of carefree spending," he said. "At times there are still some lingering Covid concerns, but there is perhaps also a concern about the general economic situation."

Many families took on more debt last year to buy property and cover expenses during the pandemic. ***China*** still largely lacks the kind of social safety net that many wealthy countries provide, and some families have to dip into savings for health care and other big costs.

Unlike much of the developed world, ***China*** doesn't subsidize its consumers. Instead of handing out checks to jump-start the economy last year, ***China*** ordered state-owned banks to lend to businesses and offered tax rebates.

Travel restrictions over the Chinese Lunar New Year holiday dampened consumer appetite and slowed the momentum of Chinese shoppers. But retail data on Friday showed that March sales were better than expected, raising hopes that consumers like Li Jinqiu, 25, might begin to feel more confident in the coming months.

For now, Mr. Li, who is recently married and has a baby at home, is still choosing to save instead of spend. He had planned to work for the family business, but it has been hit by the pandemic and he doesn't think there is much opportunity for him if he stays.

"The whole family has some sense of crisis," Mr. Li said. "Because of the pandemic and because of family business, I have a sense of crisis."

Mr. Li said he had received a job offer in sales at a financial firm in Beijing but had delayed the start date to help take care of his newborn. He said he had once borrowed to spend on items like his $150,000 Mercedes. Now he drives a $46,000 electric car and has put off buying new clothes.

"When I spend," he said, "I am more cautious."

*https://www.nytimes.com/2021/04/15/business/economy/**china**-economy.html*

Graphic

PHOTOS: Outside a Gucci shop in Beijing. ***China*** is trying to get skittish consumers to return to their prepandemic spending, which would juice the economy (PHOTOGRAPH BY NICOLAS ASFOURI/AGENCE FRANCE-PRESSE -- GETTY IMAGES) (B1)

From left: A worker producing engineering equipment for export at a factory in Nantong in Jiangsu Province

the port container terminal in Lianyungang, a city in Jiangsu Province. Global demand for goods produced in ***China*** is soaring, but the appetite for such exports is expected to weaken later in the year. (PHOTOGRAPHS BY AGENCE FRANCE-PRESSE -- GETTY IMAGES

HECTOR RETAMAL/AGENCE FRANCE-PRESSE -- GETTY IMAGES) (B3)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: CONSUMERS (90%); MANUFACTURING FACILITIES (90%); SMALL BUSINESS (90%); ECONOMIC CONDITIONS (89%); ECONOMICS (89%); ECONOMY & ECONOMIC INDICATORS (89%); REAL ESTATE MARKET (87%); BUSINESS NEWS (78%); CHINESE NEW YEAR (78%); COMPANY ACTIVITIES & MANAGEMENT (78%); ECONOMIC GROWTH (78%); HOUSING MARKET (78%); OUTPUT & DEMAND (78%); STATISTICS (78%); PUBLIC POLICY (77%); ***vaccineS*** (74%); HOLIDAYS & OBSERVANCES (73%); HOME BASED EMPLOYMENT (73%); COMMUNICABLE DISEASE CONTROL (72%); ***COVID CORONAVIRUS*** (72%); EPIDEMICS (72%); MIGRANT WORKERS (72%); PANDEMICS (72%); SOCIAL DISTANCING (72%); TEMPORARY EMPLOYMENT (72%); ***VACCINATION*** & IMMUNIZATION (72%); VIRUSES (72%); TELECOMMUTING (71%); RETAIL WORKERS (66%)

Industry: MANUFACTURING FACILITIES (90%); REAL ESTATE (90%); REAL ESTATE MARKET (87%); HOUSING MARKET (78%); CONSTRUCTION (77%); REAL ESTATE INVESTING (77%); ***vaccineS*** (74%); RETAILERS (73%); ***VACCINATION*** & IMMUNIZATION (72%); RESTAURANTS (60%)

Geographic: ***CHINA*** (97%); UNITED STATES (79%)

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111 *Around The World*

The New York Times

April 21, 2021 Wednesday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 5

Length: 635 words

Body

France

First ***vaccine*** Passport In Europe Takes Shape

France is introducing one of Europe's first ***Covid-19*** ***vaccine*** passport initiatives, the authorities said this week, as countries across the continent seek to facilitate travel by the summer.

The initiative will at first be for use on domestic flights to Corsica and then on longer ones to France's overseas territories, the government said in a statement on Monday. The goal is to make the digital certificates applicable to travel to other countries.

Starting this week, people in France can get a digitally certified record of ***coronavirus*** test results, either by downloading and printing a certificate or by adding it to a smartphone app that the authorities have used for contact tracing. It will be expanded to include proof of ***vaccination*** starting on April 29.

The information -- such as the type of test or ***vaccine***, along with the date it was administered and by whom -- will be digitally recorded with a kind of QR code that France uses to certify official documents and that the police, customs officers, airlines and others will be able to quickly scan.

"This method therefore avoids possible fraud related to the presentation of fake test results," the government said in the statement.

China

Researchers Test Safety Of Mixing Two ***vaccines***

Amid questions over the effectiveness of Chinese-made ***coronavirus*** ***vaccines***, researchers in ***China*** are testing the safety and efficacy of mixing two different ***Covid-19*** shots.

The trial, which includes 120 healthy participants over age 18, involves giving one dose of a ***vaccine*** developed by CanSinoBIO followed weeks later by a shot of a ***vaccine*** made by Anhui Zhifei Longcom Biopharmaceutical, according to a trial registration this month. These are two of the five ***vaccines*** in use in ***China***.

With more and more ***vaccines*** being authorized around the world, researchers have begun testing the efficacy of mixing shots from different ***vaccine*** makers. Some shots are being mixed in clinical trials, while others are being tested on animals.

A senior Chinese official said this month that it might be necessary to administer ***China***'s ***vaccines*** in greater doses or to use them together with other ***vaccines*** because of their lower effectiveness. The official, Gao Fu, later said his comments had been misunderstood.

The details of the trial were filed to ClinicalTrials.gov, a website under the U.S. National Institutes of Health, and were earlier reported by Reuters.

CAMBODIA

Fears Grow That Cluster Sprials Into a 'Tragedy'

For more than a year, Cambodia managed to escape the brunt of the ***coronavirus***. Then, the government says, came the quarantine evaders.

In late February, four Chinese nationals who were undergoing mandatory quarantine at a luxury hotel in Phnom Penh, the Cambodian capital, bribed a security guard to let them leave before the end of their two-week stay, according to Prime Minister Hun Sen. Two of the four later tested positive for the ***coronavirus***.

The cluster, tied to the more contagious B.1.1.7 variant that was first detected in Britain, quickly spread to about 30 more Chinese nationals in Cambodia and then radiated out into the community. On Monday, the Cambodian health authorities reported a record 624 new confirmed infections, with almost 6,500 people infected since the outbreak began on Feb. 20. The death toll stood at 45, all recorded this year.

The World Health Organization representative in Cambodia has said that the outbreak could spiral into a "national tragedy," given the country's poor health care services.

In an effort to contain it, Phnom Penh began a two-week lockdown on Thursday that bars people from leaving their homes except for work, grocery shopping and medical treatment. The lockdown began during Khmer New Year, Cambodia's biggest holiday.

https://www.nytimes.com/2021/04/20/reader-center/20virus-briefs-printonly.html

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: ***vaccineS*** (97%); ***vaccine*** CERTIFICATIONS & PASSPORTS (92%); ***COVID-19 CORONAVIRUS*** (91%); ***COVID CORONAVIRUS*** (90%); ***COVID-19 CORONAVIRUS vaccine*** (90%); INFECTIOUS DISEASE (90%); PASSPORTS & VISAS (90%); CORONAVIRUSES (89%); VIRUSES (89%); COMMUNICABLE DISEASE CONTROL (78%); DISEASE CONTACT TRACING (78%); DRUG SAFETY (78%); ***VACCINATION*** & IMMUNIZATION (78%); NEGATIVE PERSONAL NEWS (76%); CLINICAL TRIALS (73%); HEALTH DEPARTMENTS (73%); CRIME, LAW ENFORCEMENT & CORRECTIONS (72%); LAW ENFORCEMENT (72%); HEADS OF STATE & GOVERNMENT (71%); PRIME MINISTERS (71%); RESEARCH INSTITUTES (70%); ANIMAL EXPERIMENTS (65%); EXCISE & CUSTOMS (52%)

Industry: ***vaccineS*** (97%); ***vaccine*** CERTIFICATIONS & PASSPORTS (92%); ***COVID-19 CORONAVIRUS***

vaccine (90%); PASSPORTS & VISAS (90%); DRUG EFFICACY (89%); BIOLOGICS MFG (78%); DRUG SAFETY (78%); PHARMACEUTICALS & BIOTECHNOLOGY (78%); PHARMACEUTICALS PRODUCT DEVELOPMENT (78%); ***VACCINATION*** & IMMUNIZATION (78%); DIGITAL SIGNATURES (76%); BIOPHARMACEUTICALS (73%); CLINICAL TRIALS (73%); HEALTH DEPARTMENTS (73%); HOTELS & MOTELS (72%); ONLINE SECURITY & PRIVACY (71%); MOBILE APPLICATIONS (69%)

Person: HUN SEN (79%)

Geographic: PHNOM PENH, CAMBODIA (66%); ANHUI, ***CHINA*** (79%); CORSE, FRANCE (79%); EAST ***CHINA*** (79%); ***CHINA*** (95%); CAMBODIA (94%); FRANCE (93%); EUROPE (92%)

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End of Document

112 *Athletes and Officials to Be Offered vaccines*

The New York Times

May 7, 2021 Friday

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Byline: By Victor Mather and Andrew Keh

Body

Olympic officials announced deals to provide ***vaccine*** doses to visitors before they travel to Japan, the latest effort to ease the fears of a skeptical Japanese public.

The International Olympic Committee said Thursday that it had struck deals with two companies for ***coronavirus vaccine*** doses that will allow a significant proportion of athletes and officials traveling to the Olympic and Paralympic Games in Tokyo this summer the opportunity to be vaccinated before they arrive in Japan.

The committee announced the agreements with the companies, Pfizer and BioNTech, to distribute donated doses of the ***vaccine*** to Games participants in their home countries, where they would be administered by local officials and through domestic ***vaccination*** programs.

The effort is the latest attempt by Olympic officials and Japanese organizers to assuage the concerns of a skeptical Japanese public, which has consistently told pollsters that it does not want the Games to take place during the pandemic. Only about 1 percent of the Japanese population is fully vaccinated, and several areas, including Tokyo, are under restrictions that have shuttered restaurants, bars and nonessential businesses.

"The more athletes who are vaccinated at the Games, the safer it's going to be for athletes, officials, the Japanese community and also our respective communities when we come back home," said Rosie MacLennan, a Canadian trampolinist who won gold medals at the previous two Summer Olympics. "I felt a fair bit of relief when I read the news."

Despite the new program, and an earlier announcement that the I.O.C. would buy doses of a Chinese ***vaccine*** and distribute them, there is still no requirement that athletes, coaches, officials or others attending the Games be vaccinated before coming to Japan.

In fact, organizers have indicated that the Games will proceed as if ***vaccines*** have not been made available to athletes, focusing instead on countermeasures like testing, masks and so-called bubbles in an attempt to create a safe environment for competition. Vaccinated athletes will enjoy no special privileges, the I.O.C. has said.

Still, with more than 11,000 athletes from more than 200 countries -- all currently at different stages of their national ***vaccination*** campaigns -- expected to travel to Tokyo in July and August for the Games, officials have acknowledged that widespread ***vaccination*** among its athletes would be one of the most effective ways to prevent the Olympics from becoming a superspreader event.

The I.O.C.'s news release pointedly said that the ***vaccination*** plan was developed "not only to contribute to the safe environment of the Games, but also out of respect for the residents of Japan."

A statement from Thomas Bach, the I.O.C. president, reinforced the expression of concern.

"This donation of the ***vaccine*** is another tool in our toolbox of measures to help make the Olympic and Paralympic Games Tokyo 2020 safe and secure for all participants, and to show solidarity with our gracious Japanese hosts," the statement said.

In March, ***China*** agreed to provide ***vaccines*** for Olympic participants. But ***China***'s ***vaccines*** are still not approved in many countries, and several -- including Japan -- said they would not accept the offer for its Olympians.

Bach acknowledged that accepting the ***vaccine*** would still be voluntary, even as he urged competitors to take part. "We are inviting the athletes and participating delegations of the upcoming Olympic and Paralympic Games to lead by example and accept the ***vaccine*** where and when possible," he said.

Jonathan Finnoff, chief medical officer for the U.S. Olympic and Paralympic Committee, said the ***vaccine*** donation agreement could have a significant effect worldwide, particularly for athletes in countries where ***vaccination*** campaigns have barely gotten off the ground.

"While the ***vaccines*** are available here in the U.S., around the world they aren't," he said, "and many, many teams have no access to ***vaccines***."

Aside from issues of access, Olympic and national officials are also working on education campaigns for athletes who might hesitate to be vaccinated.

In this regard, Finnoff said, the American athletes are comparable to the general population.

On one hand, he said, there are those who take the virus seriously and want to get the ***vaccine***. "And then there other people who don't believe that the virus exists and that it's a global conspiracy and that the ***vaccine*** is a tracking device," he said.

He added: "We're doing our best to bring in medical experts to provide scientifically based information to our athletes so they can make an educated decision about what's right for them."

Finnoff said it was difficult to assess ***vaccination*** numbers among American athletes because the U.S.O.P.C. considers each individual's medical information confidential. But he said that, anecdotally, he knew many athletes who were getting vaccinated.

Before Thursday's announcement, the International Paralympic Committee had estimated that roughly 60 percent of national Paralympic squads would be vaccinated in time for the Games, according to Andrew Parsons, the organization's president. Parsons said in a statement Thursday that the donations could help improve that figure.

Tension has lingered around the question of whether Olympians and professional athletes should be prioritized while so many communities around the world remain in dire need of ***vaccinations***.

MacLennan, who has not been vaccinated because she is not yet eligible in Ontario, where she lives, said she understood why people objected to athletes' getting preferential access to ***vaccines***.

"My view is strictly from an Olympic and athletic perspective," said MacLennan, who was recently named chair of the Canadian Olympic Committee's Athletes' Commission, "but if the Games are definitely going forward, then this is a step toward creating a safer environment."

*https://www.nytimes.com/2021/05/06/sports/olympics/tokyo-olympics-**vaccine**.html*

Graphic

PHOTO: Judges at a diving event in Tokyo on Thursday. The International Olympic Committee will offer ***vaccines*** to visiting participants. (PHOTOGRAPH BY BEHROUZ MEHRI/AGENCE FRANCE-PRESSE -- GETTY IMAGES)

Classification

Language: ENGLISH

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Subject: ***vaccineS*** (95%); OLYMPICS (93%); HERBAL MEDICINE (90%); SUMMER OLYMPICS (90%); PARALYMPICS (89%); ***VACCINATION*** & IMMUNIZATION (89%); 2020 TOKYO SUMMER OLYMPICS (79%); GYMNASTICS (79%); OLYMPIC COMMITTEES (79%); SPORTS & RECREATION EVENTS (79%); SPORTS AWARDS (79%); AGREEMENTS (78%); EPIDEMICS (78%); INFECTIOUS DISEASE (78%); PUBLIC HEALTH ADMINISTRATION (78%); PUBLIC OFFICIALS (78%); SPORTS OFFICIATING (78%); COACHES & TRAINERS (73%); VIRUSES (73%); CORONAVIRUSES (72%); POLLS & SURVEYS (70%)

Company: PFIZER INC (58%)

Organization: INTERNATIONAL OLYMPIC COMMITTEE (91%)

Ticker: PFZ (LSE) (58%); PFE (NYSE) (58%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (58%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (58%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (58%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (58%); SIC2834 PHARMACEUTICAL PREPARATIONS (58%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (58%); ***vaccineS*** (95%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); MANUFACTURING (89%); ***VACCINATION*** & IMMUNIZATION (89%); RESTAURANTS (67%)

Geographic: TOKYO, JAPAN (90%); JAPAN (94%)

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113 W.H.O. Gives Chinese vaccine Emergency Approval

The New York Times

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Byline: By Sui-Lee Wee

Body

The World Health Organization has approved a Chinese ***vaccine*** for emergency use. The announcement comes at a time when officials in the country are warning of a domestic shortage.

Developing countries racing for ***coronavirus*** ***vaccines*** now have another dependable option, according to the World Health Organization. And ***China***'s reputation as a rising scientific superpower just got a big boost.

On Friday, the global health agency declared a ***vaccine*** made by a Chinese company, Sinopharm, to be a safe and reliable way to fight the virus. The declaration marks a significant step toward clearing up doubts about the ***vaccine***, after little late-phase clinical trial data was disclosed by the Chinese government and the company.

The W.H.O. emergency use approval allows the Sinopharm ***vaccine*** to be included in Covax, a global initiative to provide free ***vaccines*** to poor countries. The possible inclusion in Covax raises hopes that more people -- especially those in developing nations -- will get access to shots at a crucial moment.

Rich countries are hoarding doses of ***vaccines***. India, a major ***vaccine*** maker, has stopped exports to address its worsening ***coronavirus*** crisis. Safety concerns led health authorities in some countries to temporarily pause the use of ***vaccines*** made by AstraZeneca and Johnson & Johnson.

"The addition of this ***vaccine*** has the potential to rapidly accelerate ***Covid-19*** ***vaccine*** access for countries seeking to protect health workers and populations at risk," Dr. Mariângela Simão, W.H.O. assistant director general for access to health products, said in a statement.

Reliable ***vaccine*** access could improve even further next week when the W.H.O. considers another Chinese shot, made by a company called Sinovac. But the fanfare may be short-lived. While ***China*** has claimed it can make up to five billion doses by the end of this year, Chinese officials say the country is struggling to manufacture enough doses for its own population and are cautioning a pandemic-weary world to keep expectations in check.

"This should be the golden time for ***China*** to practice its ***vaccine*** diplomacy. The problem is, at the same time, ***China*** itself is facing a shortage," said Yanzhong Huang, a senior fellow for global health at the Council on Foreign Relations. "So in terms of global access to ***vaccines***, I don't expect the situation to significantly improve in the coming two to three months."

China's vaccination campaign got off to a slow start, in part because the government prioritized exports and residents did not feel rushed to get vaccinated. The country is now speeding up its national vaccination campaign and aims to inoculate 40 percent of its 1.4 billion people by the end of June.

Sinopharm and Sinovac are producing about 12 million doses a day, just a little over the 10 million doses that China hopes to administer daily to meet the domestic target. The companies would have to produce roughly 500 million additional doses to meet the demands of other countries, according to a calculation of data provided by Bridge Consulting, a Beijing-based consultancy focused on China's impact on global health.

The vaccine shortage in China underscores the complexity of rolling out a mass vaccination campaign for the world's most populous nation while also trying to execute an ambitious export program. Companies involved in the vaccine supply chain, such as those making syringes, are working overtime.

"The whole world is short of this vaccine," said a Sinovac spokesman, Pearson Liu. "The demand is just too great."

To mitigate the shortfall, Chinese officials said those getting vaccinated in China could delay getting their second shot by as long as eight weeks, or they could combine the same type of vaccine from different companies. They have said the shortage should ease by June.

Andrea Taylor, who analyzes global data on vaccines at the Duke Global Health Institute, called the potential addition of two Chinese vaccines into the Covax program a "game changer."

"The situation right now is just so desperate for low and lower middle income countries that any doses we can get out are worth mobilizing," Ms. Taylor said. "Having potentially two options coming from China could really change the landscape of what's possible over the next few months."

China's vaccines have been rolled out to more than 80 countries, but they have faced significant skepticism, in part because the companies have not released Phase 3 clinical trial data for scientists to independently assess the vaccines' efficacy rates. An advisory group to the W.H.O. published the data this week.

The Sinopharm vaccine developed with the Beijing Institute of Biological Products has an efficacy rate of 78.1 percent, according to the W.H.O. advisory group. The Sinovac vaccine has varying efficacy rates of between 50 percent to 84 percent, depending on the country where Phase 3 trials were conducted. Both vaccines were made using a tried-and-tested technology that involves weakening or killing a virus with chemicals.

The advisory group's data showed that it had a "high level of confidence" that the Sinopharm vaccine worked in preventing Covid-19 in adults, but a "low level" of confidence for people over 60. The group's findings were similar for the Sinovac vaccine.

The W.H.O. said that because Sinopharm enrolled few adults above 60 years old in its trials, the health agency could not estimate the vaccine efficacy for this group. But the W.H.O. said it would not restrict the use of the vaccine in that age group because preliminary data suggests "the vaccine is likely to have a protective effect in older persons."

There is limited data on how well the vaccine will work against the many coronavirus variants cropping up around the world. Chinese vaccines are overall less effective than the inoculations produced by Pfizer-BioNTech and Moderna.

But for China's leaders, the W.H.O. approval can still be seen as a badge of honor. Xi Jinping, China's top leader, has pledged to make a Covid-19 vaccine a "global public good."

After India announced export restrictions on vaccines last month, Indonesia and the Philippines said they would turn to China for help. Last week, China's foreign minister offered to help South Asian nations get access to vaccines.

Indonesia said it would get additional doses from Sinovac after President Joko Widodo held talks with Mr. Xi. In a speech the same week, President Rodrigo Duterte of the Philippines said he owed "a debt of gratitude" to China for its vaccines.

It remains to be seen whether the W.H.O. approval will change Beijing's approach to doling out vaccines. China has given only 10 million doses to Covax, though it has independently donated 16.5 million doses and sold 691 million doses to 84 countries, according to Bridge Consulting. Many of the donations were made to developing nations in Africa and Asia.

"They don't like to subsume their generosity in their products under some U.N. brand," said J. Stephen Morrison, director of the global health policy center at the Center for Strategic and International Studies. "They are in a historic phase," he said. "They want the recipients to know that this is China delivering."

Jason Gutierrez contributed reporting. Elsie Chen contributed reporting and research.Jason Gutierrez contributed reporting. Elsie Chen contributed reporting and research.

https://www.nytimes.com/2021/05/07/business/economy/china-sinopharm-vaccine-who.html

Graphic

PHOTO: Getting a shot of the Sinopharm vaccine in Budapest in March. China has cautioned others to keep supply expectations in check. (PHOTOGRAPH BY AKOS STILLER FOR THE NEW YORK TIMES)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: vaccineS (97%); HEALTH DEPARTMENTS (91%); PUBLIC HEALTH ADMINISTRATION (91%); VIRUSES (91%); APPROVALS (90%); ASSOCIATIONS & ORGANIZATIONS (90%); CORONAVIRUSES (90%); COVID-19 CORONAVIRUS (90%); COVID-19 CORONAVIRUS vaccine (90%); DEVELOPING COUNTRIES (90%); DRUG & MEDICAL DEVICES APPROVAL (90%); INFECTIOUS DISEASE (90%); MEDICAL DEVICES (90%); MEDICAL DIAGNOSTICS, SCREENING & TESTING (90%); PUBLIC HEALTH (90%); MANUFACTURING OUTPUT (89%); UNITED NATIONS INSTITUTIONS (89%); VACCINATION & IMMUNIZATION (89%); BIOLOGICS MFG (78%); CLINICAL TRIALS (78%); COVID CORONAVIRUS (78%); DRUG FAST TRACKING (78%); EPIDEMICS (78%); HEALTH CARE PROFESSIONALS (78%); INTERNATIONAL RELATIONS & NATIONAL SECURITY (78%); PANDEMICS (78%); SAFETY, ACCIDENTS & DISASTERS (78%); EMERGING MARKETS (77%); ORTHOPEDICS (77%); DIAGNOSTIC IMAGING (76%); INTERNATIONAL RELATIONS (76%); PROSTHETICS & ORTHOTICS (70%); FOREIGN POLICY (60%); FOREIGN RELATIONS (60%)

Company: JOHNSON & JOHNSON (67%); ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (57%); ASTRAZENECA PLC (55%)

Organization: WORLD HEALTH ORGANIZATION (93%)

Ticker: JNJ (NYSE) (67%); AZN (STO) (55%); AZN (NYSE) (55%); AZN (LSE) (55%)

Industry: NAICS339115 OPHTHALMIC GOODS MANUFACTURING (67%); NAICS339113 SURGICAL APPLIANCE & SUPPLIES MANUFACTURING (67%); NAICS339112 SURGICAL & MEDICAL INSTRUMENT MANUFACTURING (67%); NAICS334510 ELECTROMEDICAL & ELECTROTHERAPEUTIC APPARATUS MANUFACTURING (67%); NAICS325620 TOILET PREPARATION MANUFACTURING (67%); NAICS325611 SOAP & OTHER DETERGENT MANUFACTURING (67%); NAICS325413 IN-VITRO DIAGNOSTIC SUBSTANCE MANUFACTURING (67%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (67%); SIC3851 OPHTHALMIC GOODS (67%); SIC3842 ORTHOPEDIC, PROSTHETIC, & SURGICAL APPLIANCES & SUPPLIES (67%); SIC3841 SURGICAL & MEDICAL INSTRUMENTS & APPARATUS (67%); SIC3829 MEASURING & CONTROLLING DEVICES, NEC (67%); SIC3089 PLASTICS PRODUCTS, NEC (67%); SIC3069 FABRICATED RUBBER PRODUCTS, NEC (67%); SIC2844 PERFUMES, COSMETICS, & OTHER TOILET PREPARATIONS (67%); SIC2841 SOAPS & OTHER DETERGENTS, EXCEPT SPECIALTY CLEANERS (67%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (67%); SIC2835 IN VITRO & IN VIVO DIAGNOSTIC SUBSTANCES (67%); SIC2834 PHARMACEUTICAL PREPARATIONS (67%); SIC2499 WOOD PRODUCTS, NEC (67%); NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (57%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (57%); ***vaccineS*** (97%); PHARMACEUTICALS & BIOTECHNOLOGY (93%); COSMETICS & TOILETRIES (91%); HEALTH DEPARTMENTS (91%); MANUFACTURING (91%); SOAPS & DETERGENTS MFG (91%); TOILETRIES MFG (91%); BIOELECTRONIC MEDICINE (90%); ***COVID-19*** ***CORONAVIRUS*** ***vaccine*** (90%); DRUG & MEDICAL DEVICES APPROVAL (90%); IN VITRO DIAGNOSTICS MFG (90%); MEDICAL DEVICES (90%); OPHTHALMIC GOODS (90%); OPHTHALMIC GOODS MFG (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); SURGICAL & MEDICAL INSTRUMENT MFG (90%); MANUFACTURING OUTPUT (89%); ***VACCINATION*** & IMMUNIZATION (89%); BIOLOGICS MFG (78%); CLINICAL TRIALS (78%); DRUG AVAILABILITY (78%); DRUG FAST TRACKING (78%); HEALTH CARE PROFESSIONALS (78%); COSMETICS (77%); ORTHOPEDICS (77%); RUBBER & SILICONE PRODUCTS (77%); DIAGNOSTIC IMAGING (76%); SOAPS & DETERGENTS (76%); PROSTHETICS & ORTHOTICS (70%); PLASTICS (69%)

Geographic: ***CHINA*** (96%)

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114 Coronavirus Update

The New York Times

May 8, 2021 Saturday

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Section: Section A; Column 0; Foreign Desk; Pg. 4

Length: 1028 words

Byline: By James Barron

Body

A Chinese-made ***coronavirus*** ***vaccine*** took its place in the portfolio available to hard-hit developing nations on Friday: The World Health Organization approved the ***vaccine*** manufactured by the Beijing-based company Sinopharm for emergency use.

The W.H.O.'s declaration that the Sinopharm ***vaccine*** is safe and reliable means that it can be distributed through Covax, the W.H.O.'s global initiative for equitable ***vaccine*** distribution. The announcement could also relieve uncertainty about the Sinopharm product, because scant clinical trial information has been made public. But how many doses will be available is an open question. Officials in ***China*** have hinted that the country is struggling to manufacture enough ***vaccines*** for its domestic market. The world should curb its expectations, they warned.

The W.H.O. decision came as Pfizer and its German partner BioNTech sought full approval in the United States for the ***vaccine*** they developed. It is currently being administered to adults under an emergency use authorization. The companies asked for full approval for use of the ***vaccine*** in people 16 and older, and emergency use for those 12 to 15.

Full approval would allow them to market the ***vaccine*** directly to customers like physicians, who could give shots in their offices.

Separately, the F.D.A. is expected to issue an emergency authorization for the Pfizer-BioNTech ***vaccine*** to be given to 12- to 15-year-olds next week. The companies have said that they plan to file for emergency authorization for 2- to 11-year-olds in September. Moderna officials, whose ***vaccine*** is also authorized for emergency use, said they plan to file for full approval of their ***vaccine*** this month.

Britain's regulatory agency issued guidance on the AstraZeneca ***vaccine***, which is not yet authorized in the United States. It has faced uncertainty amid reports of blood clots in a small number of people who had received the ***vaccine***. The Joint Committee on ***Vaccination*** and Immunization advised that adults under 40 in Britain should be offered an alternative.

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Dr. Nancy Messonnier, who angered the Trump White House in February 2020 by saying that the ***coronavirus*** would disrupt Americans' lives, resigned as director of the division of the Centers for Disease Control and Prevention responsible for managing influenza and other respiratory threats. She told her staff by email that she would joining the Skoll Foundation, a grant-making organization founded by Jeffrey Skoll, the first president of eBay.

Reports have circulated for weeks that Dr. Rochelle P. Walensky, who took over as director of the C.D.C. with the Biden administration, planned to reorganize Dr. Messonnier's division. Asked about Dr. Messonnier's departure, Dr. Walensky praised Dr. Messionnier but said that she had no comment.

Dr. Messonnier had appeared at White House briefings on the pandemic until she said that life would change dramatically as the virus spread. "It's not a question of if this will happen but when this will happen," she said.

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The way out of the pandemic may be slow economically, or at least bumpy. Employers added 266,000 jobs in April, far fewer than economists had expected. "We knew this would not be a 100-day battle," Treasury Secretary Janet Yellen said, adding the country faced a "long-haul climb back to recovery." Hiring in the leisure and hospitality industries picked up last month, but other sectors stalled or lost workers.

The unemployment rate rose to 6.1 percent, its first increase in exactly a year. Taken together, the two statistics indicate that the economy still has a long way to go if it is to climb back to prepandemic levels. But in some places, jobs are going unfilled, and some Republicans are blaming pandemic unemployment assistance for the labor shortages. This week the governors of Montana and South Carolina, both Republicans, announced that next month they would stop paying the $300-a-week federally funded supplement to state benefits. Gov. Henry McMaster of South Carolina said the supplement -- and a similar benefit for freelancers and others who do not qualify for state unemployment insurance -- had evolved into "a dangerous federal entitlement, incentivizing and paying workers to stay at home."

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With 11 weeks to go until the opening ceremonies of the Olympic Games, Japan moved to contain a surge in ***coronavirus*** cases by extending the state of emergency in Tokyo and several other regions. Prime Minister Yoshihide Suga's announcement cast more doubt on whether the Olympics can be held safely in Tokyo, where trains have been jammed with commuters returning from a weeklong national holiday. He said during a meeting of the government's ***coronavirus*** task force that the extension was necessary because infections remained at a "high level, mainly in large cities."

"We are putting all our efforts into stemming the spread of infections," he said after acknowledging that he was "aware" of concerns about the Games.

The emergency declaration is one part health measure and one part political gamble. The emergency measures, which were imposed last month and covered six prefectures that include Tokyo and Osaka, have failed to tamp down Japan's fourth wave of infection. After averaging around 1,000 cases a day at the beginning of March, Japan has reported an average of nearly 6,000 cases this week, and the health care system is fraying. In Osaka, 370 people were being treated for severe cases of ***Covid-19*** on Thursday -- more than the number of hospital beds available for seriously ill patients.

Criticism of Japan's determination to go ahead with the Olympics is rising. Toru Hashimoto, a lawyer and a former governor of Osaka prefecture, said on a television show on Friday that Olympic organizers were ignoring the severity of the outbreak, and that it was inappropriate to continue holding pre-Olympic "test events," even though they are taking place without spectators.

"If the government wants to reduce the number of people in the city, it's not a time when test events can be held," he said.***Coronavirus*** Update wraps up the day's developments with information from across the virus report.

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Company: PFIZER INC (91%); ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (58%); ASTRAZENECA PLC (53%)

Organization: WORLD HEALTH ORGANIZATION (84%); FOOD & DRUG ADMINISTRATION (55%)

Ticker: PFZ (LSE) (91%); PFE (NYSE) (91%); AZN (STO) (53%); AZN (NYSE) (53%); AZN (LSE) (53%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (91%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (91%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (91%); SIC2834 PHARMACEUTICAL PREPARATIONS (91%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (91%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (91%); ***vaccineS*** (94%); PHARMACEUTICALS & BIOTECHNOLOGY (93%); PHARMACEUTICALS INDUSTRY (92%); BIOLOGICS MFG (90%); CHEMICALS (90%); CHEMICALS MFG (90%); CLINICAL TRIALS (90%); DRUG & MEDICAL DEVICES APPROVAL (90%); HEALTH DEPARTMENTS (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); ***VACCINATION*** & IMMUNIZATION (89%); DRUG SAFETY (78%); PHARMACEUTICALS TRADE (78%)

Person: JOE BIDEN (76%); JEFF SKOLL (50%)

Geographic: BEIJING, ***CHINA*** (58%); DISTRICT OF COLUMBIA, USA (79%); NORTH CENTRAL ***CHINA*** (73%); ***CHINA*** (93%); UNITED STATES (93%)

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115 Covid Spike Alarms World's Most Vaccinated Country

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Byline: By Sui-Lee Wee

Body

Seychelles has seen a surge in ***coronavirus*** cases even though much of its population was inoculated with ***China***'s Sinopharm ***vaccine***.

Marie Neige, a call center operator in Seychelles, was eager to be vaccinated. Like the majority of the residents in the tiny island nation, she received ***China***'s Sinopharm ***vaccine*** in March, and expected to be fully protected in a few weeks.

On Sunday, she tested positive for the ***coronavirus***.

"I was shocked," said Ms. Neige, 30, who is isolating at home. She said she had lost her sense of smell and taste and had a slightly sore throat. "The ***vaccine*** was supposed to protect us -- not from the virus, but the symptoms," she said. "I was taking precaution after precaution."

China expected its Sinopharm ***vaccines*** to be the linchpin of the country's ***vaccine*** diplomacy program -- an easily transported dose that would protect not just Chinese citizens but also much of the developing world. In a bid to win good will, ***China*** has donated 13.3 million Sinopharm doses to other countries, according to Bridge Beijing, a consultancy that tracks ***China***'s impact on global health.

Instead, the company, which has made two varieties of ***coronavirus*** ***vaccines***, is facing mounting questions about the inoculations. First, there was the lack of transparency with its late-stage trial data. Now, Seychelles, the world's most vaccinated nation, has had a surge in cases even though much of its population was inoculated with Sinopharm.

For the 56 countries counting on the Sinopharm shot to help them halt the pandemic, the news is a setback.

For months, public health experts had focused on trying to close the access gap between rich and poorer nations. Now, scientists are warning that developing nations that choose to use the Chinese ***vaccines***, with their relatively weaker efficacy rates, could end up lagging behind countries that select ***vaccines*** made by Pfizer-BioNTech and Moderna. That gap could allow the pandemic to continue in countries that have fewer resources to fight it.

"You really need to use high-efficacy ***vaccines*** to get that economic benefit because otherwise they're going to be living with the disease long term," said Raina MacIntyre, who heads the biosecurity program at the Kirby Institute of the University of New South Wales in Sydney, Australia. "The choice of ***vaccine*** matters."

Nowhere have the consequences been clearer than in Seychelles, which relied heavily on a Sinopharm ***vaccine*** to inoculate more than 60 percent of its population. The tiny island nation in the Indian Ocean, northeast of Madagascar and with a population of just over 100,000, is battling a surge of the virus and has had to reimpose a lockdown.

Among the vaccinated population that has had two doses, 57 percent was given Sinopharm, while 43 percent was given AstraZeneca. Thirty-seven percent of new active cases are people who are fully vaccinated, according to the health ministry, which did not say how many people among them had the Sinopharm shot.

"On the surface of it, that's an alarming finding," said Dr. Kim Mulholland, a pediatrician at the Murdoch Children's Research Institute in Melbourne, Australia, who has been involved in the oversight of many ***vaccine*** trials, including those for a ***Covid-19*** ***vaccine***.

Dr. Mulholland said the initial reports from Seychelles correlate to a 50 percent efficacy rate for the ***vaccine***, instead of the 78.1 percent rate that the company has touted.

"We would expect in a country where the great majority of the adult population has been vaccinated with an effective ***vaccine*** to see the disease melt away," he said.

Scientists say breakthrough infections are normal because no ***vaccine*** is 100 percent effective. But the experience in Seychelles stands in stark contrast to Israel, which has the second-highest ***vaccination*** coverage in the world and has managed to beat back the virus. A study has shown that the Pfizer ***vaccine*** that Israel used is 94 percent effective at preventing transmission. On Wednesday, the number of daily new confirmed ***Covid-19*** cases per million people in Seychelles stood at 2,613.38, compared with 5.55 in Israel, according to the World in Data project.

Wavel Ramkalawan, the president of Seychelles, defended the country's ***vaccination*** program, saying the Sinopharm and AstraZeneca ***vaccines*** have "served our population very well." He pointed out that the Sinopharm ***vaccine*** was given to people ages 18 to 60, and in this age group over all, 80 percent of the patients who needed to be hospitalized were not vaccinated.

"People may be infected, but they are not sick. Only a small number are," he told the Seychelles News Agency. "So what is happening is normal."

Sylvestre Radegonde, the minister for foreign affairs and tourism, said the surge in cases in Seychelles happened in part because people had let their guard down, according to the Seychelles News Agency. Sinopharm did not respond to a request for comment.

In a response to an article from The Wall Street Journal on Seychelles, a spokeswoman for ***China***'s foreign ministry blamed Western media for trying to discredit Chinese ***vaccines*** and "harboring the mentality that 'everything involving ***China*** has to be smeared.'"

In a news conference, Kate O'Brien, director of immunizations at the World Health Organization, said the agency was evaluating the surge of infections in Seychelles and called the situation "complicated." Last week, the global health group approved the Sinopharm ***vaccine*** for emergency use, raising hopes of an end to a global supply crunch.

She said that "some of the cases that are being reported are occurring either soon after a single dose or soon after a second dose or between the first and second doses."

According to Ms. O'Brien, the W.H.O. is looking into the strains that are currently circulating in the country, when the cases occurred relative to when somebody received doses and the severity of each case. "Only by doing that kind of evaluation can we make an assessment of whether or not these are ***vaccine*** failures," she said.

But some scientists say it is increasingly clear that the Sinopharm ***vaccine*** does not offer a clear path toward herd immunity, particularly when considering the multiple variants appearing around the world.

Governments using the Sinopharm ***vaccine*** "have to assume a significant failure rate and have to plan accordingly," said John Moore, a ***vaccine*** expert at Cornell University. "You have to alert the public that you will still have a decent chance of getting infected."

Many in Seychelles say the government has not been forthcoming.

"My question is: Why did they push everyone to take it?" said Diana Lucas, a 27-year-old waitress who tested positive on Monday. She said she received her second dose of the Sinopharm ***vaccine*** on Feb. 10.

Emmanuelle Hoareau, 22, a government lawyer, tested positive last Thursday after getting the second dose of the Sinopharm ***vaccine*** in March. "It doesn't make sense," she said. She said the government had failed to give the public enough information about the ***vaccines***.

"They are not explaining to the people about the real situation," she said. "It's a big deal -- a lot of people are getting infected."

Ms. Hoareau's mother, Jacqueline Pillay, is a nurse in a private clinic in Victoria, the capital. She said she believed there was a new variant in Seychelles because of an influx of foreigners who had arrived in recent months. The tourism-dependent country opened its borders on March 25 to most travelers without any quarantine.

"People are very scared now," said Ms. Pillay, 58. "When you give people the right information, then people would not speculate."

Health officials have recently appeared on television to encourage those who have taken only the first dose of the Sinopharm ***vaccine*** to return for the second shot. But Ms. Pillay said she was frustrated that the public health commissioner had not addressed why the ***vaccines*** didn't appear to be working as well as they should.

"I think a lot of people aren't coming back," said Ms. Pillay.

Marietta Labrosse, Elsie Chen and Claire Fu contributed research.Marietta Labrosse, Elsie Chen and Claire Fu contributed research.

https://www.nytimes.com/2021/05/12/business/economy/covid-seychelles-sinopharm.html

Graphic

PHOTO: Victoria, the capital of Seychelles, in February. The tiny island nation, with a population of just over 100,000, is now battling a surge of the ***coronavirus*** and has had to reimpose a lockdown. (PHOTOGRAPH BY Salim Ally/Associated Press FOR THE NEW YORK TIMES)

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Company: ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (90%); PFIZER INC (58%); ASTRAZENECA PLC (52%)

Ticker: PFZ (LSE) (58%); PFE (NYSE) (58%); AZN (STO) (52%); AZN (NYSE) (52%); AZN (LSE) (52%)

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Geographic: BEIJING, ***CHINA*** (78%); SYDNEY, AUSTRALIA (78%); NEW SOUTH WALES, AUSTRALIA (92%); INDIAN OCEAN (79%); NORTH CENTRAL ***CHINA*** (78%); ***CHINA*** (95%); SEYCHELLES (94%); AUSTRALIA (79%); MADAGASCAR (79%)

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116 ***As India's Covid Crisis Rages, Fallout Rains on Neighboring Countries***

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Byline: By Bhadra Sharma, Aanya Wipulasena and Vivian Wang

Body

vaccine shortages, porous borders and fleeing migrant workers have nearby countries fearing that they will share India's fate.

KATHMANDU, Nepal -- Most of Nepal is under lockdown, its hospitals overwhelmed. Bangladesh suspended ***vaccination*** sign-ups after promised supplies were cut off. Sri Lanka's hopes of a tourism-led economic revival have collapsed.

As India battles a horrific surge of the ***coronavirus***, the effects have spilled over to its neighbors. Most nearby countries have sealed their borders. Several that had been counting on Indian-made ***vaccines*** are pleading with ***China*** and Russia instead.

The question is whether that will be enough, in a region that shares many of the risk factors that made India so vulnerable: densely populated cities, heavy air pollution, fragile health care systems and large populations of poor workers who must weigh the threat of the virus against the possibility of starvation.

Though the countries' outbreaks can't all be linked to India, officials across the region have expressed growing dread over how easily their fates could follow that of their neighbor.

"I feel like it's a world war situation," said Dr. Rajan Pandey, a physician in Banke, a Nepali district along the India border, who said he was turning away 30 patients asking for hospital beds every day.

"If lockdown was enforced two weeks ago, borders were closed and migrant workers returning from India were quarantined better, this situation could have been avoided," he said.

As is, he added, "we are still waiting for the worst."

Nepal shows most clearly how the crisis has rippled. After an initial wave last year, cases in the Himalayan nation of 30 million had plunged by January. Residents gathered for Nepali New Year celebrations last month, and hundreds of thousands of migrant workers returned to India, where they go each year in search of jobs.

But as the new surge began raging across India, many of those workers returned across the porous, 1,100-mile border. With them came the virus.

In the border district of Kanchanpur, more than 1,500 Nepalis come back from India each day. About one-fifth of them test positive, said Ram Kumar Mahato, the chief district officer there.

In Banke, as many as 9,000 workers returned last week, said Rajesh Saru Magar, a UNICEF worker. Only about 20 percent are being tested because of a lack of capacity, Mr. Magar said. Of those, 30 percent were positive.

Yet even now, Nepal's government has closed only 22 of its 35 border checkpoints, a decision that officials have said is necessary to ensure that citizens can return. Until late April, Nepal also allowed passengers from India to transit through the capital, Kathmandu, a possible loophole for those seeking to get around other countries' bans on travel from India.

Now, Nepal is recording as many as 9,000 infections per day, with more than 40 percent of tests coming back positive. More than 4,200 people had died by Wednesday evening. Experts say the cases are likely being undercounted.

Still, imported cases are not the only reason for the crisis engulfing Nepal.

As in India, the government did not expand health facilities when ***coronavirus*** cases appeared to be under control last year, and it was slow to enforce social distancing restrictions when it became clear that they were not.

Critics have pointed to huge, maskless rallies in India hosted by Prime Minister Narendra Modi even as infections rose. Likewise, both the ruling and opposition parties in Nepal held large political gatherings after the prime minister dissolved Parliament in December.

"Because of this, the virus reached every corner of the country," said Dr. Krishna Prasad Paudel, the director of the epidemiology and disease control division at Nepal's health ministry.

Prime Minister K.P. Sharma Oli told CNN on Saturday that Nepal's situation was "under control" but acknowledged that "political instability" had led to "some mistakes." On Monday night, Mr. Oli lost a vote of no confidence in Parliament, throwing Nepal into further turmoil.

Aid workers have warned that the parallels between Nepal and India may continue, as hospitals turn all but the most critically ill patients away. With medical oxygen supplies running short, as they did in India, Nepal's government has imposed quotas for each hospital, which doctors say are far from adequate. Reports of patients dying from insufficient oxygen have spread.

"What is happening in India right now is a horrifying preview of Nepal's future if we cannot contain this latest Covid surge," Dr. Netra Prasad Timsina, the chairwoman of the Nepal Red Cross, said in a statement last week.

vaccines are unlikely to help immediately. Nepal paid for two million doses from India's Serum Institute, the world's largest producer of ***vaccines***. But as India's crisis has escalated, its government has essentially halted exports, leaving Nepal a million doses short.

India's pause has also scrambled ***vaccination*** plans in Bangladesh. Late last month, the authorities there announced that they would temporarily stop accepting new registrations for shots after supplies from the Serum Institute were cut off.

Now, Bangladesh is short roughly 1.5 million of the doses it needs to administer second shots, let alone first ones. It has turned to ***China*** and Russia for new supplies.

Despite the shortfall, Bangladesh has otherwise fared better than many of its neighbors. Numbers have dropped rapidly since an April surge, even though Bangladesh, like India, has many crowded slums and impoverished laborers who continued to work through lockdowns.

Still, officials warn that its luck may not hold. On Saturday, the authorities announced that they had detected Bangladesh's first case of a variant that was first discovered in India.

"If India's present ***Covid-19*** infection and death situation happens in Bangladesh, our situation will be like falling trees during a heavy storm," Anwarul Iqbal, a Bangladeshi public health expert, said.

Cases are also rising along Bhutan's border with India, even though the country of about 750,000 has at least partially vaccinated 95 percent of its eligible population. Bhutan last month suspended entry for foreign workers, after experts cited concerns about laborers coming from India.

The border between Pakistan and India was closed even before the pandemic because of political tensions. But in Pakistan, too, cases are rising. Asad Umar, the official leading its ***coronavirus*** response, cited the fact that "the entire region is exploding with cases and deaths" to explain new lockdowns.

Even in countries where a spring surge has not been directly linked to the Indian outbreak, the ripple effects have created fresh pain.

Experts have attributed Sri Lanka's new wave, which has brought its highest daily numbers yet, to domestic holiday travel last month. But the crisis in India led to the suspension of travel between the two countries, dashing hopes that a planned air travel bubble would revive Sri Lanka's flailing tourism industry. In 2019, India was the country's largest source of tourists, accounting for nearly one-fifth of arrivals.

Nipuna Lokuhetty, a director of a tour company that mostly serves Indian tourists, has seen just a handful of visitors this year. Mr. Lokuhetty, 32, who lives in Rajagiriya, a Colombo suburb, said he had laid off 70 percent of his employees since the start of the pandemic. The salaries of those remaining were cut at least in half.

"The travel bubble was a great initiative," he said. "Unfortunately, we couldn't reap any benefits from it because of the ***Covid-19*** situation in India."

In Nepal, as staggering as the new numbers are, experts have said the surge will likely take more than a month to peak. Nepal's health care system is even more strained than India's; when the government released its ***coronavirus*** response plan last May, it estimated that local facilities would be insufficient if there were more than 5,000 active cases at once. Now there are more than 100,000.

For many Nepalis, anger and sorrow have mixed with utter helplessness.

Pramod Pathak, a businessman in the border district of Kailali, has watched in anxiety and sorrow as migrant workers returned from India. They have crowded every day into overwhelmed testing centers, or -- for the many for whom there are no tests -- simply crammed into shared cars and returned to their villages.

"The virus is transmitting as they travel in jam-packed vehicles," Mr. Pathak said. "There's no safety for them no matter where they go -- be it India or Nepal."

Bhadra Sharma reported from Kathmandu, Nepal; Aanya Wipulasena from Colombo, Sri Lanka; and Vivian Wang from Hong Kong. Julfikar Ali Manik contributed reporting from Dhaka, Bangladesh, and Chencho Dema from Thimphu, Bhutan.Bhadra Sharma reported from Kathmandu, Nepal; Aanya Wipulasena from Colombo, Sri Lanka; and Vivian Wang from Hong Kong. Julfikar Ali Manik contributed reporting from Dhaka, Bangladesh, and Chencho Dema from Thimphu, Bhutan.

*https://www.nytimes.com/2021/05/13/world/asia/**covid19**-india-nepal-bangladesh-sri-lanka.html*

Graphic

PHOTOS: Migrants returning home to Bangladesh from India crowd into a ferry to get home to celebrate the Eid al-Fitr holiday. (PHOTOGRAPH BY MOHAMMAD PONIR HOSSAIN/REUTERS)

Nepal's health care system is even more strained than India's. (PHOTOGRAPH BY NARENDRA SHRESTHA/EPA, VIA SHUTTERSTOCK)

A ***vaccine*** center in Pakistan, which closed its border with India. (PHOTOGRAPH BY RIZWAN TABASSUM/AGENCE FRANCE-PRESSE -- GETTY IMAGES)

In Sri Lanka, a new wave of infections has collapsed tourism. (PHOTOGRAPH BY ERANGA JAYAWARDENA/ASSOCIATED PRESS)

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Industry: DRUG AVAILABILITY (90%); HOSPITALS (90%); ***VACCINATION*** & IMMUNIZATION (90%); ***vaccineS*** (90%); BIOLOGICS MFG (79%); DRUG SHORTAGES (79%); TRAVEL BANS (73%)

Geographic: KATHMANDU, NEPAL (89%); INDIA (98%); NEPAL (95%); ***CHINA*** (79%); SRI LANKA (79%); RUSSIAN FEDERATION (77%)

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117 U.S. to Ship vaccine to Nations in Need

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Body

President Biden's pledge to ship out doses that could have been used domestically was a step toward a global campaign, but activists say much more is needed.

WASHINGTON -- President Biden, heeding widespread calls to step up his response to the pandemic's surge abroad, said on Monday that his administration would send 20 million doses of federally authorized ***coronavirus vaccine*** overseas in June -- the first time he has pledged to give away doses that could be used in the United States.

The donation is another step toward what Mr. Biden promised would be an "entirely new effort" to increase ***vaccine*** supplies and vastly expand manufacturing capacity, most of it in the United States. He also put Jeffrey Zients, the White House ***coronavirus*** response coordinator, in charge of developing a global strategy.

"We know America will never be fully safe until the pandemic that's raging globally is under control," Mr. Biden said in a brief appearance at the White House. "No ocean's wide enough, no wall's high enough, to keep us safe."

With new cases and deaths plummeting as ***vaccination*** rates rise in the United States, the epicenter of the crisis has moved to India and other nations. A growing and bipartisan chorus of diplomats, health experts and business leaders has been pushing the president to do more to end what the AIDS activist Asia Russell calls "***vaccine*** apartheid."

Mr. Biden said on Monday that 20 million doses of the Pfizer-BioNTech, Moderna and Johnson & Johnson ***vaccines*** -- all approved for domestic use -- would be sent abroad. That is in addition to the 60 million doses of AstraZeneca's ***vaccine*** he pledged last month, though those doses are not approved for domestic use and cannot be released until regulators deem them safe.

"He's crossed the threshold into direct donations," said J. Stephen Morrison, a global health expert at the Center for Strategic and International Studies, which teamed up with three other health institutes on Monday to release a plan to ramp up ***vaccine*** supply. "That's an important shift."

International health activists want far more.

"Donating 80 million doses of ***vaccines*** without a plan to scale up production worldwide is like putting a Band-Aid on a machete wound," said Gregg Gonsalves, a longtime AIDS activist.

Those 80 million doses amounted to five times the number that any other country had donated, Mr. Biden said, noting that taking the lead in helping the world beat back the ***coronavirus*** was a chance to reassert American authority. And unlike Russia and ***China***, which have sought to use their ***vaccines*** as an instrument of diplomacy, the United States will not expect any favors in return, the president said.

"We want to lead the world with our values, with this demonstration of our innovation and ingenuity, and the fundamental decency of the American people," Mr. Biden said. "Just as in World War II America was the arsenal of democracy, in the battle against the ***Covid-19*** pandemic our nation's going to be the arsenal of ***vaccines*** for the rest of the world."

Mr. Biden's announcement came not long after a World Health Organization news conference at which the director general, Dr. Tedros Adhanom Ghebreyesus, said that countries with high ***vaccination*** rates had to do more to help countries that were being hit hard by the ***coronavirus***, or the entire world would be imperiled.

"There is a huge disconnect growing where, in some countries with the highest ***vaccination*** rates, there appears to be a mind-set that the pandemic is over, while others are experiencing huge waves of infection," Dr. Tedros said.

Variants like B.1.617, first discovered in India and recently designated a variant of concern by the W.H.O., are contributing to the spread of infections and worry many researchers.

Dr. Tedros called for well-supplied nations to send more of their ***vaccine*** allocations to harder-hit countries, and for ***vaccine*** developers and manufacturers to hasten delivery of hundreds of millions of doses to Covax, an international initiative dedicated to equitable distribution of the ***vaccine***, noting an appeal by Henrietta Fore, UNICEF's executive director.

Mr. Biden took office vowing to restore the United States as a leader in global public health, and he has taken certain steps to do so: rejoining the World Health Organization, pledging $4 billion to an international ***vaccine*** effort and providing financial support to help Biological E, a ***vaccine*** manufacturer in India, produce at least one billion doses of ***coronavirus*** ***vaccines*** by the end of 2022.

To broaden supply further, Mr. Biden recently announced he would support waiving intellectual property protections for ***coronavirus*** ***vaccines***. But activists say simply supporting the waiver is not enough; Mr. Biden must create the conditions for pharmaceutical companies to transfer their intellectual property to ***vaccine*** makers overseas, they argue. They view his efforts as piecemeal.

"We're after 100 days into the administration, and what Biden should be delivering is a global battle plan against ***vaccine*** apartheid, and the announcement today is lines on a Post-it note," Ms. Russell said, adding, "There must be a global strategy led by the U.S. that's based on technology transfer, on forcing pharma to come to the table to share the recipe."

The pharmaceutical industry opposes waiving the Agreement on Trade-Related Aspects of Intellectual Property Rights, known as TRIPS. ***vaccine*** manufacturers assert that a fix is already at hand as they aggressively expand production lines and contract with counterparts around the world to yield billions of additional doses.

An open letter to the president, made public last week by a bipartisan group including business leaders, diplomats and a former defense secretary, argued that such a waiver "would make little difference and could do harm."

While global health activists are strongly in favor of the waiver, some said they welcomed the views of the business community. They see clear parallels to their work fighting the global AIDS epidemic.

"It shows an unprecedented willingness of pharma and its allies in the private sector to admit what all of us having been saying for months -- the private sector alone cannot and will not ensure global ***vaccine*** access," James

Krellenstein, a founder of PrEP4All, a nonprofit aimed at ensuring universal access to H.I.V. prevention and treatment, wrote in an email on Sunday. "It really shifts the burden to the Biden administration," he added.

The organizer of the open letter, Hank Greenberg, the chairman of Starr Companies and former chairman of American International Group, the insurance industry giant, said in an interview on Monday that Mr. Biden's announcement did not go far enough.

Mr. Greenberg, 96, a veteran of World War II, said he was inspired to write after a former chief executive of an A.I.G. subsidiary who later became the ambassador from the Philippines to the United States told him he was not able to get vaccinated. Like Mr. Biden, he used language that evoked the war effort.

"If we don't do it," he asked, "who will?"

*https://www.nytimes.com/2021/05/17/us/politics/biden-**coronavirus**-**vaccine**.html*

Graphic

PHOTO: "We know America will never be fully safe until the pandemic that's raging globally is under control," President Biden said on Monday. (PHOTOGRAPH BY Doug Mills/The New York Times FOR THE NEW YORK TIMES)

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Company: PFIZER INC (90%); JOHNSON & JOHNSON (66%); ASTRAZENECA PLC (53%)

Ticker: PFZ (LSE) (90%); PFE (NYSE) (90%); JNJ (NYSE) (66%); AZN (STO) (53%); AZN (NYSE) (53%); AZN (LSE) (53%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (90%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (90%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (90%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (90%); SIC2834 PHARMACEUTICAL PREPARATIONS (90%); SIC2833 MEDICINAL CHEMICALS

& BOTANICAL PRODUCTS (90%); NAICS339115 OPHTHALMIC GOODS MANUFACTURING (66%); NAICS339113 SURGICAL APPLIANCE & SUPPLIES MANUFACTURING (66%); NAICS339112 SURGICAL & MEDICAL INSTRUMENT MANUFACTURING (66%); NAICS334510 ELECTROMEDICAL & ELECTROTHERAPEUTIC APPARATUS MANUFACTURING (66%); NAICS325620 TOILET PREPARATION MANUFACTURING (66%); NAICS325611 SOAP & OTHER DETERGENT MANUFACTURING (66%); NAICS325413 IN-VITRO DIAGNOSTIC SUBSTANCE MANUFACTURING (66%); SIC3851 OPHTHALMIC GOODS (66%); SIC3842 ORTHOPEDIC, PROSTHETIC, & SURGICAL APPLIANCES & SUPPLIES (66%); SIC3841 SURGICAL & MEDICAL INSTRUMENTS & APPARATUS (66%); SIC3829 MEASURING & CONTROLLING DEVICES, NEC (66%); SIC3089 PLASTICS PRODUCTS, NEC (66%); SIC3069 FABRICATED RUBBER PRODUCTS, NEC (66%); SIC2844 PERFUMES, COSMETICS, & OTHER TOILET PREPARATIONS (66%); SIC2841 SOAPS & OTHER DETERGENTS, EXCEPT SPECIALTY CLEANERS (66%); SIC2835 IN VITRO & IN VIVO DIAGNOSTIC SUBSTANCES (66%); SIC2499 WOOD PRODUCTS, NEC (66%); PHARMACEUTICALS INDUSTRY (92%); ***vaccineS*** (92%); COSMETICS & TOILETRIES (91%); MANUFACTURING (91%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); SOAPS & DETERGENTS MFG (91%); TOILETRIES MFG (91%); BIOELECTRONIC MEDICINE (90%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); IN VITRO DIAGNOSTICS MFG (90%); MANUFACTURING OUTPUT (90%); MEDICAL DEVICES (90%); OPHTHALMIC GOODS (90%); OPHTHALMIC GOODS MFG (90%); PHARMACEUTICAL PREPARATION MFG (90%); SURGICAL & MEDICAL INSTRUMENT MFG (90%); DRUG AVAILABILITY (89%); ***VACCINATION*** & IMMUNIZATION (78%); COSMETICS (77%); DIAGNOSTIC IMAGING (77%); ORTHOPEDICS (77%); RUBBER & SILICONE PRODUCTS (77%); SOAPS & DETERGENTS (74%); PROSTHETICS & ORTHOTICS (69%); PLASTICS (68%)

Person: JOE BIDEN (92%)

Geographic: UNITED STATES (96%); ASIA (79%); ***CHINA*** (79%); INDIA (79%); RUSSIAN FEDERATION (50%)

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118 Mongolia, An Outlier, Has vaccines

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Section: Section B; Column 0; Business/Financial Desk; Pg. 1

Length: 1385 words

Byline: By Alexandra Stevenson

Body

By playing off its big neighbors, Russia and ***China***, Mongolia has emerged as a positive outlier among developing nations on the hunt for shots.

Mongolia, a country of grassy hills, vast deserts and endless skies, has a population not much bigger than Chicago's. The small democratic nation is used to living in the shadow of its powerful neighbors, Russia and ***China***.

But during a pandemic, being a small nation sandwiched between two ***vaccine*** makers with global ambitions can have advantages.

At a time when most countries are scrambling for ***coronavirus*** ***vaccines***, Mongolia now has enough to fully vaccinate its entire adult population, in large part thanks to deals with both ***China*** and Russia. Officials are so confident about the nation's ***vaccine*** riches that they are promising citizens a "Covid-free summer."

Mongolia's success in procuring the ***vaccines*** in the span of a few months is a big victory for a low-income, developing nation. Many poor countries have been waiting in line for shots, hoping for the best. But Mongolia, using its status as a small geopolitical player between Russia and ***China***, was able to snap up doses at a clip similar to that of much wealthier countries.

"It speaks to the Mongolian ability to play to the two great powers and maximize their benefits even while they are on this tightrope between these two countries," said Theresa Fallon, director of the Center for Russia Europe Asia Studies in Brussels.

It is also a win for ***China*** and Russia, which have extensive resource interests in Mongolia and ambitions to appear to play a role in ending the pandemic, even when much of the world has expressed deep skepticism over their homegrown ***vaccines***.

Mongolia is a buffer between eastern Russia, which is resource rich and mostly unpopulated, and ***China***, which is crowded and hungry for resources. While Russia and ***China*** are often aligned on the global stage, they have a history of conflict and are wary of each others' interests in Mongolia. Those suspicions can be seen in their ***vaccine*** diplomacy.

"Putin is deeply concerned about what ***China*** is doing in their neighborhood," Ms. Fallon said of Russia's president, Vladimir V. Putin.

Russia has sold Mongolia one million doses of its Sputnik V vaccine. China has provided four million doses of vaccine -- the final shipment of doses arrived this week. Mongolia's most recent agreement with China's Sinopharm Group, which is state-owned, was made days before the company received emergency authorization from the World Health Organization.

Mongolia was late to the global clamber for Covid-19 vaccines. For nearly a year officials boasted that there were no local cases. Then came an outbreak in November. Two months later, political crisis precipitated by the mishandling of the virus led to the sudden resignation of the prime minister. The prospect of continued coronavirus restrictions threatened to throw the country into further political turmoil.

The new prime minister, Oyun-Erdene Luvsannamsrai, pledged to restart the economy, which had suffered from lockdowns and border closures, particularly in the south, where Mongolian truck drivers ferry coal across the border to China's steel mills. But these plans were complicated by surging cases, with the daily count going from hundreds a day to thousands.

"We were quite desperate," said Bolormaa Enkhbat, an economic and development policy adviser to the prime minister.

Mongolia approached China and Russia first, the foreign minister said, hoping longstanding economic ties with each country would help move it to the front of the line of countries seeking vaccines. Officials simultaneously explored diplomatic and private channels -- putting in requests for donations from rich countries and the world's biggest vaccine manufacturers.

They contacted price-gouging middlemen, international health organizations and vaccine alliances for poorer countries. One intermediary offered to sell Pfizer-BioNTech's Covid vaccine for $120 a shot, nearly a quarter of the average monthly salary, Ms. Enkhbat said. Covax, the global vaccine-sharing alliance, which Mongolia signed onto in July 2020, promised doses in the fall or winter.

With each breakthrough from Russia, negotiations moved more quickly with China.

In early February, Mongolia approved Russia's Sputnik V vaccine. Three days later, China's Sinopharm Group received approval for its Vero Cell vaccine. Soon after, China donated 300,000 doses of its Sinopharm vaccine to Mongolia, citing a "profound traditional friendship" as motivation.

Opening up more of the border between China and Mongolia was also a part of the vaccine discussions, Chinese and Mongolian officials said in Chinese state media. Mongolia needs China to buy its coal -- exports to the country make up nearly a quarter of Mongolia's annual economic growth. The revenues helped to pad Mongolia's budget by a quarter last year.

After a month of back and forth, the Mongolian government struck a deal in March with Russia's Gamaleya Research Institute, too, for one million doses of the Sputnik vaccine. Days later, Mongolia finalized an agreement to buy 330,000 additional doses of the Sinopharm vaccine.

When there was a last-minute hitch in the delivery of the purchased Chinese vaccines, a call on April 7 between China's premier, Li Keqiang, and Mongolia's prime minister, helped to smooth things over and reassure both sides. Up to that point, it was still unclear if Mongolia would be able to rely on China or if it would need to return to Russia for more vaccines.

"That's what paved the way for the rest of the deal," Ms. Enkhbat said about the phone call between the two men. "We laid out the situation and said that we are betting on Chinese vaccines at a time when the rest of the world fully isn't."

Mongolia has also secured commitments from AstraZeneca and Pfizer-BioNTech. So far it has received only 60,000 of the Sputnik ***vaccine*** because of manufacturing delays. But the Chinese ***vaccine*** will account for a majority of ***Covid-19*** shots for Mongolia's population.

"We are thankful to our partners, especially ***China***, that they are providing us with ***vaccinations*** when they also need it for domestic use," said Battsetseg Batmunkh, Mongolia's foreign minister.

The Chinese and Russian embassies in Mongolia did not respond to requests for comment.

In Ulaanbaatar, Mongolia's capital, 97 percent of the adult population has received a first dose and more than half are fully vaccinated, according to government statistics. Across the country, more than three quarters of Mongolians have already received one shot.

The country's ***vaccination*** effort still faces hurdles. Mongolia is economically dependent on ***China***, and many of its citizens continue to fear its power and influence. When tensions have arisen in the past, ***China*** has shut its border and stopped purchasing Mongolian coal.

Mongolians have also expressed a preference for Russia's Sputnik ***vaccine***. To get the population to take the Sinopharm shot, the government has offered each citizen 50,000 tugriks -- about $18 -- to get fully vaccinated. The average monthly salary in 2020 was $460.

The terms and pricing of the Sinopharm and Sputnik deals were not made public, and Mongolia's foreign ministry declined to comment on pricing. Representatives for the Gamaleya Research Institute and Sinopharm did not respond to requests for comment.

While some global health experts have questioned whether Sinopharm will be able to continue to deliver on its commitments overseas, it has delivered all of the doses Mongolia ordered. ***China*** has said it can make as many as five billion doses by the end of the year, though officials have warned that the country is struggling to make enough shots for its citizens.

There are also some signs that governments that have chosen the Sinopharm ***vaccine*** may have to roll out a third booster shot sooner than expected.

China, for its part, may be playing a long game, said Julian Dierkes, an associate professor at the University of British Columbia who specializes in Mongolian politics. Though many Mongolians may still not trust ***China***, the Mongolian government will remember how it made its ***vaccines*** available at a critical moment.

"We could coin a phrase here: 'The opportunity of smallness,'" he said.

*https://www.nytimes.com/2021/05/20/business/**coronavirus**-**vaccine**-mongolia.html*

Graphic

PHOTOS: A vaccinator showing the number of ***vaccines*** administered since April 23 on the blackboard at a school in Ulaanbaatar, Mongolia's capital.

A vaccinator preparing a dose beside the man who would soon receive it.

In Ulaanbaatar, 97 percent of the adult population has received a first dose, according to government statistics. (PHOTOGRAPHS BY KHASAR SANDAG FOR THE NEW YORK TIMES) (B4)

Classification

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Company: ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (51%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (51%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (51%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (51%); ***vaccineS*** (95%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); ***COVID-19*** ***CORONAVIRUS*** ***vaccine*** (89%); BIOLOGICS MFG (78%); HEALTH DEPARTMENTS (78%)

Person: VLADIMIR PUTIN (58%)

Geographic: BRUSSELS, BELGIUM (71%); MONGOLIA (99%); ***CHINA*** (98%); RUSSIAN FEDERATION (95%); ASIA (79%); EUROPE (79%)

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119 Virus Flares Up Inside Taiwan's High Walls, Ending Year of Normality

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Section: Section A; Column 0; Foreign Desk; Pg. 6

Length: 1188 words

Byline: By Raymond Zhong and Amy Chang Chien

Body

The island's border controls had shielded it from the worst of the pandemic. But new variants and a slow ***vaccine*** rollout gave the virus an opening.

TAIPEI, Taiwan -- Closed schools and restaurants offering takeout only. Lines around the block at testing sites. Politicians on television urging the public to stay calm.

If the scenes around Taiwan this week have a distinctly early pandemic feel, it is because the ***coronavirus*** is only now washing up on the island's shores in force. A crush of new infections has brought a swift end to the Covid-free normality that residents had been enjoying for more than a year.

By shutting its borders early and requiring two-week quarantines of nearly everyone who arrives from overseas, Taiwan had been managing to keep life on the island mostly unfettered. But all that changed after enough infections slipped past those high walls to cause community outbreaks.

For most of the past week, the government has ordered residents to stay home whenever possible and to wear masks outdoors, though it has not declared a total lockdown. Local authorities are ramping up rapid testing, though some health experts worry that too few tests are being done to stay ahead of the virus's spread.

Taiwan's latest numbers -- between 200 and 350 new infections a day for the past several days, and a few deaths -- are still low by the standards of the hardest-hit countries. On Thursday, it reported 286 new local infections. But the uptick has jolted a population that, until last Saturday, had recorded only 1,290 ***Covid-19*** cases and 12 deaths during the entire pandemic.

Adding to the concern: Only around 1 percent of the island's 23.5 million residents have been vaccinated against the virus so far.

"This day was bound to come sooner or later," said Daniel Fu-chang Tsai, a professor at the National Taiwan University College of Medicine. The slow pace of immunizations combined with more transmissible variants to create a perfect "window," Professor Tsai said, for the island to experience a flare-up.

It did not help, he said, that more people had been leaving their masks at home and abandoning social distancing.

"It's like Swiss cheese," Professor Tsai said. "There were a few holes in the front and a big hole in the back. But this time, the blade happened to pierce straight through."

Before this month, Taiwan had spent the bulk of the pandemic happily shielded from its worst ravages.

Eight months passed last year without a single case of community transmission until an infection in December snapped the streak. Even after that, local infections cropped up only sporadically for months.

Then the tide shifted -- gradually, then suddenly.

On April 14, the government began allowing crew members for Taiwanese airlines to quarantine at home for just three days after arriving on long-haul flights, down from the previous requirement of five days.

A week later, ***China*** Airlines, Taiwan's flag carrier, told the government that one of its pilots had tested positive in Australia. Health officials began expanding testing for airline workers. Soon, more pilots and their family members were testing positive, as were employees at a quarantine hotel.

On May 10, a pilot who had been in the United States tested positive after completing his three-day quarantine, but not before he had visited a pub and a restaurant in Taipei.

All ***China*** Airlines crew members were ordered into rolling 14-day home quarantines. But it was probably too late. A cluster of infections began to emerge among workers and patrons at so-called hostess bars in Taipei's Wanhua District.

By the end of the week, daily case numbers had soared into the triple digits.

So far, the search for new infections has been concentrated in the populous cities of Taipei and New Taipei, where more than 1,600 people can receive rapid testing each day. Hospitals are also providing slower testing services.

Dr. Chiang Kuan-yu, 37, a physician at Taipei City Hospital, went to Wanhua District on Monday to help run a testing site there. He said there had been big crowds over the weekend, when the case numbers first started to rise. Some people had to wait an extra day to get tested.

"Now there are more resources for testing, so we can keep up better," Dr. Chiang said.

Officials are trying to use test centers efficiently by testing only those who are showing symptoms or may have come in contact with infected people.

Chen Shih-chung, Taiwan's health minister and head of its Central Epidemic Command Center, has urged those with no ***Covid-19*** symptoms and no history of contact to not even come to testing sites, lest they become infected there.

"This only will slow down our search for possible spreaders," Mr. Chen said in a news briefing. "Don't go there thinking, 'Oh, maybe I'm infected, maybe it's best that I get tested.' You absolutely must not come."

But Dr. Wang Jen-hsien, an infectious disease specialist at ***China*** Medical University Hospital in the central Taiwanese city of Taichung, called this an excessively "frugal" approach. He urged the government to consider locking down Wanhua District and testing all residents.

"Before, Taiwan was a safe society. If you tested randomly back then, of course you would endanger public health," Dr. Wang said. "But now if it's a high-risk zone, then you can't do things this way. Your way of thinking has to change."

Taiwan received its first doses of the AstraZeneca ***vaccine*** in early March, and it has since been gradually immunizing health workers and other priority groups. Officials say doses of the Moderna ***vaccine*** will arrive soon. Several Taiwanese companies are also developing ***vaccines***.

Taiwanese authorities began working with domestic ***vaccine*** producers in January 2020, after the ***coronavirus***'s genetic sequence was made available and before the Chinese city of Wuhan went into lockdown.

"Taiwan got started extremely early," said Dr. Ho Mei-shang, a research fellow at the Institute of Biomedical Sciences at Academia Sinica in Taipei who was involved with the government's ***vaccine*** efforts. "We said at the time, 'Whatever the ***vaccine*** ends up being, we want to make it ourselves as quickly as possible.'"

But Taiwan's insistence on developing and producing its own immunizations may have made officials less quick to snap up overseas ***vaccines*** when those started becoming available, Dr. Ho said.

"And then," she said, "by the beginning of this year, when the pandemic was so severe in so many countries, we just said we'll wait a little."

Even after the AstraZeneca ***vaccine*** first became available in Taiwan, the low case count meant many people felt no urgent need to get immunized.

Still, Dr. Ho said she was heartened to see how quickly people in Taiwan were adjusting to the new restrictions on daily life, even after such a carefree past year.

Recently, she went for a run at 10 p.m. and forgot to wear her mask at first. But she noticed that even at that hour, everyone else who was out walking and exercising was masked up.

"This is a state of affairs," she said, "that really sets Taiwan apart."

https://www.nytimes.com/2021/05/20/world/asia/taiwan-covid-outbreak.html

Graphic

PHOTOS: Preparing to disinfect a train station in Taipei on Wednesday as Taiwan's government told residents to stay home when possible and to wear masks outdoors after of a sudden rise in new ***coronavirus*** cases. Taiwanese rushed to buy essentials, right, and to get tested. (PHOTOGRAPHS BY RITCHIE B TONGO/EPA, VIA SHUTTERSTOCK)

Classification

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Industry: ***vaccineS*** (90%); COLLEGE & UNIVERSITY PROFESSORS (85%); ***VACCINATION*** & IMMUNIZATION (78%); RESTAURANTS (77%)

Geographic: TAIPEI, TAIWAN (79%); TAIWAN (96%)

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120 The World Health Organization authorizes the Sinovac vaccine for emergency use.

The New York Times

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Length: 615 words

Byline: Daniel E. Slotnik

Highlight: The clearance means that the ***vaccine*** could be distributed as part of Covax, the global effort to share shots with hard-hit, undersupplied nations.

Body

The clearance means that the ***vaccine*** could be distributed as part of Covax, the global effort to share shots with hard-hit, undersupplied nations.

The World Health Organization has cleared a ***Covid-19*** ***vaccine*** made by the *Chinese* pharmaceutical company *Sinovac* for emergency use, opening the way for it to be included in *Covax*, the sputtering worldwide initiative that low-income countries rely on for the ***vaccine***.

The decision was announced Tuesday, about a month after the agency *authorized another Chinese* ***vaccine***, made by *Sinopharm*, for emergency use.

There is dire need for ***vaccines*** in countries and regions where the virus is surging, like *India*, and in much of *Southeast Asia* and *South America*. Adding another ***vaccine*** to the distribution calculus could help meet that demand.

The struggles of Covax are one factor among many in *the growing gap* in ***vaccination*** coverage *between the world's rich and poor*. Covax has been underfunded and behind schedule even before it faced its most significant blow this spring when India, facing a devastating ***coronavirus*** crisis, halted ***vaccine*** exports.

And the world is*nowhere close to having the 11 billion doses*that are needed to vaccinate 70 percent of the world's population, the rough threshold needed for herd immunity, researchers at Duke University estimate. While global production is difficult to measure, the analytics firm Airfinity estimated in mid-May that the world had so far produced about 1.7 billion doses.

Sinovac's ***vaccine***, called *CoronaVac*, was developed using inactivated viruses, a technique that has been in use for over a century.

Clinical trials of CoronaVac in Brazil and Turkey delivered very different results, but both showed that the ***vaccine*** protected against ***Covid-19***.

The ***vaccine*** has *already been approved for use in 29 countries*, including ***China***, Brazil and Mexico, according to the *Our World in Data* project at the University of Oxford.

CoronaVac is administered in two doses over two to four weeks, and is easier to store than those from Pfizer-BioNTech and Moderna, which must be kept frozen for long-term storage.

The W.H.O. director general, Dr. Tedros Adhanom Ghebreyesus, said at a news conference on Tuesday that the ease of storing CoronaVac made it very useful for the “low resource settings” that need it most.

So far, an *overwhelming share of **vaccine** doses* have gone to wealthy countries, and many of them are returning to an *approximation of normal life* while the virus *devastates less prosperous nations*.

“The world desperately needs multiple ***Covid-19*** ***vaccines*** to address the huge access inequity across the globe,” Dr. Mariângela Simão, the W.H.O.’s assistant director general for access to health products, said in a statement.

As of Tuesday, in addition to the two Chinese ***vaccines***, the *W.H.O. has also authorized **vaccines*** created by Pfizer-BioNTech, Oxford-AstraZeneca, Johnson & Johnson and Moderna.

At Tuesday’s news conference, Dr. Tedros and officials from the International Monetary Fund, the World Bank Group and the World Trade Organization discussed *a new push to secure $50 billion* to step up manufacturing and distribution of ***coronavirus*** ***vaccines*** and other medical supplies and treatments to poorer countries.

“An increasingly two-track pandemic is causing a two-track economic recovery, with negative consequences for all countries,” said Kristalina Georgieva, the managing director of the I.M.F. “Our data shows that in the near term, vaccinating the world is the most effective way to boost global output. In other words, ***vaccine*** policy is economic policy.”

PHOTO: A monk receiving a Sinovac ***vaccination*** in Bangkok in April. (PHOTOGRAPH BY Adam Dean for The New York Times FOR THE NEW YORK TIMES)

Classification

Language: ENGLISH

Document-Type: News

Publication-Type: Web Publication

Subject: ***vaccineS*** (94%); ASSOCIATIONS & ORGANIZATIONS (91%); ***COVID-19*** ***CORONAVIRUS*** (91%); PUBLIC HEALTH ADMINISTRATION (91%); CORONAVIRUSES (90%); ***COVID CORONAVIRUS*** (90%); ***COVID-19*** ***CORONAVIRUS*** ***vaccine*** (90%); HEALTH DEPARTMENTS (90%); HERBAL MEDICINE (90%); INFECTIOUS DISEASE (90%); PUBLIC HEALTH (90%); UNITED NATIONS INSTITUTIONS (90%); ***VACCINATION*** & IMMUNIZATION (90%); VIRUSES (90%); DISEASE IMMUNITY (78%); BIOTECHNOLOGY SECTOR PERFORMANCE (77%); DELAYS & POSTPONEMENTS (76%); PRESS CONFERENCES (76%); APPROVALS (70%); COLLEGES & UNIVERSITIES (66%); INTERNATIONAL MONETARY FUND (50%); internal-essential (%); Sinovac Biotech Ltd (%); World Health Organization (%); ***Coronavirus*** (***2019-nCoV***) (%); ***Vaccination*** and Immunization (%)

Company: PFIZER INC (58%); ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (58%)

The World Health Organization authorizes the Sinovac **vaccine** for emergency use.

Organization: WORLD HEALTH ORGANIZATION (94%); DUKE UNIVERSITY (55%)

Ticker: PFZ (LSE) (58%); PFE (NYSE) (58%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (58%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (58%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (58%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (58%); SIC2834 PHARMACEUTICAL PREPARATIONS (58%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (58%); PHARMACEUTICALS & BIOTECHNOLOGY (95%); ***vaccineS*** (94%); PHARMACEUTICALS INDUSTRY (93%); PHARMACEUTICAL PREPARATION MFG (92%); BIOPHARMACEUTICALS INDUSTRY (90%); CHEMICALS (90%); CHEMICALS MFG (90%); ***COVID-19 CORONAVIRUS*** ***vaccine*** (90%); HEALTH DEPARTMENTS (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); ***VACCINATION*** & IMMUNIZATION (90%); PHARMACEUTICALS PRODUCT DEVELOPMENT (78%); BIOTECHNOLOGY SECTOR PERFORMANCE (77%); DATA ANALYTICS (76%); COLLEGES & UNIVERSITIES (66%); INTERNATIONAL MONETARY FUND (50%)

Geographic: OXFORD, ENGLAND (53%); BRAZIL (92%); ASIA (79%)

Load-Date: June 9, 2021

End of Document

121 U.S. Says First Donations Of Excess vaccine Doses Will Be for Places in Crisis

The New York Times

June 4, 2021 Friday

Late Edition - Final

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Section: Section A; Column 0; National Desk; Pg. 12

Length: 1274 words

Byline: By Sheryl Gay Stolberg

Body

Latin America, South and Southeast Asia and Africa will be among the recipients of an initial 25 million excess doses that the Biden administration is sharing this month.

WASHINGTON -- The White House, besieged with requests from other nations to share its supply of ***coronavirus vaccine***, announced Thursday that it would distribute an initial 25 million doses this month across a "wide range of countries" in Latin America and the Caribbean, South and Southeast Asia, and Africa, as well as the Palestinian territories, war-ravaged Gaza and the West Bank.

The doses are the first of a total 80 million that President Biden has pledged to send overseas by the end of this month. Three-quarters of the initial batch will be given to the international ***vaccine*** effort known as Covax, officials said at a White House briefing on the pandemic, though administration officials are helping decide where to send them.

The rest will be reserved for "immediate needs and to help with surges around the world" and regions dealing with "urgent, present crises," said Jake Sullivan, the president's national security adviser, including in India, Ukraine and Iraq as well as the West Bank and Gaza.

But the donation is nowhere close to enough. About 11 billion doses are needed to vaccinate 70 percent of the world's population against the ***coronavirus***, according to estimates from researchers at Duke University. As of last month, the analytics firm Airfinity estimated that 1.7 billion doses had been produced.

Thursday's announcement comes a week before Mr. Biden leaves for Cornwall, England, to meet with the heads of state of the Group of 7 industrialized nations, where the global ***vaccine*** supply is certain to be a topic of discussion. Officials said the Biden administration would donate additional doses throughout the summer as they become available.

"This is just the beginning," said Jeffrey Zients, Mr. Biden's ***coronavirus*** response coordinator. "Expect a regular cadence of shipments around the world, across the next several weeks."

While ***China*** and Russia have used ***vaccine*** donations as an instrument of diplomacy in an effort to extract favors from other nations, Mr. Biden has insisted the United States will not do that -- a point that Mr. Sullivan emphasized on Thursday in describing the White House strategy.

Nearly two-thirds of U.S. adults have had at least one shot of a ***coronavirus*** ***vaccine***, and the rate of new cases and deaths has plummeted, contributing to an overall picture across the country that is "encouraging and uplifting," Dr. Rochelle P. Walensky, the director of the Centers for Disease Control and Prevention, said on Thursday.

But the picture around the world, especially in poorer nations in Africa and Central and South America, where ***vaccination*** rates are much lower, is bleak. According to data from Johns Hopkins University, Uruguay, Argentina, Colombia and Paraguay are all awash in new cases; in Colombia, nearly 500 people a day have died of the ***coronavirus*** over the past several weeks. A sudden, sharp rise in ***coronavirus*** cases in many parts of Africa could amount to a continental third wave, the World Health Organization warned on Thursday.

Some African nations have less than 1 percent of their populations partly vaccinated, according to data from the Our World in Data project at the University of Oxford, and the percentages of vaccinated people in Honduras and Guatemala are around 3 percent of the population.

Mr. Sullivan said the administration had decided to give priority to "neighbors" of the United States, including countries like Guatemala and Colombia, Peru and Ecuador, while also working with existing regional networks like the African Union to allow local authorities to allocate the ***vaccines*** as they see fit.

Mr. Biden came into office vowing to restore America's position as a leader in global health, and he has been under increasing pressure from activists, as well as some business leaders, to do more to address the global ***vaccine*** shortage. This year, he said he was reluctant to give away ***vaccine*** doses until the United States had enough for its own population, though he promised in March to send a total of four million doses of AstraZeneca's ***vaccine*** to Mexico and Canada.

Those doses, it turned out, were made at a Baltimore facility owned by Emergent BioSolutions, where production has since been put on hold after an incident of contamination.

Mr. Biden's pledge to donate 80 million doses this month involves ***vaccines*** made by four manufacturers. Besides AstraZeneca, they are Pfizer-BioNTech, Moderna and Johnson & Johnson, the last three of which have received U.S. emergency authorization for their ***vaccines***.

The president has made several announcements to help reach his goal. He said last month that his administration would send 20 million doses of the authorized ***vaccines*** overseas in June -- the first time he had pledged to give away doses that could be used in the United States. Officials said Thursday that the number rose to 25 million because more authorized doses have become available.

Mr. Biden also announced last month that he would send one million doses of Johnson & Johnson's ***vaccine*** to South Korea; a plane carrying those doses was expected to take off Thursday evening, Mr. Zients said.

And the president has pledged to donate up to 60 million doses of AstraZeneca's ***vaccine***. But those doses, also made at the Emergent plant, are not authorized for domestic use and cannot be released to other countries until regulators deem them safe. If they are not cleared for release, Mr. Biden would have to agree to donate more of the three ***vaccines*** used here to fulfill his 80 million promise.

The president has described the ***vaccine*** donations as part of an "entirely new effort" to increase ***vaccine*** supplies and vastly expand manufacturing capacity, most of it in the United States. To further broaden supply, Mr. Biden recently announced he would support waiving intellectual property protections for ***coronavirus*** ***vaccines***. He also put Mr. Zients in charge of developing a global ***vaccine*** strategy.

But activists say simply donating excess doses and supporting the waiver are not enough. They argue that Mr. Biden must create the conditions for pharmaceutical companies to transfer their intellectual property to ***vaccine*** makers overseas, so that other countries can establish their own ***vaccine*** manufacturing operations.

Peter Maybarduk, the director of Public Citizen's Access to Medicines program, called Thursday for the administration to invest $25 billion in "urgent public ***vaccine*** manufacturing at sites worldwide" to make eight billion doses of ***vaccine*** using mRNA technology within a year, and to "share those ***vaccine*** recipes with the world."

Asked recently whether the United States was prepared to do that, Andrew Slavitt, a senior health adviser to the president, sidestepped the question, saying only that the United States would "play a leadership role" but still needed "global partners across the world."

On Thursday, Mr. Zients said the United States was lifting the Defense Production Act's "priority rating" for three ***vaccine*** makers -- AstraZeneca, Novavax and Sanofi -- that do not make ***coronavirus*** ***vaccines*** authorized for U.S. use. The shift means that companies in the United States that supply the ***vaccine*** makers will be able to "make their own decisions on which orders to fulfill first," Mr. Zients said.

That could free up supplies for foreign ***vaccine*** makers, allowing other countries to ramp up their own programs.

Abdi Latif Dahir contributed reporting.Abdi Latif Dahir contributed reporting.

*https://www.nytimes.com/2021/06/03/us/politics/**vaccine**-donations-**coronavirus**-biden.html*

Graphic

PHOTO: ***Vaccinations*** in El Salvador. Most of the first overseas ***vaccine*** shipment will go to the international effort known as Covax. (PHOTOGRAPH BY RODRIGO SURA/EPA, VIA SHUTTERSTOCK)

Classification

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Publication-Type: Newspaper

Subject: ***vaccineS*** (92%); CORONAVIRUSES (89%); INFECTIOUS DISEASE (89%); PUBLIC HEALTH (89%); VIRUSES (89%); DEVELOPING COUNTRIES (78%); POPULATION SIZE (78%); US FEDERAL GOVERNMENT (78%); EPIDEMICS (77%); HEADS OF STATE & GOVERNMENT (77%); INTERNATIONAL RELATIONS & NATIONAL SECURITY (77%); PUBLIC HEALTH ADMINISTRATION (77%); ***VACCINATION*** & IMMUNIZATION (77%); PUBLIC OFFICIALS (76%); TALKS & MEETINGS (76%); EPIDEMIOLOGY (73%); HEALTH DEPARTMENTS (73%); DISEASES & DISORDERS (72%); GOVERNMENT ADVISORS & MINISTERS (72%); NATIONAL SECURITY (66%); ADULTS (65%)

Organization: DUKE UNIVERSITY (54%)

Industry: ***vaccineS*** (92%); DRUG AVAILABILITY (89%); ***VACCINATION*** & IMMUNIZATION (77%); EPIDEMIOLOGY (73%); HEALTH DEPARTMENTS (73%); DATA ANALYTICS (69%)

Person: JOE BIDEN (90%)

Geographic: DISTRICT OF COLUMBIA, USA (79%); AFRICA (93%); STATE OF PALESTINE (93%); ASIA (92%); ISRAEL (92%); UNITED STATES (92%); LATIN AMERICA (90%); CARIBBEAN ISLANDS (79%); ***CHINA*** (79%); INDIA (79%); IRAQ (79%); RUSSIAN FEDERATION (79%); SOUTH AMERICA (79%); UKRAINE (79%); ENGLAND (54%)

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End of Document

122 Hong Kong Is Dangling Vaccination Incentives. But Few Are Swayed.

The New York Times

June 4, 2021 Friday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 10

Length: 1251 words

Byline: By Jennifer Jett and Joy Dong

Body

Experts warn that lotteries and other perks may do little to allay the anxiety and confusion underlying residents' reluctance to get inoculated.

HONG KONG -- A brand-new apartment. Paid leave. A private party on a commercial plane.

Incentives to get vaccinated against ***Covid-19*** are multiplying in Hong Kong, from the government as well as businesses eager to begin their recovery.

But the Chinese territory, which has largely kept the ***coronavirus*** under control, is now struggling with a sluggish inoculation campaign that officials worry could leave it vulnerable to an outbreak like the one currently faced by Taiwan, another one of the pandemic's early success stories.

Experts warn that the incentives in Hong Kong may do little to allay the anxiety and confusion underlying people's ***vaccine*** hesitancy, and that other solutions are urgently needed before Hong Kong faces a "fifth wave" of infections.

Because it takes several weeks from first dose to full inoculation, "if you just sit and wait and hesitate, we may not have the time to protect us when the fifth wave suddenly arrives," said Dr. Alvin Chan, co-chairperson of the Hong Kong Medical Association's advisory committee on communicable diseases.

While other parts of Asia, like India and the Philippines, face dire ***vaccine*** shortages, Hong Kong has secured enough doses to cover its population of 7.5 million. The shots are free but not compulsory, and residents have two choices: the ***vaccine*** developed by Pfizer and BioNTech, or the one developed by Sinovac, a private Chinese company. ***Vaccination*** is available to everyone 16 and older, and on Thursday the health secretary approved the Pfizer-BioNTech ***vaccine*** for children as young as 12.

The ***vaccination*** campaign began in late February, with a goal of inoculating 70 percent of the population in order to reach herd immunity. Only then, officials said, could Hong Kong reopen to the world after almost fully sealing its borders to nonresidents for more than a year.

That goal seems increasingly out of reach. As of Thursday, about 19 percent of the population had received at least one dose of a ***Covid-19*** ***vaccine***, and 14 percent had been fully vaccinated. That is compared with 31 percent who are fully vaccinated in Singapore, another Asian financial hub, and 41 percent in the United States. It also stands in contrast to mainland ***China***, which is vaccinating people at a rate of more than 17 million a day.

"I'm afraid the ***vaccination*** rate in Hong Kong may not be even above 30 percent by the end of the year," said Dr. Paul Chan, chairman of the microbiology department at the Chinese University of Hong Kong Faculty of Medicine.

Alarmed officials are now trying everything they can to nudge residents toward ***vaccination*** centers. On Monday, they said that in the event of a fifth wave, "high-risk" venues like restaurants, movie theaters and schools could be restricted to people who are vaccinated. Some groups like construction workers who are required to submit to regular testing if unvaccinated now must pay for the tests themselves. With almost two million unused doses of ***vaccine***, some of which expire in August, the government is considering selling or donating them elsewhere and delaying future shipments.

Both the public and private sectors are also trying more positive reinforcement. Civil servants have been granted one day off work for each dose, with similar policies adopted by HSBC and other major banks at the government's urging.

Last week, the Airport Authority said it would give away 60,000 plane tickets to Hong Kong residents and airport staff who get vaccinated by the end of September. A few days later, property developers announced they would hold a lottery, open to all fully vaccinated permanent residents 18 and older, for a one-bedroom apartment worth $1.4 million (total area: 449 square feet). In a city that has long struggled with affordable housing, this was an attention-grabbing move.

Cathay Pacific, the city's flagship carrier, added to the prizes on Thursday with a private flight around Hong Kong for one winner plus family and friends, all of whom must be fully vaccinated.

Vaccinations have increased since the apartment lottery and other incentives were announced, with the seven-day average up about 20 percent over a week ago. But the enthusiasm may not last, researchers say.

A recent survey of 1,200 people by the Chinese University of Hong Kong found that of those who had not been vaccinated, only about a quarter planned to do so in the next six months.

The problem was not so much the idea of a ***vaccine*** -- almost two-thirds of respondents agreed that ***vaccination*** was the most effective way to fight the virus. More than half even supported making it mandatory for certain groups like police officers and firefighters, as well as foreign domestic helpers, who have faced greater discrimination during the pandemic. But when it came to getting the shots themselves, most respondents had doubts.

The No. 1 reason is reports of people dying soon after they receive the ***vaccine***, said Dr. Paul Chan of CUHK, who was involved in the survey. There have been more than 20 such deaths in Hong Kong, none of which have been tied to the ***vaccines***. Reports of temporary facial paralysis and other conditions among recently vaccinated people have also been widely covered in the local news media. The suspension of Pfizer-BioNTech shots for 12 days this spring because of packaging defects further stoked worries.

Fear of adverse reactions is especially strong among older residents, with government statistics showing that less than 4 percent of those 80 and older are inoculated.

"I haven't been vaccinated yet because some newspaper stories claim that old men suddenly passed away after being vaccinated," said Stanley Chan, a 76-year-old retiree. "That's why I want to wait and observe the situation."

The perceived risks of getting vaccinated loom even larger when the risk of contracting the virus seems so low by comparison. Like other parts of Asia, Hong Kong closed its borders early and introduced strict measures that, despite periodic outbreaks, have kept cases to a minimum. The city, which reported zero new local cases on Thursday, has recorded fewer than 12,000 ***coronavirus*** infections and 210 deaths.

"It's just not that urgent," said Kitty Yue, 24, a company clerk. "I want to wait for now and make sure the ***vaccine*** safety is OK."

The second biggest reason for hesitancy that university researchers found was a lack of trust in government recommendations. Although the survey did not get into specifics, the public's relationship with the Hong Kong government was greatly damaged by a 2019 protest movement over ***China***'s tightening grip on the city that has since been suppressed. These days, that distrust can extend to the government's public health advisers, Dr. Chan said.

The other top reasons cited in the survey were the desire to wait for a "better" ***vaccine*** and distrust of ***vaccine*** manufacturers or manufacturing locations.

Residents said winning the apartment was too unlikely to make it a strong motivator, and that if they did get vaccinated, it would be for their own health, not for money.

"The government should let people know the ***vaccination*** is for their personal interest and for people they love around them," said Tom Lee, a 70-year-old retiree who said that was why he had gotten vaccinated. "Rejuvenating the economy for the government? What does that matter to you?"

*https://www.nytimes.com/2021/06/03/world/asia/hong-kong-**vaccine**.html*

Graphic

PHOTO: Hong Kong officials said that in the event of a fifth wave, venues such as restaurants could be restricted to vaccinated people. (PHOTOGRAPH BY ANTHONY WALLACE/AGENCE FRANCE-PRESSE -- GETTY IMAGES)

Classification

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Publication-Type: Newspaper

Subject: ***vaccineS*** (92%); HERBAL MEDICINE (90%); INFECTIOUS DISEASE (90%); SICK LEAVE (90%); ***VACCINATION*** & IMMUNIZATION (90%); BIOLOGICS MFG (89%); ***COVID CORONAVIRUS*** (89%); ***COVID-19 CORONAVIRUS*** (89%); EMPLOYEE LEAVE (89%); ***COVID-19 CORONAVIRUS vaccine*** (78%); DISEASE IMMUNITY (78%); DISEASES & DISORDERS (78%); DRUG DESIGN & DISCOVERY (78%); EPIDEMICS (78%); HEALTH DEPARTMENTS (78%); PANDEMICS (78%); PUBLIC HEALTH (78%); DRUG SHORTAGES (73%); MICROBIOLOGY (73%); VIRUSES (73%); CORONAVIRUSES (71%); GOVERNMENT ADVISORS & MINISTERS (71%); APPROVALS (70%); ASSOCIATIONS & ORGANIZATIONS (66%); BIOLOGY (50%)

Company: PFIZER INC (56%)

Ticker: PFZ (LSE) (56%); PFE (NYSE) (56%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (56%);

NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (56%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (56%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (56%); SIC2834 PHARMACEUTICAL PREPARATIONS (56%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (56%); ***vaccineS*** (92%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); BIOPHARMACEUTICALS INDUSTRY (90%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); ***VACCINATION*** & IMMUNIZATION (90%); BIOLOGICS MFG (89%); MANUFACTURING (89%); ***COVID-19 CORONAVIRUS*** ***vaccine*** (78%); DRUG AVAILABILITY (78%); DRUG DESIGN & DISCOVERY (78%); HEALTH DEPARTMENTS (78%); DRUG SHORTAGES (73%)

Geographic: HONG KONG (97%); ASIA (79%); ***CHINA*** (79%); INDIA (79%); PHILIPPINES (79%); SINGAPORE (79%); TAIWAN (79%); UNITED STATES (79%)

Load-Date: June 4, 2021

End of Document

123 # When will you need a Covid-19 booster shot?

The New York Times

June 6, 2021 Sunday 08:20 EST

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Section: SCIENCE

Length: 378 words

Byline: Carl Zimmer

Highlight: Many scientists estimate that the ***vaccines*** authorized in the United States will last at least a year. No one knows for sure, but early signs are promising.

Body

As the United States *edges closer* to President Biden's goal of a 70 percent ***vaccination*** rate, many people are beginning to wonder how long their protection will last.

Although many scientists estimate that the ***vaccines*** authorized in the United States will last at least a year, no one knows for sure. It's also unclear whether emerging variants of the ***coronavirus*** will change our ***vaccination*** needs.

Here's what scientists know so far.

How do ***Covid-19*** ***vaccines*** stack up against others in terms of protection?

Early signs are encouraging. Researchers have been drawing blood from volunteers in ***vaccine*** trials and measuring their levels of antibodies and immune cells that target the ***coronavirus***. The levels are dropping, but gradually. It's possible that with this slow rate of decline, ***vaccine*** protection will remain strong for a long time. People who were previously infected and then received the ***vaccine*** may enjoy *even more durable protection*.

Will some Covid ***vaccines*** last longer than others?

Scientists have already found that ***vaccines*** *using different technologies* can vary in their effectiveness. The strongest ***vaccines*** include Moderna and Pfizer-BioNTech, both of which are based on RNA molecules. ***vaccines*** relying on inactivated viruses, such as those made by Sinopharm in ***China*** and Bharat Biotech in India, have proved somewhat less effective.

How will we know when our ***vaccines*** are losing their effectiveness?

Scientists are searching for biological markers that could reveal when the protection from a ***vaccine*** is no longer enough to hold back the ***coronavirus***. It's possible that a certain level of antibodies marks a threshold: If your blood measures above that level, you're in good shape, but if you're below it, you're at greater risk of infection.

What about the variants?

The emergence of variants in recent months has accelerated research on boosters. Some variants have mutations that led them to spread swiftly. Others carry mutations that might blunt the effectiveness of authorized ***vaccines***. But at this point, scientists still have only a smattering of clues about how existing ***vaccines*** work against different variants.

PHOTO: Preparing a dose of the Pfizer ***vaccine*** in Miami last month. (PHOTOGRAPH BY Saul Martinez for The New York Times FOR THE NEW YORK TIMES)

Classification

Language: ENGLISH

Document-Type: Live Blog Post

Publication-Type: Web Publication

Subject: ***vaccineS*** (99%); ***COVID CORONAVIRUS*** (91%); VIRUSES (91%); CORONAVIRUSES (90%); ***COVID-19 CORONAVIRUS*** (90%); ***COVID-19 CORONAVIRUS vaccine*** (90%); HERBAL MEDICINE (90%); INFECTIOUS DISEASE (90%); SCIENCE & TECHNOLOGY (90%); ***VACCINATION*** & IMMUNIZATION (90%); BIOTECHNOLOGY INDUSTRY (76%); DISEASE MARKERS (72%); internal-essential (%)

Company: PFIZER INC (91%); ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (54%)

Ticker: PFZ (LSE) (91%); PFE (NYSE) (91%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (91%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (91%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (91%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (91%); SIC2834 PHARMACEUTICAL PREPARATIONS (91%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (91%); ***vaccineS*** (99%); PHARMACEUTICALS & BIOTECHNOLOGY (94%); PHARMACEUTICALS INDUSTRY (91%); BIOPHARMACEUTICALS INDUSTRY (90%); CHEMICALS (90%); CHEMICALS MFG (90%); ***COVID-19 CORONAVIRUS vaccine*** (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); ***VACCINATION*** & IMMUNIZATION (90%); IMMUNOLOGIC FACTORS (89%); BIOTECHNOLOGY INDUSTRY (76%)

Geographic: UNITED STATES (90%); ***CHINA*** (88%); INDIA (79%)

Load-Date: June 7, 2021

End of Document

124 *Infections are rising in Mongolia, where half the people have received the Sinopharm vaccine.*

The New York Times

June 9, 2021 Wednesday 23:47 EST

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Section: WORLD

Length: 587 words

Byline: Alexandra Stevenson

Highlight: The nation reported more than 1,300 new ***coronavirus*** infections on Wednesday, renewing a focus on the effectiveness of the Chinese-made Sinopharm shots.

Body

The nation reported more than 1,300 new ***coronavirus*** infections on Wednesday, renewing a focus on the effectiveness of the Chinese-made Sinopharm shots.

Coronavirus cases are surging in Mongolia, where more than half the population is fully vaccinated, prompting a new focus on the effectiveness of its main ***vaccine***, developed by ***China***'s Sinopharm.

Mongolia reported 1,312 new cases of the ***coronavirus*** on Wednesday as the country's total infections neared 70,000, almost all recorded since January. New daily infections have risen more than 70 percent in the past two weeks, according to *a New York Times database*.

The landlocked nation has emerged as an *outlier in the global scramble for* ***vaccines*** among developing nations, securing enough doses for its eligible population thanks to its strategic location between Russia and ***China*** — two ***vaccine*** manufacturing giants with global ambitions. Mongolia has signed deals for 4.3 million doses of the Sinopharm ***vaccine*** and one million doses of Russia's Sputnik V ***vaccine***, although only 60,000 Sputnik doses have arrived so far.

Chinese ***vaccines***, such as the ones made by Sinopharm and another company, Sinovac, use inactivated coronaviruses to trigger an immune response in the body. They have been shown in studies to be less effective than the ***vaccines*** developed by the pharmaceutical companies Pfizer and Moderna, which use newer mRNA technology.

Sinopharm's ***vaccine*** initially came under scrutiny because of a lack of transparency in its late-stage trial data. The ***vaccine*** faced more questions after the island nation of the Seychelles, which relied heavily on Sinopharm to inoculate its population, *also saw a spike in cases*, although most people did not become seriously ill.

"Inactivated ***vaccines*** like Sinovac and Sinopharm are not as effective against infection but very effective against severe disease," said Ben Cowling, an epidemiologist and biostatistician at the University of Hong Kong School of Public Health.

"Although Mongolia seems to be having a spike in infections and cases, my expectation is that there won't be large number of hospitalizations," he added.

Infections are rising in Mongolia, where half the people have received the Sinopharm **vaccine**.

And some virus variants may spread fast enough to cause concern even in countries where much of the population has ***vaccinations*** effective against them: Britain is *dealing with a rise in cases* linked to the Delta variant, despite having more than half of its adult population fully vaccinated, largely with shots from AstraZeneca and Pfizer.

Still, the wave of infections has raised questions in Mongolia over why the government relied on the Sinopharm shots instead of a ***vaccine*** proven to be more effective. It came as Mongolians headed to the polls on Wednesday to vote for president, the first election since the constitution was amended to limit the president to one six-year term. The prime minister is the head of government and holds executive power.

A year ago, Mongolia was among the few countries in the world that boasted no local ***coronavirus*** cases, but an outbreak in November changed that. A *political crisis ensued* and protests over perceived mishandling of the outbreak led the prime minister to resign in January.

The new prime minister, Oyun-Erdene Luvsannamsrai, has promised to revive a flagging economy and end social distancing restrictions that have hurt businesses. A fresh wave of cases could threaten this pledge.

PHOTO: A nurse checking on patients who just received a ***vaccine*** in Ulaanbaatar, Mongolia, last month. (PHOTOGRAPH BY Khasar Sandag for The New York Times FOR THE NEW YORK TIMES)

Classification

Language: ENGLISH

Document-Type: Live Blog Post

Publication-Type: Web Publication

Subject: ***vaccineS*** (97%); VIRUSES (96%); CORONAVIRUSES (94%); BIOLOGICS MFG (90%); HERBAL MEDICINE (90%); INFECTIOUS DISEASE (90%); ***VACCINATION*** & IMMUNIZATION (90%); DISEASES & DISORDERS (89%); EPIDEMIOLOGY (89%); HEADS OF STATE & GOVERNMENT (89%); ***COVID-19 CORONAVIRUS*** (78%); MORBIDITY RATES (78%); PUBLIC HEALTH (78%); PUBLIC HEALTH ADMINISTRATION (78%); DRUG DESIGN & DISCOVERY (77%); EMERGING MARKETS (77%); IMMUNOLOGY (76%); ENTERPRISE GLOBALIZATION (73%); ADULTS (72%); CAMPAIGNS & ELECTIONS (63%); PRIME MINISTERS (63%); HEADS OF GOVERNMENT ELECTIONS (62%); VOTERS & VOTING (62%); CONSTITUTIONAL AMENDMENTS (60%); internal-essential (%); Mongolia (%); ***China*** National Pharmaceutical Group Corp (Sinopharm) (%); ***Coronavirus*** (***2019-nCoV***) (%); Disease Rates (%); ***Vaccination*** and Immunization (%)

Company: PFIZER INC (91%); ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (91%); ASTRAZENECA PLC (54%)

Ticker: PFZ (LSE) (91%); PFE (NYSE) (91%); AZN (STO) (54%); AZN (NYSE) (54%); AZN (LSE) (54%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (91%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (91%); NAICS325411 MEDICINAL &

Infections are rising in Mongolia, where half the people have received the Sinopharm **vaccine**.

BOTANICAL MANUFACTURING (91%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (91%); SIC2834 PHARMACEUTICAL PREPARATIONS (91%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (91%); ***vaccineS*** (97%); PHARMACEUTICALS & BIOTECHNOLOGY (94%); PHARMACEUTICALS INDUSTRY (93%); PHARMACEUTICAL PREPARATION MFG (92%); BIOLOGICS MFG (90%); BIOPHARMACEUTICALS INDUSTRY (90%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); ***VACCINATION*** & IMMUNIZATION (90%); EPIDEMIOLOGY (89%); MORBIDITY RATES (78%); DRUG DESIGN & DISCOVERY (77%); IMMUNOLOGY (76%)

Geographic: MONGOLIA (97%); ***CHINA*** (93%); HONG KONG (79%); RUSSIAN FEDERATION (71%)

Load-Date: June 10, 2021

End of Document

125 Tough Limits Enforced To Fight Cluster in China

The New York Times

June 10, 2021 Thursday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 11

Length: 1420 words

Byline: By Keith Bradsher

Body

Foreign businesses worry that tough quarantines and restrictions could persist into next year as Beijing struggles with variants and questions about its ***vaccines***.

BEIJING -- Neighborhoods under strict lockdown. Thousands quarantined. Millions tested in mere days. Overseas arrivals locked up for weeks and sometimes months.

China has followed variations of that formula for dealing with the ***coronavirus*** for more than a year -- and a new outbreak suggests that they could be part of Chinese life for some time to come.

China appeared to get the ***coronavirus*** under control nearly a year ago. But hundreds of millions of Chinese people remain unvaccinated. New variants of the ***coronavirus*** have appeared, and questions remain about whether ***China***'s self-made ***vaccines*** can stop them.

The latest cases have been found in Guangzhou, capital of the southern province of Guangdong. The authorities have blamed the Delta variant, which has caused widespread loss of life in India.

The city tested practically its entire population of 18.7 million between Sunday and Tuesday, some of them for the second time. It has also put neighborhoods with a total of more than 180,000 residents into total lockdowns, with practically no one allowed out except for medical testing.

The early infections appear to have jumped from person to person at a cluster of eateries. Each infected person has infected more people than in any previous outbreak that ***China*** has confronted, Zhang Zhoubin, deputy director of the Guangzhou Center for Disease Control, said at a news conference.

"The epidemic faced by Guangzhou this time is an unprecedented opponent, and it requires more resolute and decisive measures to deal with it," he said.

Test facilities in Guangzhou have been operating around the clock. Lines are long. Residents wake early to try to beat the rush, but still find delays.

Mandy Li, a longtime resident of the city's Liwan District, where most of the infections have occurred, said she set her alarm clock for 3:30 a.m. She still had to wait an hour.

"In the queue, there was a family of three," she said. "Some woke their kids to line up, and some had strollers. But everyone was cooperative and quiet, as we know some volunteers and medical workers worked very hard and they've been there all this time without rest."

China's approach has evolved since the ***coronavirus*** first emerged, when Beijing initially put harsh restrictions on hundreds of millions of people. Today its lockdowns are focused on neighborhoods rather than cities or provinces. ***China*** has made ***vaccination*** the centerpiece of its strategy.

Still, many of the core tenets remain for a huge and densely populated country: vast testing, strict limits on movement and intense scrutiny of arrivals from other countries.

Foreign businesses have worried that those limits on international travelers could snarl their plans. A European Union Chamber of Commerce survey released this week found that three-quarters of member companies said they had been adversely affected by travel restrictions, usually by hindering them from bringing in key engineers or executives.

Beijing has demanded that travelers from dozens of countries spend two weeks in employer-supervised quarantine even before flying to ***China***. Once there, travelers must spend at least two weeks and sometimes three or longer in government-supervised quarantine, even if they are fully vaccinated. Rounds of tests can turn up a possibly false positive, leading to more tests and additional days or weeks in isolation.

A German national who flew into Shanghai last month said that he had been sent to a hospital isolation room for three days because he tested positive for antibodies, which he attributed to taking a second ***vaccine*** dose 16 days earlier.

Nurses took his blood twice a day and performed six throat swabs, four nasal swabs and two anal swabs daily, said the German, who insisted on anonymity to avoid offending the authorities. The hospital room had no towels, no toilet paper and no television, and the bed was a steel plate with a thin mat, he said.

The German said that, after consistently testing negative for the virus, he was allowed to spend the remaining 11 days of isolation in a government-supervised quarantine center.

Many businesses expect that ***China*** may retain stringent travel restrictions through February, when Beijing will host the Winter Olympics, and possibly through autumn of next year, when the Chinese Communist Party will hold its party congress.

Many foreigners in ***China*** face a choice: If they leave to visit spouses, children and other family members elsewhere, they may be unable to re-enter the country later because of the pandemic restrictions.

"There is absolutely a growing fatigue for a lot of the foreigners who are here," said Jacob Gunter, senior policy and communications manager at the European Union Chamber of Commerce in ***China***.

At home, ***China***'s leaders are pushing its people to get vaccinated. It has administered about 800 million doses by the government's count, compared with 300 million administered in the United States. Yin Weidong, the chairman and chief executive of Sinovac Biotech, one of ***China***'s main ***vaccine*** manufacturers, told state television last Friday that Chinese regulators had approved the emergency use of ***vaccines*** in children as young as 3.

Still, administering 800 million doses -- almost all of the ***vaccines*** require two shots -- means most of ***China***'s 1.4 billion people have not been fully vaccinated. Some people remain hesitant to get the shots, and Chinese media outlets have used the Guangzhou outbreak to encourage skeptics to get inoculated.

The spread of the virus has raised fresh questions about the effectiveness of ***China***'s ***vaccines***, particularly against variants. The Seychelles last month and now Mongolia in the past three weeks have both had large

numbers of infections despite high ***vaccination*** rates. Both have used the Sinopharm ***vaccine*** from ***China***, although the Seychelles also relied partly on AstraZeneca ***vaccines***.

The Delta variant now circulating in Guangzhou has also shown the ability in other countries to infect some people who had already been vaccinated, a phenomenon known as ***vaccine*** escape. Research elsewhere has found that to be a particular problem for people who have received only a first injection of a two-jab ***vaccine*** and are then exposed to the Delta variant.

Researchers in Britain have found that receiving only the first of two shots of the Oxford-AstraZeneca or Pfizer-BioNTech ***vaccines*** may be only 30 percent effective in preventing infection with the Delta variant, said Raina MacIntyre, who heads the biosecurity program at the Kirby Institute of the University of New South Wales in Sydney, Australia.

After two doses, effectiveness appears to rise to 60 percent with the AstraZeneca ***vaccine*** and 88 percent with Pfizer-BioNTech. "With the degree of ***vaccine*** escape there is with the Delta variant, you really do need people to be fully vaccinated," she said.

Mr. Yin, of Sinovac, told ***China***'s state-run television on Saturday that a third shot of his company's ***vaccine*** produces a tenfold increase in antibodies within a week. But Chinese ***vaccine*** manufacturers are not yet recommending a third dose.

"As far as ***China*** is concerned, in fact, completing the two-shot immunization is the most important task for all the public," he said.

In the meantime, Guangzhou has tried to turn its virus setback into a showcase for local technologies. Officials there said they had used 31 driverless shuttle vans and trucks to send food and other critical supplies into locked down neighborhoods to avoid exposing delivery personnel.

By Tuesday, Guangdong Province had 157 people in hospital with the virus and was announcing about 10 new cases per day. The province and also Guangzhou itself have banned anyone since last weekend from leaving unless they have a valid reason and a negative nucleic acid test for the virus within the preceding 48 hours.

Unlike many places around the world, Guangzhou at least does not have to worry about running out of pandemic supplies: It is coincidentally a hub for manufacturing and exporting them. Chen Jianhua, chief economist of the Guangzhou Bureau of Industry and Information Technology, said at a news conference on Wednesday that the city's daily production capacity was 91 million masks and seven million sets of ***coronavirus*** detection chemicals.

Albee Zhang contributed research.Albee Zhang contributed research.

*https://www.nytimes.com/2021/06/09/world/asia/**china**-covid-lockdown.html*

Graphic

PHOTOS: Above, workers delivering supplies last week to residents of a compound under lockdown in Guangzhou. Left, in a Beijing factory built last year to produce a ***coronavirus*** ***vaccine***. (PHOTOGRAPHS BY ***CHINA*** DAILY, VIA REUTERS

WANG ZHAO/AGENCE FRANCE-PRESSE -- GETTY IMAGES)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: CORONAVIRUSES (90%); INFECTIOUS DISEASE (90%); PUBLIC HEALTH (90%); ***vaccineS*** (90%); VIRUSES (90%); DISEASES & DISORDERS (89%); ***COVID-19*** ***CORONAVIRUS*** (78%); EPIDEMICS (78%); POPULATION DENSITY (78%); ***VACCINATION*** & IMMUNIZATION (78%); MEDICAL DIAGNOSTICS, SCREENING & TESTING (77%); EPIDEMIOLOGY (76%); BIOLOGICS MFG (73%); BUSINESS & PROFESSIONAL ASSOCIATIONS (73%); CHAMBERS OF COMMERCE (73%); POLLS & SURVEYS (73%); HEALTH CARE PROFESSIONALS (66%); EUROPEAN UNION (50%); PRESS CONFERENCES (50%)

Industry: ***vaccineS*** (90%); ***VACCINATION*** & IMMUNIZATION (78%); EPIDEMIOLOGY (76%); INTERNATIONAL TOURISM (74%); BIOLOGICS MFG (73%); HEALTH CARE PROFESSIONALS (66%); RESTAURANTS (65%)

Geographic: BEIJING, ***CHINA*** (93%); GUANGZHOU, GUANGDONG, ***CHINA*** (92%); NORTH CENTRAL ***CHINA*** (91%); SOUTH ***CHINA*** (91%); GUANGDONG, ***CHINA*** (79%); ***CHINA*** (97%); INDIA (79%); EUROPEAN UNION MEMBER STATES (50%)

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End of Document

126 *Afghanistan gets 700,000 doses of a Chinese vaccine amid a Covid surge overwhelming Kabul.*

The New York Times

June 10, 2021 Thursday 12:22 EST

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Section: WORLD

Length: 394 words

Byline: Adam Nossiter and Najim Rahim

Highlight: “There are no empty bed for patients in Kabul hospitals,” said a spokesman for the country’s health ministry.

Body

“There are no empty bed for patients in Kabul hospitals,” said a spokesman for the country’s health ministry.

Afghanistan received 700,000 doses of a ***Covid-19*** ***vaccine*** from ***China*** on Thursday amid a worsening crisis and record numbers of known cases, health ministry officials said.

The Ministry of Public Health said it would prioritize people over the age of 55 and those with chronic diseases to receive the doses of the ***vaccine***, made by the Chinese company Sinopharm.

With hospital beds filling up, a persistent shortage of oxygen, and a general failure to adopt the elementary precautions common elsewhere — mask wearing, social distancing — Afghanistan is undergoing its severest period of the pandemic.

Though Afghanistan’s testing capacity is severely limited, the country on Thursday recorded its highest ever number of virus cases in a 24-hour period: 1,822 positive tests of 5,343 total — a positivity rate of over 34 percent. There were 56 recorded deaths from ***Covid-19*** over the preceding 24 hours, but the Afghan health system cannot always distinguish Covid from other causes of death in a country where disease and violence are endemic.

“The situation is critical,” said Saeed Uddin Jami, a spokesman for the Afghan Public Health Ministry. “There are no empty bed for patients in Kabul hospitals,” he said. “Unfortunately, people do not cooperate with us, and they do not take the virus seriously. It is likely that the situation will worsen throughout Afghanistan.”

Sinopharm’s ***vaccine*** uses inactivated coronaviruses to trigger an immune response in the body. ***vaccines*** that use that approach have been shown in studies to be less effective than the ***vaccines*** developed by the pharmaceutical companies Pfizer and Moderna, which use newer mRNA technology.

The Chinese donation of the doses of Sinopharm’s ***vaccine*** follows a February shipment of 500,000 doses of the AstraZeneca ***vaccine*** from India that failed to make much of a dent. Nor did a donation of 486,000 doses of AstraZeneca from the Covax global ***vaccine*** initiative shift the trajectory of the crisis.

The United States on Friday announced some $266 million in additional aid for Afghanistan, primarily for Covid response.

Afghanistan gets 700,000 doses of a Chinese **vaccine** amid a Covid surge overwhelming Kabul.

PHOTO: Two men helping their father last month at the Afghan-Japan Communicable Disease Hospital in Kabul, Afghanistan. (PHOTOGRAPH BY Rahmat Gul/Associated Press FOR THE NEW YORK TIMES)

Classification

Language: ENGLISH

Document-Type: News

Publication-Type: Web Publication

Subject: ***COVID CORONAVIRUS*** (95%); ***vaccineS*** (94%); HEALTH DEPARTMENTS (93%); PUBLIC HEALTH ADMINISTRATION (92%); ***COVID-19 CORONAVIRUS*** (91%); CORONAVIRUSES (90%); ***COVID-19 CORONAVIRUS vaccine*** (90%); DISEASES & DISORDERS (90%); HEALTH CARE POLICY (90%); HERBAL MEDICINE (90%); INFECTIOUS DISEASE (90%); PUBLIC HEALTH (90%); ***VACCINATION*** & IMMUNIZATION (90%); VIRUSES (89%); DEATH & DYING (78%); EPIDEMICS (78%); PANDEMICS (78%); SOCIAL DISTANCING (78%); IMMUNOLOGY (77%); BIOCHEMISTRY (76%); CHRONIC DISEASES (73%); PUBLIC OFFICIALS (72%); SHORTAGES (71%); internal-essential (%); ***Coronavirus*** (***2019-nCoV***) (%); ***Vaccination*** and Immunization (%); Afghanistan (%); ***China*** National Pharmaceutical Group Corp (Sinopharm) (%)

Company: ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (84%); PFIZER INC (58%); ASTRAZENECA PLC (57%); ASSOCIATED PRESS (51%)

Ticker: PFZ (LSE) (58%); PFE (NYSE) (58%); AZN (STO) (57%); AZN (NYSE) (57%); AZN (LSE) (57%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (84%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (84%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (84%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (58%); SIC2834 PHARMACEUTICAL PREPARATIONS (58%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (58%); SIC7383 NEWS SYNDICATES (51%); PHARMACEUTICALS & BIOTECHNOLOGY (94%); ***vaccineS*** (94%); HEALTH DEPARTMENTS (93%); PHARMACEUTICALS INDUSTRY (93%); HOSPITALS (92%); BIOPHARMACEUTICALS INDUSTRY (90%); CHEMICALS (90%); CHEMICALS MFG (90%); ***COVID-19 CORONAVIRUS vaccine*** (90%); HEALTH CARE POLICY (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); ***VACCINATION*** & IMMUNIZATION (90%); CHRONIC & INFECTIOUS DISEASE HOSPITALS (78%); IMMUNOLOGY (77%)

Geographic: KABUL, AFGHANISTAN (94%); AFGHANISTAN (95%); ***CHINA*** (93%); INDIA (79%); UNITED STATES (79%)

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End of Document

127 President to Send 500 Million Doses to Nations in Need

The New York Times

June 10, 2021 Thursday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 1

Length: 1490 words

Byline: By Sharon LaFraniere, Sheryl Gay Stolberg and Noah Weiland

Body

The White House's move is part of a nascent campaign to inoculate the world, and came as President Biden faced intense pressure to do more.

WASHINGTON -- President Biden, under pressure to aggressively address the global ***coronavirus*** ***vaccine*** shortage, will announce as early as Thursday that his administration will buy 500 million doses of the Pfizer-BioNTech ***vaccine*** and donate them among about 100 countries over the next year, according to people familiar with the plan.

The White House reached the deal just in time for Mr. Biden's eight-day European trip, which is his first opportunity to reassert the United States as a world leader and restore relations that were badly frayed by President Donald J. Trump.

"We have to end ***Covid-19***, not just at home, which we're doing, but everywhere," Mr. Biden told American troops after landing at R.A.F. Mildenhall in Suffolk, England. "There's no wall high enough to keep us safe from this pandemic or the next biological threat we face, and there will be others. It requires coordinated multilateral action."

People familiar with the Pfizer deal said the United States would pay for the doses at a "not for profit" price. The first 200 million doses will be distributed by the end of this year, followed by 300 million by next June, they said. The doses will be distributed through Covax, the international ***vaccine***-sharing initiative.

Mr. Biden is in Europe for a week to attend the NATO and Group of 7 summits and to meet with President Vladimir V. Putin of Russia in Geneva. He is likely to use the trip to call on other nations to step up ***vaccine*** distribution.

In a statement on Wednesday, Jeffrey D. Zients, the White House official in charge of devising a global ***vaccination*** strategy, said Mr. Biden would "rally the world's democracies around solving this crisis globally, with America leading the way to create the arsenal of ***vaccines*** that will be critical in our global fight against ***Covid-19***."

The White House is trying to spotlight its success in fighting the pandemic -- particularly its ***vaccination*** campaign -- and use that success as a diplomatic tool, especially as ***China*** and Russia seek to do the same. Mr. Biden has been insistent that, unlike ***China*** and Russia, which have been sharing their ***vaccines*** with dozens of countries, the United States will not seek to extract promises from countries receiving American-made ***vaccines***.

The 500 million doses still fall far short of the 11 billion the World Health Organization estimates are needed to vaccinate the world, but significantly exceed what the United States has committed to share so far. Other nations

have been pleading with the United States to give up some of its abundant ***vaccine*** supplies. Less than 1 percent of people are fully vaccinated in a number of African countries, compared with 42 percent in the United States and the United Kingdom.

Advocates for global health welcomed the news, but reiterated their stance that it is not enough for the United States to simply give ***vaccine*** away. They say the Biden administration must create the conditions for other countries to manufacture ***vaccines*** on their own, including transferring technology to make the doses.

"The world needs urgent new manufacturing to produce billions more doses within a year, not just commitments to buy the planned inadequate supply," Peter Maybarduk, the director of Public Citizen's Access to Medicines program, said in a statement. He added, "We have yet to see a plan from the U.S. government or the G7 of the needed ambition or urgency to make billions more doses and end the pandemic."

The deal with Pfizer has the potential to open the door to similar agreements with other ***vaccine*** manufacturers, including Moderna, whose ***vaccine*** was developed with American tax dollars -- unlike Pfizer's. In addition, the Biden administration has brokered a deal in which Merck will help produce Johnson & Johnson's ***vaccine***, and those doses might be available for overseas use.

The United States has already contracted to buy 300 million doses of the Pfizer-BioNTech ***vaccine***, which requires two shots, for distribution in the United States; the 500 million doses are in addition to that, according to people familiar with the deal.

Neither Pfizer nor administration officials would say what the company is charging the government for the doses. Pfizer is also offering the Biden administration an option to buy another 200 million doses at cost to be donated overseas.

For Pfizer, the decision to sell the Biden administration so much supply without making a profit is a significant step.

Its ***vaccine*** accounted for $3.5 billion in revenue in the first three months of this year, nearly a quarter of Pfizer's total revenue. By some estimates, the firm earned roughly $900 million in pretax profits from the ***vaccine*** during the first quarter.

But the company also faced criticism that it was disproportionately aiding wealthy nations, even though Pfizer's chief executive, Albert Bourla, had promised in January to help ensure that "developing countries have the same access as the rest of the world."

The 200 million Pfizer doses that the Biden administration plans to donate this year amount to about 7 percent of the three billion doses that the company is expected to produce. Pfizer expects to provide another 800 million doses to lower- or lower-middle-income countries through other agreements with individual countries or Covax, a spokeswoman said.

For Mr. Biden, the agreement shows that his administration is willing to dip more deeply into the nation's treasury to help out poorer countries.

Last week, Mr. Biden said the United States would distribute 25 million doses this month to countries in the Caribbean and Latin America; South and Southeast Asia; Africa; and the Palestinian territories, Gaza and the West Bank.

Those doses are the first of 80 million that Mr. Biden pledged to send abroad by the end of June; three-quarters of them will be distributed by Covax. The rest will go toward addressing pressing and urgent crises in places like India and the West Bank and Gaza, administration officials have said. Many of the 80 million doses were made by AstraZeneca and are still tied up in a complex review by the Food and Drug Administration.

Mr. Biden has also committed to supporting a waiver of an international intellectual property agreement, which would make it harder for companies to refuse to share their technology. But European leaders are blocking the proposed waiver, and pharmaceutical companies are strongly opposed to it. The World Trade Organization's Council for Trade-Related Aspects of Intellectual Property Rights is meeting this week to consider the waiver.

The president's promise of ***vaccines*** for the global market comes as he prepares to meet on Thursday with Prime Minister Boris Johnson of Britain, who has called on leaders to commit to vaccinating everyone in the world by the end of 2022. Mr. Biden's announcement is likely to be welcome news for Mr. Johnson, whose critics have questioned where the money will come from to meet his pledge.

"The truth is that world leaders have been kicking the can down the road for months -- to the point where they have run out of road," Edwin Ikhouria, the executive director for Africa at the ONE Campaign, a nonprofit aimed at eradicating global poverty, said in a statement on Wednesday.

About 64 percent of adults in the United States are at least partly vaccinated, and the president has set a goal of bringing that number up to 70 percent by July 4. The pace of ***vaccination*** has dropped sharply since mid-April, leading the Biden administration to pursue a strategy of greater accessibility and incentives to reach Americans who have not yet gotten shots.

In spite of those efforts, there are unused ***vaccine*** doses that could go to waste. Once thawed, doses have a limited shelf life and millions could begin expiring within two weeks, according to federal officials.

Providing equitable access to ***vaccines*** has become one of the most intractable challenges to reining in the pandemic. Wealthier nations and private entities have pledged tens of millions of doses and billions of dollars to shore up global supplies, but the disparity in ***vaccine*** allocations so far has been stark.

Dr. Tedros Adhanom Ghebreyesus, the director general of the World Health Organization, warned this week that the world was facing a "two-track pandemic," in which countries where ***vaccines*** are scarce will struggle with virus cases even as better-supplied nations return to normal.

Those lower-income countries will be largely dependent on wealthier ones until ***vaccines*** can be distributed and produced on a more equitable basis, he said.

Daniel E. Slotnik contributed reporting from New York, and Michael D. Shear from Plymouth, England.Daniel E. Slotnik contributed reporting from New York, and Michael D. Shear from Plymouth, England.

*https://www.nytimes.com/2021/06/09/us/politics/biden-pfizer-**vaccine**-doses.html*

Graphic

PHOTOS: "There's no wall high enough to keep us safe from this pandemic," President Biden told U.S. troops Wednesday in Suffolk, England. (PHOTOGRAPH BY DOUG MILLS/THE NEW YORK TIMES) (A1)

The Biden plan represents only a tiny portion of the 11 billion doses the World Health Organization estimates will be needed. (PHOTOGRAPH BY SAUL MARTINEZ FOR THE NEW YORK TIMES) (A10)

Classification

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Publication-Type: Newspaper

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Company: PFIZER INC (58%)

Organization: WORLD HEALTH ORGANIZATION (59%)

Ticker: PFZ (LSE) (58%); PFE (NYSE) (58%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (58%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (58%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (58%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (58%); SIC2834 PHARMACEUTICAL PREPARATIONS (58%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (58%); ***vaccineS*** (92%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); BIOPHARMACEUTICALS INDUSTRY (90%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); MANUFACTURING (89%); ***VACCINATION*** & IMMUNIZATION (89%); ***COVID-19 CORONAVIRUS vaccine*** (78%); BIOLOGICS MFG (77%); DRUG AVAILABILITY (77%); DRUG SHORTAGES (72%); HEALTH DEPARTMENTS (61%)

Person: JOE BIDEN (92%); DONALD TRUMP (78%); VLADIMIR PUTIN (58%)

Geographic: UNITED STATES (98%); ***CHINA*** (92%); RUSSIAN FEDERATION (90%); EUROPE (79%); SWITZERLAND (79%); ENGLAND (57%)

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End of Document

128 *In China's latest outbreak, doctors say the infected get sicker, faster.*

The New York Times

June 12, 2021 Saturday 12:08 EST

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Section: WORLD

Length: 637 words

Byline: Keith Bradsher

Highlight: Four-fifths of symptomatic cases develop fevers, more than in earlier outbreaks. The findings match trends in other countries where the Delta variant is spreading.

Body

Four-fifths of symptomatic cases develop fevers, more than in earlier outbreaks. The findings match trends in other countries where the Delta variant is spreading.

As *the Delta variant* of the ***coronavirus*** spreads in southeastern ***China***, doctors say they are finding that the symptoms are different and more dangerous than those they saw when the initial version of the virus started spreading in late 2019 in the central city of Wuhan.

Patients are becoming sicker and their conditions are worsening much more quickly, doctors told state-run television on Thursday and Friday. Four-fifths of symptomatic cases developed fevers, they said, although it was not clear how that compared with earlier cases. The virus concentrations that are detected in their bodies climb to levels higher than previously seen, and then decline only slowly, the doctors said.

Up to 12 percent of patients become severely or critically ill within three to four days of the onset of symptoms, said Guan Xiangdong, director of critical care medicine at Sun Yat-sen University in the city of Guangzhou, where the outbreak has been centered. In the past, the proportion had been 2 percent or 3 percent, although occasionally up to 10 percent, he said.

Doctors in Britain and Brazil have reported similar trends with the *variants* that circulated in those countries, but the severity of those variants has not yet been confirmed.

The testimonies from ***China*** are the latest indication of *the dangers posed by Delta*, which the World Health Organization last month labeled a "variant of concern." First identified this spring in India, where it was blamed for widespread suffering and death, *Delta* has since become the dominant variant in Britain, where doctors suggest that it is more contagious and may infect some people who have received only one of two doses of a ***Covid-19 vaccine***.

China has uniquely detailed data, however, because it has essentially universal testing in the vicinity of outbreaks, allowing officials to gather detailed information on the extent of cases.

Delta's spread in southeastern ***China*** focuses more attention on the effectiveness of ***China***'s self-made ***vaccines***. The Chinese authorities have not indicated how many of the new infections have occurred in people who had been vaccinated. In some other countries where Chinese-made ***vaccines*** are in wide use, including *the Seychelles* and

Mongolia, infections among vaccinated people are rising, although few patients have reportedly developed serious illness.

Nearby Shenzhen had a handful of cases last week of the Alpha variant, which first emerged in Britain.

As some other parts of the world still struggle to acquire and administer large numbers of ***coronavirus*** tests, southeastern ***China*** has used its local production of scarce chemicals to conduct testing on a remarkable scale. The authorities said that they had conducted 32 million tests in Guangzhou, which has 18 million people, and 10 million in the adjacent city of Foshan, which has seven million.

Guangzhou has also isolated and quarantined tens of thousands of residents who had been anywhere near those infected. The testing and quarantine appear to have slowed but not stopped the outbreak. ***China***’s National Health Commission announced on Friday that nine new cases had been found in Guangzhou the previous day.

“The epidemic is not over yet, and the risk of virus transmission still exists,” said Chen Bin, deputy director of the Guangzhou Municipal Health Commission.

Albee Zhang contributed research.

Albee Zhang contributed research.

PHOTO: A ***vaccination*** center in Wuhan, ***China***, on Wednesday. Doctors in the country say patients with the Delta variant are becoming sicker and their conditions are worsening more quickly than they did with the initial version. (PHOTOGRAPH BY Getty Images/Getty Images FOR THE NEW YORK TIMES)

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Organization: WORLD HEALTH ORGANIZATION (54%)

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In China’s latest outbreak, doctors say the infected get sicker, faster.

Geographic: GUANGZHOU, GUANGDONG, ***CHINA*** (90%); SHENZHEN, GUANGDONG, ***CHINA*** (79%); WUHAN, HUBEI, ***CHINA*** (79%); SOUTH ***CHINA*** (90%); ***CHINA*** (95%); INDIA (79%)

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129 Why Mixing vaccines May Hold Promise

The New York Times

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Byline: By Roxanne Khamsi

Body

At the start of the ***Covid-19*** pandemic, it was unclear whether researchers would be able to create a single working ***vaccine***, which makes it all the more surprising that the latest immunization dilemma arises from having multiple ***vaccine*** options.

Because of unpredictable supply and some concerns about an exceedingly rare but serious clotting risk from the AstraZeneca ***vaccine***, public health officials in some parts of the world that have relied heavily on that shot have recently issued new guidance on mixing and matching different ***Covid-19*** ***vaccines***.

Recently, for example, Canada's National Advisory Committee on Immunization updated its guidance to say that people who received the AstraZeneca ***vaccine*** as their first dose can receive that same ***vaccine*** as their second dose or get a follow-up shot of Pfizer-BioNTech or Moderna instead. The committee also said that it was possible to receive the Pfizer-BioNTech and Moderna ***vaccines*** interchangeably as first and second doses. Countries ranging from France to Finland to ***China*** to Bahrain have also outlined possible scenarios for combining different ***vaccines***. Even the Centers for Disease Control and Prevention has interim guidance saying this is acceptable in "exceptional situations," such as if the same ***vaccine*** is not available.

While this guidance may seem confusing, especially when the initial ***vaccine*** guidance told people to get the same shot for both doses, it does provide an opportunity to understand the safety of using mismatched ***vaccines***, and to measure whether mismatched ***vaccines*** offer any advantage.

One recent small and not yet peer-reviewed study of 26 people who received the AstraZeneca shot followed by one from Pfizer-BioNTech suggested, based on blood tests, that those with mismatched ***vaccines*** had at least as strong an immune response as people who got both Pfizer shots. The National Institutes of Health recently began a clinical trial that will examine the effects of different combinations of ***Covid-19*** ***vaccines***.

In Britain, a trial of this kind is already underway for the AstraZeneca and Pfizer-BioNTech ***vaccines***, and the scientists behind it have released early data on side effects. They found more reports of feverishness, chills, fatigue and headache among people who received a dose that was different from their original shot compared with people who received identical shots. Scientists want to know whether that indicates that the immune system was more stimulated by the different ***vaccine***, and could develop added protection. It's still too soon to say, but more results from the trial are expected this month.

This is not the first time scientists have investigated what seems like an unconventional way of ***vaccine*** dosing, and it's not necessarily something to fear. It may be our best hope against certain pathogens.

In the last two decades, as new vaccine technologies have emerged, the idea of using different kinds of vaccines against the same pathogen has gained momentum. The approach -- known among scientists as "heterologous prime-boost" -- has been explored in rodent experiments to develop vaccines against Ebola (now authorized for use by European regulators), tuberculosis and even cancers associated with the Epstein-Barr virus. Mouse experiments of this approach have even been tested for other coronaviruses in the past, such as the original SARS virus and the coronavirus that causes Middle East Respiratory Syndrome.

More recently, in March 2021, scientists in China published a study in mice that looked at different combinations of four different kinds of Covid-19 vaccines, including one made from mRNA and one viral vector vaccine, which -- like the AstraZeneca and Johnson & Johnson coronavirus vaccines -- uses an inactivated cold virus to trigger an immune response to Covid.

Why mix-and-match at all? Part of the thinking among scientists is that by administering different vaccines that expose the immune system to different parts of a pathogen, one after the other, the body becomes trained to recognize different parts of the invader and becomes more effective at defending against it.

Another line of reasoning is that using different kinds of vaccines jump-starts different elements of the immune system. Viral vector vaccines, for example, are well-equipped to stimulate a part of the immune response that helps generate an army of what are called "killer T cells" to protect the body against an invading virus. Other kinds of vaccines are thought to skew more heavily toward prompting the creation of antibodies to combat the virus. Both immune system responses are helpful, and scientists' theory is that combining them could be more potent than either of them alone.

One area where the mix-and-match approach stirs the most hope is in the fight against H.I.V., where vaccine researchers have been investigating it for decades. In what might have been the first human trial of this method, the immunologist Dr. Daniel Zagury of the Pierre and Marie Curie University in Paris received two different experimental H.I.V. shots in 1987. First, a version of a virus that was engineered to produce an H.I.V. protein in the body, and later booster shots of the protein directly (rather than the engineered virus). Dr. Zagury and his colleagues reported that his immune system showed signs of responding, including producing antibodies.

Although attempts at making a successful H.I.V. vaccine have faltered since then, there is still enthusiasm for the mix-and-match approach. A trial called RV144, done more than a decade ago, followed the mix-and-match approach and was the only H.IV. vaccine trial to ever show protection against the virus among a handful of other experimental H.I.V. vaccines. More trials of this kind are underway, and the hope is that finding the right pairing of vaccines will prove successful.

It's clear that many Covid-19 vaccines are mightily effective on their own and don't need to be paired with other versions. But scientists should keep a close eye on the results of the mix-and-match trials underway to see if large, well-controlled studies show any signal of better protection.

The findings could inform vaccine development for other pathogens. This is especially true for viruses that mutate even more rapidly than SARS-CoV-2, like H.I.V. In an era of multiplying vaccine technologies, it might be the case that vaccines, like people, prove more effective when they work together.

Roxanne Khamsi is a science journalist covering Covid-19.

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https://www.nytimes.com/2021/06/13/opinion/covid-vaccine-research-mixing.html

Graphic

PHOTO: (PHOTOGRAPH BY Nicholas Konrad/The New York Times FOR THE NEW YORK TIMES)

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Company: PFIZER INC (92%); ASTRAZENECA PLC (57%)

Organization: CENTERS FOR DISEASE CONTROL & PREVENTION (55%)

Ticker: PFZ (LSE) (92%); PFE (NYSE) (92%); AZN (STO) (57%); AZN (NYSE) (57%); AZN (LSE) (57%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (92%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (92%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (92%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (92%); SIC2834 PHARMACEUTICAL PREPARATIONS (92%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (92%); ***vaccineS*** (99%); PHARMACEUTICALS INDUSTRY (92%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); BIOPHARMACEUTICALS INDUSTRY (90%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); ***VACCINATION*** & IMMUNIZATION (90%); ***COVID-19 CORONAVIRUS vaccine*** (89%); HEALTH DEPARTMENTS (89%); DRUG AVAILABILITY (78%); EPIDEMIOLOGY (78%); IMMUNOLOGY (78%); INVESTIGATIONAL DRUGS (78%); PHARMACEUTICALS PRODUCT DEVELOPMENT (78%)

Geographic: CANADA (79%); BAHRAIN (72%); ***CHINA*** (72%); FRANCE (56%)

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130 Why Asia, the Pandemic Champion, Remains Miles Away From the Finish Line

The New York Times

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Byline: By Damien Cave

Body

While the United States edges toward normalcy, countries like Japan, South Korea and Australia are still facing months of uncertainty and isolation as their ***vaccination*** campaigns just start to gain steam.

SYDNEY, Australia -- All across the Asia-Pacific region, the countries that led the world in containing the ***coronavirus*** are now languishing in the race to put it behind them.

While the United States, which has suffered far more grievous outbreaks, is now filling stadiums with vaccinated fans and cramming airplanes with summer vacationers, the pandemic champions of the East are still stuck in a cycle of uncertainty, restrictions and isolation.

In southern ***China***, the spread of the Delta variant led to a sudden lockdown in Guangzhou, a major industrial capital. Taiwan, Vietnam, Thailand and Australia have also clamped down after recent outbreaks, while Japan is dealing with its own weariness from a fourth round of infections, spiked with fears of viral disaster from the Olympics.

Where they can, people are getting on with their lives, with masks and social distancing and outings kept close to home. Economically, the region has weathered the pandemic relatively well because of how successfully most countries handled its first phase.

But with hundreds of millions of people still unvaccinated from ***China*** to New Zealand -- and with anxious leaders keeping international borders shut for the foreseeable future -- the tolerance for constrained lives is thinning, even as the new variants intensify the threat.

In simple terms, people are fed up, asking: Why are we behind, and when, for the love of all things good and great, will the pandemic routine finally come to an end?

"If we're not stuck, it's like we're waiting in the glue or mud," said Terry Nolan, head of the ***vaccine*** and Immunization Research Group at the Doherty Institute in Melbourne, Australia, a city of five million that is just emerging from its latest lockdown. "Everyone's trying to get out, to find a sense of urgency."

While the languishing varies from country to country, it generally stems from a shortfall in ***vaccines***.

In some places, like Vietnam, Taiwan and Thailand, ***vaccination*** campaigns are barely underway. Others, like ***China***, Japan, South Korea and Australia, have seen a sharp rise in inoculations in recent weeks, while remaining far from offering ***vaccines*** to all who want one.

But nearly everywhere in the region, the trend lines point to a reversal of fortune. While Americans celebrate what feels like a new dawn, for many of Asia's 4.6 billion people, the rest of this year will look a lot like the last, with extreme suffering for some and others left in a limbo of subdued normalcy.

Or there could be more volatility. Worldwide, businesses are watching whether the new outbreak in southern ***China*** will affect busy port terminals there. Across Asia, faltering ***vaccine*** rollouts could also open the door to spiraling variant-fueled lockdowns that inflict new damage on economies, push out political leaders and alter power dynamics between nations.

The risks are rooted in decisions made months ago, before the pandemic had inflicted the worst of its carnage.

Starting in the spring of last year, the United States and several countries in Europe bet big on ***vaccines***, fast-tracking approval and spending billions to secure the first batches. The need was urgent. In the United States alone, at the peak of its outbreak, thousands of people were dying every day as the country's management of the epidemic failed catastrophically.

But in places like Australia, Japan, South Korea and Taiwan, infection rates and deaths were kept relatively low with border restrictions, public compliance with antivirus measures, and widespread testing and contact tracing. With the virus situation largely under control, and with limited ability to develop ***vaccines*** domestically, there was less urgency to place huge orders, or believe in then-unproven solutions.

"The perceived threat for the public was low," said Dr. C. Jason Wang, an associate professor at Stanford University School of Medicine who has studied ***Covid-19*** policies. "And governments responded to the public's perception of the threat."

As a virus-quashing strategy, border controls -- a preferred method throughout Asia -- go only so far, Dr. Wang added: "To end the pandemic, you need both defensive and offensive strategies. The offensive strategy is ***vaccines***."

Their rollout in Asia has been defined by humanitarian logic (which nations around the world needed ***vaccines*** the most), local complacency and raw power over pharmaceutical production and export.

Earlier this year, contract announcements with the companies and countries that control the ***vaccines*** seemed more common than actual deliveries. In March, Italy blocked the export of 250,000 doses of the AstraZeneca ***vaccine*** meant for Australia to control its own raging outbreak. Other shipments were delayed because of manufacturing issues.

"The supplies of purchased ***vaccine*** actually landing on docks -- it's fair to say they are not anywhere near the purchase commitments," said Richard Maude, a senior fellow at the Asia Society Policy Institute in Australia.

Peter Collignon, a physician and professor of microbiology at the Australian National University who has worked for the World Health Organization, put it more simply: "The reality is that the places that are making ***vaccines*** are keeping them for themselves."

Responding to that reality, and the rare blood-clot complications that emerged with the AstraZeneca ***vaccine***, many politicians in the Asia-Pacific region tried early on to emphasize that there was little need to rush.

The result now is a wide gulf with the United States and Europe.

In Asia, about 20 percent of people have received at least one dose of a ***vaccine***, with Japan, for example, at just 14 percent. By contrast, the figure is nearly 45 percent in France, more than 50 percent in the United States and more than 60 percent in Britain.

Instagram, where Americans once scolded Hollywood stars for enjoying mask-free life in zero-Covid Australia, is now studded with images of grinning New Yorkers hugging just-vaccinated friends. While snapshots from Paris show smiling diners at cafes that are wooing summer tourists, in Seoul, people are obsessively refreshing apps that locate leftover doses, usually finding nothing.

"Does the leftover ***vaccine*** exist?" one Twitter user recently asked. "Or has it disappeared in 0.001 seconds because it is like a ticket for the front-row seat of a K-pop idol concert?"

The demand has increased as some of the supply shortages have started to ease.

China, which has struggled with hesitancy over its own ***vaccines*** after controlling the virus for months, administered 22 million shots on June 2, a record for the country. In all, ***China*** has reported administering nearly 900 million doses, in a country of 1.4 billion people.

Japan has ramped up its effort, too, easing rules that had allowed only select medical workers to administer ***vaccinations***. The Japanese authorities opened large ***vaccination*** centers in Tokyo and Osaka and expanded ***vaccine*** programs to workplaces and colleges. Prime Minister Yoshihide Suga now says all adults will have access to a ***vaccine*** by November.

In Taiwan, too, the inoculation effort recently got a boost, as the Japanese government donated roughly 1.2 million doses of the AstraZeneca ***vaccine***.

But all told, Taiwan's experience is somewhat typical: It has still received only enough doses to immunize less than 10 percent of its 23.5 million residents. A Buddhist association recently offered to buy ***Covid-19*** ***vaccines*** to accelerate the island's anemic inoculation effort, but was told only governments can make such purchases.

And as ***vaccinations*** lag across Asia, so too will any robust international reopening. Australia has signaled that it will keep its borders closed for another year. Japan is currently barring almost all nonresidents from entering the country, and intense scrutiny of overseas arrivals in ***China*** has left multinational businesses without key workers.

The immediate future for many places in Asia seems likely to be defined by frantic optimization.

China's response to the outbreak in Guangzhou -- testing millions of people in days, shutting down entire neighborhoods -- is a rapid-fire reprise of how it has handled previous flare-ups. Few inside the country expect this approach to change anytime soon, especially as the Delta variant, which has devastated India, is now beginning to circulate.

At the same time, ***vaccine*** holdouts are facing increased pressure to get inoculated before the available doses expire, and not just in mainland ***China***.

Indonesia has threatened residents with fines of around $450 for refusing ***vaccines***. Vietnam has responded to its recent spike in infections by asking the public for donations to a ***Covid-19*** ***vaccine*** fund. And in Hong Kong, officials and business leaders are offering a range of inducements to ease severe ***vaccine*** hesitancy.

Nonetheless, the prognosis for much of Asia this year is billboard obvious: The disease is not defeated, and won't be anytime soon. Even those lucky enough to get a ***vaccine*** often leave with mixed emotions.

"This is the way out of the pandemic," said Kate Tebbutt, 41, a lawyer who last week had just received her first shot of the Pfizer ***vaccine*** at the Royal Exhibition Building near Melbourne's central business district. "I think we should be further ahead than where we are."

Reporting was contributed by Raymond Zhong in Taipei, Taiwan, Ben Dooley in Tokyo, Sui-Lee Wee in Singapore, Youmi Kim in Seoul and Yan Zhuang in Melbourne, Australia.Reporting was contributed by Raymond Zhong in Taipei, Taiwan, Ben Dooley in Tokyo, Sui-Lee Wee in Singapore, Youmi Kim in Seoul and Yan Zhuang in Melbourne, Australia.

*https://www.nytimes.com/2021/06/15/world/asia/asia-**coronavirus**.html*

Graphic

PHOTO: Shoppers in Beijing this month. ***China*** has signaled that ***coronavirus*** restrictions may be here to stay. (PHOTOGRAPH BY Andy Wong/Associated Press FOR THE NEW YORK TIMES)

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Geographic: GUANGZHOU, GUANGDONG, ***CHINA*** (79%); MELBOURNE, AUSTRALIA (79%); SYDNEY, AUSTRALIA (79%); SOUTH ***CHINA*** (93%); VICTORIA, AUSTRALIA (79%); NEW SOUTH WALES, AUSTRALIA (78%); AUSTRALIA (95%); ASIA (94%); ***CHINA*** (94%); JAPAN (93%); UNITED STATES (93%); KOREA, REPUBLIC OF (92%); TAIWAN (92%); THAILAND (92%); NEW ZEALAND (79%)

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131 *In Taiwan, Politics Get In the Way Of vaccines*

The New York Times

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Byline: By Raymond Zhong and Christopher F. Schuetze

Body

The two sides have traded accusations about whether political motivations are keeping the Taiwanese people from receiving immunizations amid the island's first major ***Covid-19*** outbreak.

TAIPEI, Taiwan -- This is the age of "***vaccine*** diplomacy." It is also the era of its bitter, mudslinging opposite.

For months, Taiwan has been unable to purchase doses of the BioNTech ***coronavirus*** ***vaccine***, and the island's leaders blame "Chinese intervention." ***China***, which regards Taiwan as its own territory, calls this accusation "fabricated out of nothing."

It is unclear what steps, if any, the government in Beijing has taken to disrupt Taiwan's dealings with BioNTech, the German drugmaker that developed the ***vaccine*** with Pfizer. BioNTech declined to comment.

But the crux of the problem is that a Chinese company claims the exclusive commercial rights to distribute BioNTech's ***vaccine*** in Taiwan. And for many people in the self-governing democracy, buying shots from a mainland Chinese business is simply unpalatable.

The impasse is exacerbating Taiwan's ***vaccine*** shortage as the island confronts its first major outbreak of ***Covid-19*** since the start of the pandemic. It is a bleak illustration of how deeply entrenched the long-running conflict across the Taiwan Strait has become, with a degree of mutual distrust that not even a global medical emergency can allay.

Beijing's efforts to stand between Taiwan and the wider world began spilling into public health a long time ago. ***China*** has for years blocked the island from participating in the World Health Assembly, the policy body of the World Health Organization.

China has a say in Taiwan's inoculation campaign because BioNTech last year teamed up with a Shanghai company, Fosun Pharma, to distribute its Covid ***vaccine*** in mainland ***China***, Hong Kong, Macau and Taiwan. BioNTech's partner in the United States, the European Union and other places is Pfizer.

China says Taiwan is flouting this arrangement by trying to buy doses directly from BioNTech. Taiwan says it respects the companies' partnership but hopes their relationship will not get in the way of the island's ***vaccine*** purchases.

Beijing also warned against "meddling in ***China***'s internal affairs" after Japan said it was donating 1.2 million AstraZeneca doses to Taiwan. Chinese officials were similarly peeved this month when three U.S. senators visited

the island to announce a donation of 750,000 doses. On Tuesday, Taiwan said 28 Chinese military aircraft had entered the island's southwestern air defense identification zone, the largest such show of force in months.

As Covid infections have spread in Taiwan, Chinese representatives have accused the island's leaders of putting politics above health by refusing to accept Chinese-made ***vaccines***. Chinese state news media has underlined the point by highlighting the "Taiwan compatriots" who have gotten vaccinated in ***China***.

"On the ***vaccine*** issue or the pandemic issue, I think ***China*** is trying to exploit any opportunity they can have," said Lee Che-chuan of the Institute for National Defense and Security Research, a think tank funded by Taiwan's government.

Beijing, Mr. Lee said, is telling Taiwan: "You are part of ***China***. I can give you ***vaccines***. But if you want to purchase them from some other countries, you have a political purpose: You're trying to indicate you are independent from ***China***."

Taiwan's inoculation efforts have taken on greater urgency since a wave of new Covid cases caused the island to enter a soft lockdown last month. The government has placed orders with AstraZeneca, Moderna and two domestic ***vaccine*** makers. But shipments have been slow to materialize. Fewer than 5 percent of the island's 23.5 million people have been vaccinated so far.

Taiwan began talking with BioNTech about buying five million doses last August, the island's health minister, Chen Shih-chung, said during a recent news conference. The two sides had largely agreed on a contract by December, according to Mr. Chen. On Jan. 8, BioNTech approved Taiwan's draft news releases announcing the deal in Chinese and English.

But four hours later, BioNTech came back with a request, Mr. Chen said. The company wanted the word "country" in the Chinese-language news release to be replaced with "Taiwan."

Beijing is extremely sensitive to any suggestion that Taiwan is an autonomous nation.

Taiwanese officials agreed to make the change, Mr. Chen said. But BioNTech said it needed to consider the matter further. The deal has been on hold ever since.

"It wasn't because of a problem within the contract, but rather a problem outside the contract," Mr. Chen said.

The chief executive of Fosun Pharma, BioNTech's partner for Greater ***China***, recently told ***China***'s Xinhua state news agency that the company would gladly supply ***vaccines*** to "Taiwan compatriots."

Whether Taiwan would accept those doses is more complicated. Taiwanese law forbids the import of Chinese-made ***vaccines***. But Mr. Chen suggested on Wednesday that Taiwan would be open to importing BioNTech shots if Fosun acted only as their distributor, not manufacturer. Fosun didn't respond to a request for comment.

Recently, discussions have taken place about a ***vaccine*** deal for Taiwan that would involve not only BioNTech and Fosun but also Zuellig Pharma, a Swiss-owned health services, cold storage and logistics company, according to two people familiar with the matter. Such a deal might allow BioNTech to honor its partnership with Fosun while also satisfying the Taiwanese authorities by reducing Fosun's role.

Zuellig has worked with Moderna to supply Moderna's ***vaccine*** in Southeast Asia, Hong Kong, Macau and Taiwan. A Zuellig spokeswoman declined to comment, as did Taiwan's central epidemic command center.

BioNTech and Fosun have already delivered ***vaccines*** from Germany to Hong Kong and Macau, and they are preparing to manufacture BioNTech's ***vaccine*** at a Fosun facility for the ***China*** market. Fosun Pharma's parent company is Fosun International, a Shanghai-based conglomerate with interests in insurance, property, fashion, retail, tourism and more.

In a poll conducted in late May by researchers at Taiwan's National Chengchi University, three-quarters of respondents said they wouldn't take a Chinese vaccine. More than half, though, said they would receive a European or American vaccine purchased through a Chinese distributor.

Like many in Taiwan, Tim Hsu, a 30-year-old software engineer, didn't feel much need to get inoculated until cases started ticking up in mid-May. Even now, though, he said he wouldn't trust a Chinese-made vaccine. He said he had shopped enough on Chinese e-commerce sites not to have much faith in Chinese goods.

But if a Chinese company were just the vaccine's distributor? "If it's purely a commercial agent and the source is still the same widely used vaccine from Germany, then actually that's fine," Mr. Hsu said.

Germany's de facto embassy in Taiwan, the German Institute Taipei, said this month that it "tried hard" to facilitate communication between BioNTech and the Taiwanese authorities. But it is uncertain how much Germany's government is able or willing to help broker a deal, given the risk of angering Beijing. A spokesman for the German Institute Taipei declined to comment.

"China's vaccine strategy goes beyond just economic interest," said Elena Meyer-Clement, who studies Chinese politics and business at the Free University of Berlin. "It has become a geopolitical question, which means you can rely on the fact that the political leadership in Beijing keeps an eye on these deals."

Professor Meyer-Clement said she believed BioNTech had tried selling vaccines directly to Taiwan in good faith, not to deliberately sidestep its agreement with Fosun Pharma.

"If they had refused to even attempt it, it would have been tantamount to self-censorship," she said. "I think it was really just about getting vaccines to Taiwan."

Still, she said BioNTech was naïve to give initial signoff to a news release that used the word "country" in the Taiwan context.

"It's something someone with experience dealing with Taiwan should have known," she said.

Raymond Zhong reported from Taipei, and Christopher F. Schuetze from Berlin. Amy Chang Chien contributed reporting from Taipei.Raymond Zhong reported from Taipei, and Christopher F. Schuetze from Berlin. Amy Chang Chien contributed reporting from Taipei.

https://www.nytimes.com/2021/06/16/business/taiwan-china-biontech-vaccine.html

Graphic

PHOTO: Administering vaccinations at a school in Taipei, Taiwan, this month. Fewer than 5 percent of the island's 23.5 million people have been vaccinated. (PHOTOGRAPH BY ANN WANG/REUTERS) (B5)

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Company: PFIZER INC (91%); ASTRAZENECA PLC (54%); SHANGHAI FOSUN PHARMACEUTICAL (GROUP) CO LTD (53%)

Ticker: PFZ (LSE) (91%); PFE (NYSE) (91%); AZN (STO) (54%); AZN (NYSE) (54%); AZN (LSE) (54%); 2196 (HKSE) (53%)

Industry: NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (91%); SIC2834 PHARMACEUTICAL PREPARATIONS (91%); NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (91%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (91%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (91%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (91%); vaccineS (95%); PHARMACEUTICALS & BIOTECHNOLOGY (93%); PHARMACEUTICAL PREPARATION MFG (92%); PHARMACEUTICALS INDUSTRY (91%); BIOPHARMACEUTICALS INDUSTRY (90%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); VACCINATION & IMMUNIZATION (90%); COVID-19 CORONAVIRUS vaccine (89%); DRUG AVAILABILITY (78%); HEALTH DEPARTMENTS (78%); BIOLOGICS MFG (77%); DEFENSE INDUSTRY (77%); DRUG SHORTAGES (73%); AIR FORCES (62%); MILITARY AIRCRAFT (60%)

Geographic: BEIJING, CHINA (93%); SHANGHAI, CHINA (92%); TAIPEI, TAIWAN (79%); NORTH CENTRAL CHINA (93%); EAST CHINA (92%); TAIWAN (99%); CHINA (96%); UNITED STATES (92%); GERMANY (79%); HONG KONG (79%); MACAO (79%); EUROPEAN UNION MEMBER STATES (53%)

Load-Date: June 17, 2021

End of Document

132 *Despite the G7 pledge of global aid, South Asian countries still scramble for vaccines.*

The New York Times

June 17, 2021 Thursday 04:59 EST

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Section: WORLD

Length: 702 words

Byline: Emily Schmall, Aanya Wipulasena, Bhadra Sharma and Julfikar Ali Manik

Highlight: India's suspension of exports has prompted regional leaders to ask for donations as outbreaks continue.

Body

India's suspension of exports has prompted regional leaders to ask for donations as outbreaks continue.

Sri Lanka is tapping Japan. Nepal has asked Denmark. Bangladesh has appealed to its diaspora in the United States.

South Asian countries are looking to the rest of the world to jump-start inoculation campaigns that have stalled since India halted ***vaccine*** exports to deal with *its catastrophic second* ***coronavirus*** *wave* this spring.

The ad hoc approach shows how the decision by India, the world's biggest ***vaccine*** manufacturer, left poorer countries with few options for ***vaccines*** as richer countries hoarded much of the global supply. Even as the United States and other global powers pledge to donate *a billion doses to poor nations*, the World Health Organization says 11 billion doses are needed to defeat the pandemic.

Countries in South Asia and elsewhere — many battling outbreaks — continue to scramble for ***vaccines***. Health officials say *the* ***vaccine*** *pledge* by the Group of 7 industrialized nations is too vague to incorporate into real planning, and does little to address the immediate needs of the millions of people awaiting doses.

India's neighbors began ***vaccinations*** this year with a combination of doses donated by India and purchased from *the Serum Institute of India*, which is producing the ***vaccine*** developed by Oxford University and AstraZeneca, branded locally as Covishield.

But as ***coronavirus*** cases rose sharply in India in March, *Prime Minister Narendra Modi's government blocked exports*, forcing Serum to renege on bilateral agreements and commitments to Covax, *the global program aimed at distributing* ***vaccines*** *to the world's poorest countries*.

In Nepal, about 1.4 million people age 65 and older have been awaiting a second shot after receiving a first AstraZeneca dose in March. Nepal's government has appealed to diplomats in Britain, Denmark, South Korea and the United States for help.

"Efforts are on," said Dr. Taranath Pokhrel, a director at the Nepalese Health Ministry, "but no substantive progress has been achieved so far."

Despite the G7 pledge of global aid, South Asian countries still scramble for **vaccine**s.

Of the first 25 million ***vaccine*** doses pledged as donations by the Biden administration, *seven million are earmarked for Nepal and other countries in Asia*, but in Kathmandu, the Nepalese capital, it's not clear when, what kind or how many will arrive.

Even after *a weekslong nationwide lockdown*, nearly one in three of Nepal's ***coronavirus*** tests has been coming back positive. Less than 1 percent of the Himalayan country's 30 million people are fully vaccinated.

Nepal, Bangladesh and Sri Lanka have all received donations from ***China*** of its Sinopharm ***vaccine***. But Sri Lanka, like Nepal, is angling for more AstraZeneca shots to provide a second dose to tens of thousands of people, some of whom have been waiting for nearly four months.

Sri Lanka's president, Gotabaya Rajapaksa, met with Japan's ambassador *to appeal for 600,000 AstraZeneca doses*, and officials said that the Japanese government was receptive.

Japan, which has *announced plans to donate doses across Asia*, has "given a bit of a green light" to Sri Lanka, Gen. Shavendra Silva, the head of a Sri Lankan Covid task force, told The New York Times.

Sri Lanka's government plans to inoculate the rest of its population with the donated Sinopharm doses and Sputnik V shots it has purchased from Russia.

Bangladesh, where infections and deaths from a second wave of the ***coronavirus*** continue to rise, is counting on its U.S. diaspora to raise pressure on the Biden administration for help obtaining more AstraZeneca doses, said Shamsul Haque, secretary of the country's Covid ***vaccine*** management committee.

"We are short roughly 1.5 million doses of AstraZeneca for second shots," Mr. Haque said.

China has donated 1.1 million Sinopharm doses, and Bangladesh is negotiating bulk buys of more ***vaccines*** from ***China***, and Sputnik V doses from Russia. Only about 4.2 million of Bangladesh's 168 million people are fully vaccinated.

PHOTO: Administering a ***Covid-19*** ***vaccine*** in Kathmandu, Nepal, this month. Even after a weekslong nationwide lockdown, nearly one in three of the country's ***coronavirus*** tests has been coming back positive. (PHOTOGRAPH BY Prakash Mathema/Agence France-Presse — Getty Images FOR THE NEW YORK TIMES)

Classification

Language: ENGLISH

Document-Type: News

Publication-Type: Web Publication

Subject: ***vaccineS*** (99%); BIOLOGICS MFG (91%); CORONAVIRUSES (90%); EXPORT CONTROLS (90%); HEALTH DEPARTMENTS (90%); INFECTIOUS DISEASE (90%); INTERNATIONAL ASSISTANCE (90%); PUBLIC HEALTH ADMINISTRATION (90%); ***VACCINATION*** & IMMUNIZATION (90%); VIRUSES (90%); DEVELOPING COUNTRIES (89%); AGREEMENTS (78%); ***COVID-19*** ***CORONAVIRUS*** (78%); EPIDEMICS (78%); HEADS OF STATE & GOVERNMENT (78%); PANDEMICS (78%); PRIME MINISTERS (78%); TALKS & MEETINGS (78%); INTERNATIONAL RELATIONS & NATIONAL SECURITY (77%); PUBLIC OFFICIALS (77%); ASSOCIATIONS & ORGANIZATIONS (72%); UNITED NATIONS INSTITUTIONS (72%); internal-essential (%); South Asia (%);

Despite the G7 pledge of global aid, South Asian countries still scramble for **vaccine**s.

Bangladesh (%); Nepal (%); Sri Lanka (%); Modi, Narendra (%); Serum Institute of India (%); ***Coronavirus*** (***2019-nCoV***) (%); ***Vaccination*** and Immunization (%); Group of Seven (%); AstraZeneca PLC (%)

Company: ASTRAZENECA PLC (54%); ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (50%)

Organization: WORLD HEALTH ORGANIZATION (56%)

Ticker: AZN (STO) (54%); AZN (NYSE) (54%); AZN (LSE) (54%)

Industry: NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (54%); SIC2834 PHARMACEUTICAL PREPARATIONS (54%); NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (50%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (50%); ***vaccineS*** (99%); PHARMACEUTICALS & BIOTECHNOLOGY (93%); BIOLOGICS MFG (91%); BIOPHARMACEUTICALS INDUSTRY (90%); HEALTH DEPARTMENTS (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%); ***VACCINATION*** & IMMUNIZATION (90%)

Person: GOTABAYA RAJAPAKSA (79%); JOE BIDEN (79%); Modi, Narendra

Geographic: KATHMANDU, NEPAL (78%); NEPAL (98%); ASIA (95%); INDIA (95%); SRI LANKA (94%); BANGLADESH (93%); JAPAN (93%); UNITED STATES (93%); ***CHINA*** (92%); SOUTHERN ASIA (91%)

Load-Date: June 17, 2021

End of Document

133 # China's road to 1 billion vaccine doses includes eggs, water bottles, free rides and new concern.

The New York Times

June 18, 2021 Friday 13:16 EST

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Section: WORLD

Length: 635 words

Byline: Amy Qin and Amy Chang Chien

Highlight: The enormous inoculation drive is administering 17 million shots a day. Demand has risen after a recent outbreak in the southern city of Guangzhou.

Body

The enormous inoculation drive is administering 17 million shots a day. Demand has risen after a recent outbreak in the southern city of Guangzhou.

After a slow start, ***China***'s ***Covid-19*** ***vaccination*** drive is in full swing as the authorities chase the ambitious target of fully vaccinating 40 percent of the country's nearly 1.4 billion people by the end of this month.

China has administered more than 945 million ***vaccine*** doses, more than a third of the global total, according to *the New York Times* ***vaccine*** *tracker*. With about 17 million shots injected every day this month, ***China*** is on pace to surpass a billion shots in the coming days.

The national campaign's early lag came in part because ***China*** first *prioritized* ***vaccine*** *exports* and, because lockdowns and mass testing had largely tamed the virus, many Chinese felt little urgency about getting vaccinated. In mid-March, ***China*** had administered only about *65 million doses*. In April, it was giving only 4.8 million doses per day.

Many Chinese had also been hesitant to get the shots, in part because of *past scandals involving Chinese-made* ***vaccines***. Only domestically produced ***vaccines*** are being offered in the country.

To get its ***vaccine*** drive going, ***China*** *pulled out its playbook for pandemic success*: a top-down approach that relies on a mix of high-tech tools and old-fashioned, grass-roots mobilization — with some inducements thrown in.

Compared with the United States, where local officials have sought to boost inoculations by offering lures such as *million-dollar lottery prizes* and *free weed*, the incentives in ***China*** have been humbler. In Shanghai, one man received a bottle of water. In Anhui Province, officials have been handing out free eggs. A woman in Beijing got the equivalent of about $7 in cash.

But for some, a bigger driver appears to be widespread concern over *an outbreak of the Delta variant* of the ***coronavirus***, a more transmissible version first identified in India, in the southern city of Guangzhou, which now appears to be ebbing. On Wednesday, the Guangzhou authorities reported no new local cases for the first time since the outbreak began in May.

Yuhui Li, a resident of the nearby city of Shenzhen, said she had initially been reluctant to get vaccinated because she was worried about potential side effects. She changed her mind after the outbreak in Guangzhou, she said, but demand was so high, she added, that officials in her neighborhood were no longer offering free eggs or rides to ***vaccination*** sites.

"I want to get vaccinated, but it's really hard to make an appointment now," said Ms. Li, 27, an assistant at a film production company.

In Guangdong Province, which encompasses Guangzhou, only 36 percent of the population had been fully inoculated by early June.

China has a long way to go before fully vaccinating 70 percent of the population, about 980 million people, which the authorities say they hope to achieve by the end of the year. To meet the target, ***China*** has cranked up production of the two main ***vaccines*** in use, those produced by the companies Sinovac and Sinopharm. Both ***vaccines*** appear to reduce the risk of severe Covid, though to a lesser extent than the ***vaccines*** made by Pfizer and Moderna.

Some cities are further along than others. In Beijing, the capital, more than 80 percent of residents 18 and older were fully vaccinated as of Wednesday. Given the uneven rollout, and the fact that most people have not received two doses, Chinese health experts have warned against loosening the country's border controls, which remain *among the strictest in the world*.

PHOTO: An observation area for those who just received a ***Covid-19*** ***vaccine*** in Wuhan, ***China***, this month. The country has administered more than 945 million doses, more than a third of the global total. (PHOTOGRAPH BY Getty Images FOR THE NEW YORK TIMES)

Classification

Language: ENGLISH

Document-Type: News

Publication-Type: Web Publication

Subject: ***vaccineS*** (99%); ***VACCINATION*** & IMMUNIZATION (91%); CORONAVIRUSES (90%); ***COVID CORONAVIRUS*** (90%); ***COVID-19 CORONAVIRUS*** (90%); ***COVID-19 CORONAVIRUS vaccine*** (90%); INFECTIOUS DISEASE (90%); PUBLIC OFFICIALS (89%); VIRUSES (89%); EPIDEMICS (78%); PANDEMICS (78%); BIOLOGICS MFG (72%); internal-essential (%); ***China*** (%); ***Vaccination*** and Immunization (%); ***China*** National Pharmaceutical Group Corp (Sinopharm) (%); Sinovac Biotech Ltd (%); ***Coronavirus*** (***2019-nCoV***) (%); Guangzhou (***China***) (%); Guangdong Province (***China***) (%)

Industry: ***vaccineS*** (99%); ***VACCINATION*** & IMMUNIZATION (91%); ***COVID-19 CORONAVIRUS vaccine*** (90%); PHARMACEUTICALS & BIOTECHNOLOGY (78%); PHARMACEUTICALS INDUSTRY (77%); LOTTERIES (73%); BIOLOGICS MFG (72%); MOVIE & VIDEO PRODUCTION (66%)

Geographic: GUANGZHOU, GUANGDONG, ***CHINA*** (91%); BEIJING, ***CHINA*** (79%); SHANGHAI, ***CHINA*** (79%);

China’s road to 1 billion **vaccine** doses includes eggs, water bottles, free rides and new concern.

SHENZHEN, GUANGDONG, ***CHINA*** (79%); SOUTH ***CHINA*** (93%); GUANGDONG, ***CHINA*** (92%); EAST ***CHINA*** (90%); ANHUI, ***CHINA*** (79%); NORTH CENTRAL ***CHINA*** (79%); ***CHINA*** (99%); INDIA (79%); UNITED STATES (79%)

Load-Date: June 22, 2021

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134 *The United States sends 2.5 million doses of Moderna's vaccine to help Taiwan battle its first major outbreak.*

The New York Times

June 19, 2021 Saturday 13:15 EST

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Section: WORLD

Length: 419 words

Byline: Jesus Jiménez and Annie Karni

Highlight: The shipment, to arrive on Sunday, is triple what the U.S. had pledged. It may irk ***China***.

Body

The shipment, to arrive on Sunday, is triple what the U.S. had pledged. It may irk ***China***.

The United States is shipping 2.5 million doses of Moderna's ***Covid-19*** ***vaccines*** to Taiwan on Saturday, tripling the original amount the Biden administration had promised, Ned Price, the State Department spokesman, *said in a tweet*.

The shipment, *first reported by Reuters*, could add tension to the U.S.-***China*** relationship as Taiwan grapples with its first major ***coronavirus*** outbreak. Chinese officials were peeved this month when *three U.S. senators visited the island*, which ***China*** regards as its own territory, to announce the original pledge of 750,000 doses, as well as when Japan said it was giving Taiwan 1.2 million AstraZeneca doses.

"We know that Taiwan has faced unfair challenges in its efforts to acquire ***vaccines***, which makes this donation even more important," a senior Biden administration official said. "We have had a close partnership with Taiwan on global health issues and have been working together throughout the pandemic. Taiwan was there to help the United States in the earliest days of the pandemic, providing P.P.E. and other lifesaving materials."

Taiwan's leaders have *blamed "Chinese intervention" for their inability to buy doses* from the German company BioNTech, which developed its ***vaccine*** with Pfizer. ***China*** has called the accusation "fabricated out of nothing."

A Chinese company claims the exclusive commercial rights to distribute BioNTech's ***vaccine*** in Taiwan, but for many people in the self-governing democracy, the idea of Taiwan buying shots from a mainland Chinese business is *simply unpalatable*.

Taiwan had been regarded as one of the world's success stories for most of the pandemic, but in just over two weeks in May, Taiwan's average caseload jumped to almost 600 cases a day from fewer than 10, according to Oxford University's *Our World in Data project*. The daily average has now dropped below 200.

As of Friday, Taiwan had administered more than 1.3 million ***vaccine*** doses, accounting for about 5.6 shots for every 100 people, according to a *New York Times database*. By contrast, the United States has administered on average 95 shots for every 100 people.

At a *news conference on Friday* to praise the U.S. ***vaccination*** program, President Biden said that the U.S. was now in a position to provide more than half a billion ***vaccine*** doses to other countries.

The United States sends 2.5 million doses of Moderna's **vaccine** to help Taiwan battle its first major outbreak.

PHOTO: People waiting for ***vaccinations*** at a school in Taipei, Taiwan, on Tuesday. (PHOTOGRAPH BY Ann Wang/Reuters FOR THE NEW YORK TIMES)

Classification

Language: ENGLISH

Document-Type: News

Publication-Type: Web Publication

Subject: ***vaccineS*** (95%); CORONAVIRUSES (90%); ***COVID CORONAVIRUS*** (90%); ***COVID-19 CORONAVIRUS*** (90%); ***COVID-19 CORONAVIRUS vaccine*** (90%); EPIDEMICS (90%); HERBAL MEDICINE (90%); INFECTIOUS DISEASE (90%); PANDEMICS (90%); ***VACCINATION*** & IMMUNIZATION (90%); DEMOCRACIES (78%); STATE DEPARTMENTS & FOREIGN SERVICES (77%); VIRUSES (77%); MEDICINE & HEALTH (76%); US CONGRESS (73%); SCHOOL ***VACCINATION*** & IMMUNIZATION (72%); TYPES OF GOVERNMENT (71%); PRESS CONFERENCES (70%); internal-essential (%); ***Coronavirus*** (***2019-nCoV***) (%); ***Vaccination*** and Immunization (%); Taiwan (%); United States (%); BioNTech SE (%)

Company: PFIZER INC (58%); ASTRAZENECA PLC (56%)

Ticker: PFZ (LSE) (58%); PFE (NYSE) (58%); AZN (STO) (56%); AZN (NYSE) (56%); AZN (LSE) (56%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (58%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (58%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (58%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (58%); SIC2834 PHARMACEUTICAL PREPARATIONS (58%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (58%); ***vaccineS*** (95%); PHARMACEUTICALS INDUSTRY (92%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); BIOPHARMACEUTICALS INDUSTRY (90%); CHEMICALS (90%); CHEMICALS MFG (90%); ***COVID-19 CORONAVIRUS vaccine*** (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); ***VACCINATION*** & IMMUNIZATION (90%); SCHOOL ***VACCINATION*** & IMMUNIZATION (72%)

Person: JOE BIDEN (92%)

Geographic: TAIPEI, TAIWAN (79%); UNITED STATES (99%); TAIWAN (98%); ***CHINA*** (95%)

Load-Date: June 22, 2021

End of Document

135 *Singapore allows Sinovac shots, but casts doubt on their effectiveness.*

The New York Times

June 19, 2021 Saturday 14:46 EST

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Section: WORLD

Length: 524 words

Byline: Mike Ives

Highlight: Singapore is allowing 24 private health clinics to administer the ***vaccine***. But it has not added it to the national ***vaccination*** program.

Body

Singapore is allowing 24 private health clinics to administer the ***vaccine***. But it has not added it to the national ***vaccination*** program.

Some people in Singapore began receiving the Covid ***vaccine*** manufactured by the Chinese company *Sinovac* at private clinics on Friday, even as one of the city-state's top health officials cast doubt on its effectiveness.

Singapore allowed 24 private health clinics to administer the ***vaccine*** after the World Health Organization *authorized it for emergency use* earlier this month. But even though initial *demand for the shot appeared to be strong*, Singapore's government has so far stopped short of adding it to the national ***vaccination*** program.

One reason that people in Singapore and elsewhere would choose to get a Sinovac shot even when more effective ***vaccines*** are available is that they are from mainland ***China*** or plan to travel there. Chinese state media organizations have been waging a misinformation campaign that questions the safety of American-made ***vaccines***, and Beijing has said that foreigners who receive Chinese shots will *have an easier time getting into the country*.

Kenneth Mak, Singapore's director of medical services, told reporters on Friday that he worried about reports from other countries of people becoming sick with ***Covid-19*** even after receiving Sinovac's shot. He cited cases in Indonesia, where *officials said this week* that dozens of doctors and other health workers who had received Sinovac in one district had been hospitalized.

"It does give the impression that the efficacy of different ***vaccines*** will vary quite significantly," Mr. Mak said.

Studies have *shown* that the ***vaccines*** manufactured by *Pfizer-BioNTech* and *Moderna* — the only ones in Singapore's national program so far — are *90 percent effective* at preventing infections in real-world conditions. There have been rare *reports of severe Covid* in people who have been fully vaccinated with those shots.

Other studies indicate that so-called breakthrough infections in people who are given Chinese ***vaccines***, including the one made by Sinovac, are more common than they are in people who receive the Pfizer or Moderna shots. Studies of Phase 3 trials of Sinovac's ***vaccine***, called *CoronaVac*, around the world have reported an effectiveness of between 50 and 84 percent.

When the W.H.O. *endorsed Sinovac's **vaccine** for emergency use* this month, the agency said that it was only 51 percent effective at preventing symptomatic disease.

Singapore allows Sinovac shots, but casts doubt on their effectiveness.

The Chinese ***vaccines*** are still considered to be very effective against severe disease, but scientists have warned that *developing nations that choose to use them* could end up lagging behind countries that select Pfizer or Moderna.

Singapore has been averaging about 20 new ***coronavirus*** cases a day over the past week, *according to a New York Times database*. More than a third of the city's 5.7 million people have been fully vaccinated and nearly half have received at least one ***Covid-19*** shot. The government *expects to complete* ***vaccinations*** by the end of the year.

PHOTO: People over 70 years old at a ***vaccination*** center in Singapore in January. (PHOTOGRAPH BY Edgar Su/Reuters FOR THE NEW YORK TIMES)

Classification

Language: ENGLISH

Document-Type: News

Publication-Type: Web Publication

Subject: ***vaccineS*** (96%); ***VACCINATION*** & IMMUNIZATION (93%); PRIVATE HEALTH CARE (92%); BIOLOGICS MFG (90%); ***COVID CORONAVIRUS*** (90%); ***COVID-19 CORONAVIRUS*** (90%); ***COVID-19 CORONAVIRUS vaccine*** (90%); HEALTH DEPARTMENTS (90%); HERBAL MEDICINE (90%); PUBLIC HEALTH ADMINISTRATION (90%); CORONAVIRUSES (89%); DISEASES & DISORDERS (89%); INFECTIOUS DISEASE (89%); HEALTH CARE PROFESSIONALS (78%); PUBLIC HEALTH (78%); VIRUSES (78%); PUBLIC OFFICIALS (77%); ASSOCIATIONS & ORGANIZATIONS (76%); UNITED NATIONS INSTITUTIONS (73%); RESEARCH REPORTS (65%); internal-essential (%); ***Coronavirus*** (***2019-nCoV***) (%); ***Vaccination*** and Immunization (%); Singapore (%); Sinovac Biotech Ltd (%); ***China*** (%); Drugs (Pharmaceuticals) (%)

Company: PFIZER INC (92%)

Organization: WORLD HEALTH ORGANIZATION (57%)

Ticker: PFZ (LSE) (92%); PFE (NYSE) (92%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (92%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (92%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (92%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (92%); SIC2834 PHARMACEUTICAL PREPARATIONS (92%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (92%); ***vaccineS*** (96%); PHARMACEUTICALS & BIOTECHNOLOGY (93%); ***VACCINATION*** & IMMUNIZATION (93%); PRIVATE HEALTH CARE (92%); BIOPHARMACEUTICALS INDUSTRY (91%); BIOLOGICS MFG (90%); CHEMICALS (90%); CHEMICALS MFG (90%); CLINICS & OUTPATIENT SERVICES (90%); ***COVID-19 CORONAVIRUS vaccine*** (90%); HEALTH DEPARTMENTS (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%);

Singapore allows Sinovac shots, but casts doubt on their effectiveness.

PHARMACEUTICALS INDUSTRY (90%); HEALTH CARE PROFESSIONALS (78%); MEDIA & TELECOMMUNICATIONS (73%)

Geographic: BEIJING, ***CHINA*** (73%); NORTH CENTRAL ***CHINA*** (79%); SINGAPORE (96%); ***CHINA*** (93%); INDONESIA (79%)

Load-Date: June 20, 2021

End of Document

136 *Quotation of the Day: New Outbreaks Follow vaccines Made by China*

The New York Times

June 22, 2021 Tuesday 23:58 EST

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Section: TODAYSPAPER

Length: 65 words
Highlight: Quotation of the Day for Wednesday, June 23, 2021.

Body

“People were convinced that if we were vaccinated, the summer will be free of Covid. Now it turns out that it’s not true.”

OTGONJARGAL BAATAR, a miner in Mongolia who was hospitalized for ***Covid-19*** even though he had been fully vaccinated with Sinopharm. Mongolia is among the countries that have made the most progress in vaccinating their populations, yet it is battling a surge in infections.

Classification

Language: ENGLISH

Document-Type: Quote

Publication-Type: Web Publication

Subject: ***vaccineS*** (91%); ***COVID CORONAVIRUS*** (90%); INFECTIOUS DISEASE (90%); ***COVID-19 CORONAVIRUS*** (88%)

Company: ***CHINA*** NATIONAL PHARMACEUTICAL GROUP CORP (54%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (54%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (54%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (54%); PHARMACEUTICALS & BIOTECHNOLOGY (91%); ***vaccineS*** (91%); BIOPHARMACEUTICALS INDUSTRY (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); PHARMACEUTICALS INDUSTRY (90%)

Geographic: MONGOLIA (72%)

Load-Date: June 23, 2021

End of Document

137 New Outbreaks Follow vaccines Made by China

The New York Times

June 23, 2021 Wednesday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 1

Length: 1654 words

Byline: By Sui-Lee Wee

Body

More than 90 countries are using Covid shots from ***China***. Experts say recent infections in those places should serve as a cautionary tale in the global effort to fight the disease.

Mongolia promised its people a "Covid-free summer." Bahrain said there would be a "return to normal life." The tiny island nation of the Seychelles aimed to jump-start its economy.

All three put their faith, at least in part, in easily accessible Chinese-made ***vaccines***, which would allow them to roll out ambitious inoculation programs when much of the world was going without.

But instead of freedom from the ***coronavirus***, all three countries are now battling a surge in infections.

China kicked off its ***vaccine*** diplomacy campaign last year by pledging to provide a shot that would be safe and effective at preventing severe cases of ***Covid-19***. Less certain at the time was how successful it and other ***vaccines*** would be at curbing transmission.

Now, examples from several countries suggest that the Chinese ***vaccines*** may not be very effective at preventing the spread of the virus, particularly the new variants. The experiences of those countries lay bare a harsh reality facing a postpandemic world: The degree of recovery may depend on which ***vaccines*** governments give to their people.

In the Seychelles, Chile, Bahrain and Mongolia, 50 to 68 percent of the populations have been fully inoculated, outpacing the United States, according to Our World in Data, a data tracking project. All four ranked among the top 10 countries with the worst Covid outbreaks as recently as last week, according to data from The New York Times. And all four are mostly using shots made by two Chinese ***vaccine*** makers, Sinopharm and Sinovac Biotech.

"If the ***vaccines*** are sufficiently good, we should not see this pattern," said Jin Dongyan, a virologist at the University of Hong Kong. "The Chinese have a responsibility to remedy this."

Scientists don't know for certain why some countries with relatively high inoculation rates are suffering new outbreaks. Variants, social controls that are eased too quickly and careless behavior after only the first of a two-shot regimen are possibilities. But the breakthrough infections could have lasting consequences.

In the United States, about 45 percent of the population is fully vaccinated, mostly with doses made by Pfizer-BioNTech and Moderna. Cases have dropped 94 percent over six months.

Israel provided shots from Pfizer and has the second-highest ***vaccination*** rate in the world, after the Seychelles. The number of new daily confirmed ***Covid-19*** cases per million in Israel is now around 4.95.

In the Seychelles, which relied mostly on Sinopharm, that number is more than 716 cases per million.

Disparities such as these could create a world in which three types of countries emerge from the pandemic -- the wealthy nations that used their resources to secure Pfizer-BioNTech and Moderna shots, the poorer countries that are far away from immunizing a majority of citizens, and then those that are fully inoculated but only partly protected.

China, as well as the more than 90 nations that have received the Chinese shots, may end up in the third group, contending with rolling lockdowns, testing and limits on day-to-day life for months or years to come. Economies could remain held back. And as more citizens question the efficacy of Chinese doses, persuading unvaccinated people to line up for shots may also become more difficult.

One month after receiving his second dose of Sinopharm, Otgonjargal Baatar fell ill and tested positive for ***Covid-19***. Mr. Otgonjargal, a 31-year-old miner, spent nine days in a hospital in Ulaanbaatar, the capital of Mongolia. He said he was now questioning the usefulness of the shot.

"People were convinced that if we were vaccinated, the summer will be free of Covid," he said. "Now it turns out that it's not true."

Beijing saw its ***vaccine*** diplomacy as an opportunity to emerge from the pandemic as a more influential global power. ***China***'s top leader, Xi Jinping, pledged to deliver a Chinese shot that could be easily stored and transported to millions of people around the world. He called it a "global public good."

Mongolia was a beneficiary, jumping at the chance to score millions of Sinopharm shots. The small country quickly rolled out an inoculation program and eased restrictions. It has now vaccinated 52 percent of its population. But on Sunday, it recorded 2,400 new infections, a quadrupling from a month before.

In a statement, ***China***'s Foreign Ministry said it did not see a link between the recent outbreaks and its ***vaccines***. It cited the World Health Organization as saying that ***vaccination*** rates in certain countries had not reached sufficient levels to prevent outbreaks, and that countries needed to continue to maintain controls.

"Relevant reports and data also show that many countries that use Chinese-made ***vaccines*** have expressed that they are safe and reliable, and have played a good role in their epidemic prevention efforts," the ministry said. ***China*** has also emphasized that its ***vaccines*** target severe disease rather than transmission.

No ***vaccine*** fully prevents transmission, and people can still fall ill after being inoculated, but the relatively low efficacy rates of Chinese shots have been identified as a possible cause of the recent outbreaks.

The Pfizer-BioNTech and Moderna ***vaccines*** have efficacy rates of more than 90 percent. A variety of other ***vaccines*** -- including AstraZeneca and Johnson & Johnson -- have efficacy rates of around 70 percent. The Sinopharm ***vaccine*** developed with the Beijing Institute of Biological Products has an efficacy rate of 78.1 percent; the Sinovac ***vaccine*** has an efficacy rate of 51 percent.

The Chinese companies have not released much clinical data to show how their ***vaccines*** work at preventing transmission. On Monday, Shao Yiming, an epidemiologist with the Chinese Center for Disease Control and Prevention, said ***China*** needed to fully vaccinate 80 to 85 percent of its population to achieve herd immunity, revising a previous official estimate of 70 percent.

Data on breakthrough infections has not been made available, either, though a Sinovac study out of Chile showed that the ***vaccine*** was less effective than those from Pfizer-BioNTech and Moderna at preventing infection among vaccinated individuals.

A representative from Sinopharm hung up the phone when reached for comment. Sinovac did not respond to a request for comment.

William Schaffner, medical director of the National Foundation for Infectious Diseases at Vanderbilt University, said the efficacy rates of Chinese shots could be low enough "to sustain some transmission, as well as create illness of a substantial amount in the highly vaccinated population, even though it keeps people largely out of the hospital."

Despite the spike in cases, officials in both the Seychelles and Mongolia have defended Sinopharm, saying it is effective in preventing severe cases of the disease.

Batbayar Ochirbat, head researcher of the Scientific Advisory Group for Emergencies at Mongolia's Ministry of Health, said Mongolia had made the right decision to go with the Chinese-made shot, in part because it had helped keep the mortality rate low in the country. Data from Mongolia showed that the Sinopharm ***vaccine*** was actually more protective than the doses developed by AstraZeneca and Sputnik, a Russian ***vaccine***, according to the Health Ministry.

The reason for the surge in Mongolia, Mr. Batbayar said, is that the country reopened too quickly, and many people believed they were protected after only one dose.

"I think you could say Mongolians celebrated too early," he said. "My advice is the celebrations should start after the full ***vaccinations***, so this is the lesson learned. There was too much confidence."

Some health officials and scientists are less confident.

Nikolai Petrovsky, a professor at the College of Medicine and Public Health at Flinders University in Australia, said that with all of the evidence, it would be reasonable to assume the Sinopharm ***vaccine*** had minimal effect on curbing transmission. A major risk with the Chinese inoculation is that vaccinated people may have few or no symptoms and still spread the virus to others, he said.

"I think that this complexity has been lost on most decision makers around the world."

In Indonesia, where a new variant is spreading, more than 350 doctors and health care workers recently came down with ***Covid-19*** despite being fully vaccinated with Sinovac, according to the risk mitigation team of the Indonesian Medical Association. Across the country, 61 doctors died between February and June 7. Ten of them had taken the Chinese-made ***vaccine***, the association said.

The numbers were enough to make Kenneth Mak, Singapore's director of medical services, question the use of Sinovac. "It's not a problem associated with Pfizer," Mr. Mak said at a news conference on Friday. "This is actually a problem associated with the Sinovac ***vaccine***."

Bahrain and the United Arab Emirates were the first two countries to approve the Sinopharm shot, even before late-stage clinical trial data was released. Since then, there have been extensive reports of vaccinated people falling ill in both countries. In a statement, the Bahraini government's media office said the kingdom's ***vaccine*** rollout had been "efficient and successful to date."

Still, last month officials from Bahrain and the United Arab Emirates announced that they would offer a third booster shot. The choices: Pfizer or more Sinopharm.

Reporting was contributed by Khaliun Bayartsogt, Andrea Kannapell, Ben Hubbard, Asmaa al-Omar and Muktita Suhartono. Elsie Chen and Claire Fu contributed research.Reporting was contributed by Khaliun Bayartsogt, Andrea Kannapell, Ben Hubbard, Asmaa al-Omar and Muktita Suhartono. Elsie Chen and Claire Fu contributed research.

https://www.nytimes.com/2021/06/22/business/economy/china-vaccines-covid-outbreak.html

Graphic

PHOTO: A nurse travels to inoculate residents of Chiloé Island in Chile, which mostly uses Chinese vaccines. (PHOTOGRAPH BY ALVARO VIDAL/AGENCE FRANCE-PRESSE -- GETTY IMAGES) (A6)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: vaccineS (97%); COVID CORONAVIRUS (91%); DISEASES & DISORDERS (90%); HERBAL MEDICINE (90%); INFECTIOUS DISEASE (90%); BIOLOGICS MFG (89%); COVID-19 CORONAVIRUS (89%); VACCINATION & IMMUNIZATION (89%); COMMUNICABLE DISEASE CONTROL (78%); CORONAVIRUSES (78%); EPIDEMICS (78%); MICROBIOLOGY (78%); PANDEMICS (78%); PUBLIC HEALTH (78%); VIROLOGY (78%); VIRUSES (78%); RANKINGS (50%)

Company: PFIZER INC (58%); SINOVAC BIOTECH LTD (53%); CHINA NATIONAL PHARMACEUTICAL GROUP CORP (53%)

Ticker: PFZ (LSE) (58%); PFE (NYSE) (58%); SVA (NASDAQ) (53%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (58%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (58%); NAICS325412 PHARMACEUTICAL PREPARATION MANUFACTURING (58%); NAICS325411 MEDICINAL & BOTANICAL MANUFACTURING (58%); SIC2834 PHARMACEUTICAL PREPARATIONS (58%); SIC2833 MEDICINAL CHEMICALS & BOTANICAL PRODUCTS (58%); vaccineS (97%); PHARMACEUTICALS & BIOTECHNOLOGY (95%); PHARMACEUTICALS INDUSTRY (91%); BIOPHARMACEUTICALS INDUSTRY (90%); CHEMICALS (90%); CHEMICALS MFG (90%); HERBAL MEDICINE (90%); MANUFACTURING (90%); PHARMACEUTICAL PREPARATION MFG (90%); BIOLOGICS MFG (89%); VACCINATION & IMMUNIZATION (89%); VIROLOGY (78%)

Geographic: CHINA (94%); SEYCHELLES (94%); ISRAEL (92%); UNITED STATES (92%); HONG KONG (79%)

Load-Date: June 23, 2021

End of Document

138 *Indonesia's Doctors Got Vaccinated With Sinovac, and Got Sick*

The New York Times

June 25, 2021 Friday 12:23 EST

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Section: WORLD; asia

Length: 965 words

Byline: Hannah Beech and Muktita Suhartono

Highlight: Facing increased cases and a deadly variant, the Indonesian health system is under strain, as doctors become patients.

Body

Facing increased cases and a deadly variant, the Indonesian health system is under strain, as doctors become patients.

Dr. Suhendro Sastrowiwoho was fully vaccinated and eager to help this month as Indonesia faced a new and deadly wave of Delta variant ***coronavirus*** cases. His daughter and son-in-law, both trained as doctors, told him to rest. He was 74 years old, they warned, and the virus was evolving in unexpected ways.

On June 18, Dr. Suhendro died just days after testing positive for ***Covid-19***. Like other frontline medical workers in his small town of Kudus, on the island of Java, he had received a double dose of Sinovac Biotech, the Chinese-made ***vaccine***.

"His love was taking care of his patients and helping people," said Angeline Dewi Suhendro, his daughter, whose husband is now also hospitalized with Covid. "We forbade him to practice because Covid cases were shooting up, but he insisted."

While the West appears to be recovering from the worst of the ***coronavirus*** pandemic, some countries without access to plentiful ***vaccines*** are facing their most devastating outbreaks yet, as more contagious variants spread quickly. Other countries are discovering that *certain* ***vaccines*** *may not be as effective* as others in preventing infections caused by these variants.

Indonesia, the world's fourth most populous country, is facing both problems at the same time. On Thursday, the country recorded more than 20,000 cases of ***Covid-19***, the highest number since the pandemic began. Oxygen is again running out at hospitals in the capital, Jakarta, and the national percentage of positive Covid tests reached 14.6 percent this past week. By comparison, the weekly positivity rate in the United States is now 1.8 percent, according to the Centers for Disease Control and Prevention.

Since the pandemic began, 401 doctors in Indonesia have died, the risk mitigation team of the Indonesian Medical Association said on Friday. At least 20 of them were fully vaccinated with Sinovac. (The ***vaccination*** status of another 31 doctors who died between Feb. 1 and June 24 is still being investigated.)

In Kudus, where Dr. Suhendro practiced, 358 medical workers who were fully vaccinated with Sinovac tested positive during a two-week span, according to the risk mitigation team of the Indonesian Doctors Association.

A sprawling archipelago fettered by geography and government bureaucracy, Indonesia has vaccinated less than 5 percent of its population, despite having started inoculations in January. Of those who have been vaccinated, most received doses of Sinovac, which may be less effective against certain variants.

A study earlier this year of Sinovac's efficacy among Indonesian medical workers indicated that the Chinese ***vaccine*** was largely successful in preventing hospitalization or death from infections. The Delta variant has not been studied as much.

The spread of the Delta variant in Kudus was as sudden as it was speedy. In mid-May, fewer than 30 people were hospitalized with ***Covid-19*** in Kudus. Two weeks later, after people crisscrossed the country for a religious holiday, local hospitals in Kudus were overwhelmed with about 400 new ***Covid-19*** patients a day.

One of those who fell sick was Dr. Ahmad Syaifuddin, the director of the Sunan Kudus Islamic Hospital and chairman of the local branch of the Indonesian Doctors Association. A genetic test revealed that he was infected with the Delta variant, and subsequent studies confirmed that nearly all of the positive cases in Kudus are of that strain, which was first identified in India.

While 90 percent of the vaccinated doctors who tested positive in Kudus were either asymptomatic or had very mild illness, according to Dr. Ahmad, an already stretched health care system has been pulled taut. With the threat of contagion so high, many local doctors who were exposed to the variant are in isolation, preventing them from working. There is not enough oxygen, nor enough trucks to transport the canisters to Kudus. Gravediggers are again hard at work.

"Health workers are suffering from exhaustion," said Dr. Ahmad, who is back to work after his bout of Covid.

Two nurses and a nutritionist in Kudus, all of whom were fully vaccinated, also died this month of ***Covid-19***, said Dr. Adib Khumaidi, the chief of the Indonesian Medical Association's risk mitigation team.

Dr. Adib said that the association is now discussing the possibility of administering to medical workers a third shot of another ***vaccine***, such as Oxford-AstraZeneca. Some countries are supporting a*mix-and-match scheme* to boost immunity. Sinovac, which is produced by a Chinese pharmaceutical company and promoted by the Chinese government, has been criticized for a lack of transparency about its clinical trials.

But to properly vaccinate the country, Indonesia needs at least another 360 million doses. So far, Sinovac has been the only manufacturer to provide doses in such large quantities.

With the delays have come a virulent strain of ***vaccine*** hesitancy. Some Muslim clerics and community leaders are questioning whether the ***vaccines*** are worth it. They have also wondered whether *Chinese-made doses are truly halal* because of the high consumption of pork products in ***China***. (The national Islamic clerics council has deemed the Sinovac ***vaccine*** "holy and halal.")

For Indonesian health workers, struggling with overwhelmed emergency wards and worried about their own immunity, ***vaccine*** skepticism is one more headache at a time when they thought the country might be finally emerging from the pandemic.

"If you compare us with other countries," said Dr. Adib, "it's clear we will be far behind."

PHOTO: A doctor in Jakarta, Indonesia, registering to receive a dose of ***China***'s Sinovac Biotech ***vaccine*** in January. (PHOTOGRAPH BY Willy Kurniawan/Reuters FOR THE NEW YORK TIMES)

Classification

Language: ENGLISH

Document-Type: News

Publication-Type: Web Publication

Subject: ***COVID CORONAVIRUS*** (92%); ***vaccineS*** (92%); CORONAVIRUSES (91%); ***COVID-19*** ***CORONAVIRUS*** (91%); VIRUSES (91%); EPIDEMICS (90%); INFECTIOUS DISEASE (90%); PANDEMICS (90%); PUBLIC HEALTH (90%); ***VACCINATION*** & IMMUNIZATION (90%); DEATH & DYING (89%); DISEASES & DISORDERS (89%); EPIDEMIOLOGY (89%); HEALTH CARE PROFESSIONALS (89%); ESSENTIAL BUSINESSES & WORKERS (78%); MORBIDITY RATES (78%); PREVENTION & WELLNESS (78%); PUBLIC HEALTH ADMINISTRATION (77%); ISLANDS & REEFS (75%); BUSINESS & PROFESSIONAL ASSOCIATIONS (73%); HEALTH DEPARTMENTS (73%); INVESTIGATIONS (73%); US FEDERAL GOVERNMENT (68%); RISK MANAGEMENT (67%); ASSOCIATIONS & ORGANIZATIONS (61%); ***Coronavirus*** (***2019-nCoV***) (%); Disease Rates (%); ***Vaccination*** and Immunization (%); Sinovac Biotech Ltd (%); Indonesia (%)

Company: SINOVAC BIOTECH LTD (56%)

Ticker: SVA (NASDAQ) (56%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (56%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (56%); ***vaccineS*** (92%); MANUFACTURING (90%); PHARMACEUTICALS & BIOTECHNOLOGY (90%); ***VACCINATION*** & IMMUNIZATION (90%); EPIDEMIOLOGY (89%); HEALTH CARE PROFESSIONALS (89%); HOSPITALS (78%); MORBIDITY RATES (78%); HEALTH DEPARTMENTS (73%); RISK MANAGEMENT (67%)

Geographic: JAKARTA, INDONESIA (79%); INDONESIA (99%); UNITED STATES (79%)

Load-Date: June 25, 2021

End of Document

139 ***Blinken and Macron Agree on Perils of a Rising China***

The New York Times

June 26, 2021 Saturday

Late Edition - Final

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Section: Section A; Column 0; Foreign Desk; Pg. 7

Length: 1152 words

Byline: By Roger Cohen

Body

After meeting with President Emmanuel Macron of France, who says Europe should be less dependent on U.S. leadership, Secretary of State Antony Blinken told The Times they see eye to eye on key issues.

PARIS -- Secretary of State Antony J. Blinken, speaking in an interview after a meeting with President Emmanuel Macron of France, said the United States and France were "on the same page" in their determination to resist the possibility of a Chinese-led world order that would be "profoundly illiberal in nature."

On his first visit as secretary to France, where he lived for nine years in his youth and attended high school, Mr. Blinken said "our purpose is not to contain ***China***" or "try to hold ***China*** back." But when it comes to defending a free and open international order, "we will stand up."

The alternative, he suggested, was either no order -- a world of chaos that "inevitably leads to conflict and that almost inevitably brings us in" -- or Chinese domination. The challenge for democracies was "to deliver for their people and hopefully for people around the world" in order to reinforce a model challenged in recent years by its own internal fractures and by rising autocracies.

"And I found that President Macron was thinking in exactly the same way and focused on the need to bring practical results," Mr. Blinken said.

Mr. Blinken's pleasure at being back in France was evident. At a meeting earlier in the day, France's foreign minister, Jean-Yves Le Drian, greeted the secretary as "My dear Tony" and said, "Welcome home."

Asked about this, Mr. Blinken said, "Oh yes, it is a sacred home for me. I was here from age 9 to 18. I had a life-changing experience."

Having said Thursday in Berlin that the United States has "no better friend in the world than Germany," he said he would say the same thing about France. As he turned to the foundations of America's oldest alliance, Mr. Blinken's emotion was evident.

"It comes down to something pretty basic," he said. "You know, we throw out a lot of words and we just kind of say them by rote. But at our best, our countries have worked to actually give meaning to liberty, equality, fraternity. They've tried to give meaning to freedom of speech. They've tried to give meaning to human rights. They've tried to give meaning to democracy."

He continued: "And ultimately -- obviously there are differences of culture, of history, of so many things -- but when it comes to a basic set of shared values, there are few countries that are closer."

This amounted to a deeply felt personal call for France and the United States to renew their bond by standing together at a time of challenges, from the ***coronavirus*** pandemic to the rise of ***China***, that present "an imperative for cooperation, for coordination, for working together," in Mr. Blinken's words.

Nevertheless, the convergence of American and French views was a little surprising in that Mr. Macron has made several remarks recently insisting on the importance of Europe's strategic autonomy.

Former President Donald J. Trump disparaged traditional alliances, started trade wars and resisted confronting Russian aggression. U.S. allies have expressed relief that President Biden has turned American foreign policy back in more familiar directions, but their experience with Mr. Trump left them warier than ever of following Washington's lead.

Mr. Macron has appeared more conciliatory than the United States toward ***China*** and has insisted that Europe be at the table in arms control negotiations between the United States and Russia.

On the eve of the Group of 7 and NATO meetings earlier this month, Mr. Macron said: "Unless my map has a problem, ***China*** is not part of the geography of the Atlantic" -- a clear jab at NATO confronting ***China***.

Such Gaullist assertions of independent French strategy tend to play well here, and Mr. Macron plans to run for re-election next year. In the end, France joined the other large, wealthy democracies at the G7 in making clear that they saw ***China*** and Russia as repressive and aggressive ideological rivals, and other NATO members in saying ***China*** presents "systemic challenges" to "areas relevant to military security."

China's Belt and Road Initiative has built roads, ports, railways and communications networks across Africa and elsewhere, expanding Beijing's economic and security influence with the countries that sign on, leaving them beholden and often deeply indebted.

Turning to the Biden administration's attempt to counter ***China***'s strategy through a "Build Back Better for the World" program, dubbed B3W, Mr. Blinken made clear in the interview which he thinks the better option is for low and middle-income countries.

"We're offering something positive and affirmative," he said. "It so happens that what ***China*** is offering is not so positive and not so affirmative. Well, I think the contrast is clear."

With ***China***, he said, "there are always strings attached," including "the use of ***vaccines*** as a coercive tool with other countries." The West, by contrast, was pledging one billion ***vaccine*** doses to end the pandemic "with no political strings."

After six rounds of nuclear talks with Tehran and no agreement to revive the 2015 Iran nuclear deal, which Mr. Trump abandoned, Mr. Blinken said that the progress of Iran's nuclear program could become an insurmountable obstacle.

"If this continues, if they continue to spin more sophisticated centrifuges at higher and higher levels, we will get to a point where it will be very difficult as a practical matter" to return to the parameters of the original nuclear deal, he said.

"I can't put a date on it," Mr. Blinken said of the day when the Biden administration might walk away from the nuclear talks, but "it's getting closer."

During a news conference earlier in the day with Mr. Le Drian, Mr. Blinken warned that "serious differences" persist with Tehran over its nuclear program but that preventing an Iranian nuclear weapons capability remains in the American national interest.

Of his planned meeting next week in Italy with the new Israeli foreign minister, Yair Lapid, Mr. Blinken said one aim was to "try to rebuild a little bit more trust and confidence between Israelis and Palestinians so that at some point the conditions may exist to actually to move forward again on negotiations, on a lasting peace."

The Biden administration strongly supported the Abraham Accords, concluded under the Trump Administration, normalizing Israel's relations with four Arab states, Mr. Blinken said.

Referring to Israel's recent war with Hamas in Gaza, as well as clashes in Israel and the occupied West Bank, he added, "But we also know -- and I think we've just seen evidence of that -- that they are not a substitute for dealing with the Israeli-Palestinian issue."

Michael Crowley contributed reporting from Paris.

*https://www.nytimes.com/2021/06/25/world/europe/blinken-france-**china**-macron.html*

Graphic

PHOTO: Friday's trip was an emotional one for Secretary of State Antony Blinken, who once lived in Paris. (PHOTOGRAPH BY ANDREA MANTOVANI FOR THE NEW YORK TIMES)

Classification

Language: ENGLISH

Publication-Type: Newspaper

Subject: GOVERNMENT ADVISORS & MINISTERS (90%); TALKS & MEETINGS (90%); DEMOCRACIES (78%); FOREIGN RELATIONS (78%); INTERNATIONAL RELATIONS & NATIONAL SECURITY (78%); INTERVIEWS (78%); FREEDOM OF SPEECH (77%); STATE DEPARTMENTS & FOREIGN SERVICES (73%); INTERNATIONAL RELATIONS (69%); EMOTIONS (66%)

Person: ANTONY BLINKEN (92%); EMMANUEL MACRON (92%)

Geographic: BERLIN, GERMANY (79%); PARIS, FRANCE (73%); FRANCE (93%); UNITED STATES (91%); EUROPE (79%); GERMANY (73%)

Load-Date: June 26, 2021

End of Document

140 *Millions in Brazil are missing their second vaccine dose, adding to the burden of a hard-hit nation.*

The New York Times

June 27, 2021 Sunday 13:46 EST

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Section: WORLD

Length: 632 words

Byline: Ana Ionova

Highlight: Nearly 16 percent of those eligible for a second dose had not returned for them as of June 1.

Body

Nearly 16 percent of those eligible for a second dose had not returned for them as of June 1.

Millions of people in Brazil are missing their second doses of ***Covid-19*** ***vaccine***, further complicating a campaign already marred by supply shortages and allegations of graft.

Some 4.1 million Brazilians had not returned for their second shot as of June 1, according to data compiled by researchers who are following the ***vaccine*** rollout. This represents nearly 16 percent of those eligible for a second dose.

The reasons for people missing their second dose are varied, but experts warn that a large number of people with only partial protection could set back Brazil's already troubled ***vaccination*** effort. The ***coronavirus*** has killed more than 500,000 people in Brazil, the second-highest known toll in the world after the United States, and *daily cases are hitting new peaks*. About a third of the population has received at least one dose, and less than 12 percent are fully immunized.

"Many of these people will likely have to be vaccinated again" with the first dose, said Dr. Ligia Bahia, a public health specialist at the Federal University of Rio de Janeiro and one of the researchers leading the study of ***vaccinations***. "And cases will not fall in the meantime."

One reason that so many people have missed their second shot is *Brazil's chaotic **vaccination** rollout*, Dr. Bahia said. Many local and state authorities opened up immunizations too quickly to groups that were not at high risk for infection, when not enough doses were available, she said.

"The euphoria of the ***vaccination*** is not in line with the reality of the supply," she said. "They wanted to speed up, to say, 'We're vaccinating!' But some people were left behind."

Brazil has manufactured much of its ***vaccine*** supply domestically, using materials shipped from ***China*** to churn out *the CoronaVac **vaccine*** developed by the Chinese company Sinovac Biotech. In March, Brazil's health ministry released supplies that it had initially planned to reserve as second doses for priority groups, such as health workers, older people and those with pre-existing illnesses.

Soon after that, delays in shipments from ***China*** badly curbed supplies, just as more people in Brazil were due to receive their second doses.

Millions in Brazil are missing their second **vaccine** dose, adding to the burden of a hard-hit nation.

“Some people didn’t get their second dose because they searched and searched — and eventually gave up on being vaccinated,” said Dr. Alberto Chebabo, vice president of the Brazilian Society of Infectious Diseases. “That’s a lost opportunity.”

Others in Brazil are misinformed, he added, believing they are protected after one shot. Health experts warn that a single dose is not enough, especially in Brazil. The country has mostly relied on the ***vaccine*** from Sinovac, which may not be as effective as others in preventing serious cases of ***Covid-19***. A study in Chile showed that Sinovac was only 36 percent effective in preventing hospitalizations after one shot. *Hundreds of doctors in Indonesia* who received two Sinovac doses became ill with ***Covid-19*** anyway, and at least 20 died.

Brazil’s inoculation troubles have been mounting. Cities across the country are halting ***vaccinations*** as supplies dry up. Federal prosecutors also launched an investigation last week into a government deal to buy 20 million doses of Covaxin, a ***vaccine*** produced in India, at inflated prices.

Lawmakers are investigating *President Jair Bolsonaro’s handling of the pandemic*, including his decision to ignore multiple early offers to buy ***vaccines*** from drugmakers like *Pfizer*, as *he played down the danger posed by the virus and promoted “miracle cures”* now proven to be ineffective.

PHOTO: A woman holding a sign that reads “Where did we go wrong?” at a memorial for Covid victims in Rio de Janeiro last week. (PHOTOGRAPH BY Pilar Olivares/Reuters FOR THE NEW YORK TIMES)

Classification

Language: ENGLISH

Document-Type: News

Publication-Type: Web Publication

Subject: ***vaccineS*** (98%); CORONAVIRUSES (90%); ***COVID CORONAVIRUS*** (90%); ***COVID-19 CORONAVIRUS*** (90%); ***COVID-19 CORONAVIRUS vaccine*** (90%); INFECTIOUS DISEASE (90%); ***VACCINATION*** & IMMUNIZATION (90%); DISEASES & DISORDERS (89%); HEALTH CARE PROFESSIONALS (89%); PUBLIC HEALTH ADMINISTRATION (89%); NEGATIVE PERSONAL NEWS (78%); PUBLIC HEALTH (78%); SUPPLY CHAIN DISRUPTIONS (77%); VIRUSES (77%); COMMODITIES SHORTAGES (72%); HEALTH DEPARTMENTS (72%); SHORTAGES (72%); ***Coronavirus*** (***2019-nCoV***) (%); ***Vaccination*** and Immunization (%); Brazil (%)

Company: SINOVAC BIOTECH LTD (52%)

Ticker: SVA (NASDAQ) (52%)

Industry: NAICS325414 BIOLOGICAL PRODUCT (EXCEPT DIAGNOSTIC) MANUFACTURING (52%); SIC2836 BIOLOGICAL PRODUCTS, EXCEPT DIAGNOSTIC SUBSTANCES (52%); ***vaccineS*** (98%); ***COVID-19 CORONAVIRUS vaccine*** (90%); PHARMACEUTICALS & BIOTECHNOLOGY (90%); ***VACCINATION*** & IMMUNIZATION (90%); BIOPHARMACEUTICALS INDUSTRY (89%); HEALTH CARE PROFESSIONALS (89%); MANUFACTURING (89%); DRUG AVAILABILITY (77%); HEALTH DEPARTMENTS (72%)

Millions in Brazil are missing their second **vaccine** dose, adding to the burden of a hard-hit nation.

Geographic: RIO DE JANEIRO, BRAZIL (73%); BRAZIL (98%); ***CHINA*** (92%); CHILE (79%); INDONESIA (79%); UNITED STATES (79%)

Load-Date: July 3, 2021

End of Document

141 'China Has Risen.' And It Is Hungry for Competition.

The New York Times

July 1, 2021 Thursday

Late Edition - Final

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Section: Section A; Column 0; Editorial Desk; Pg. 22; FARAH STOCKMAN

Length: 1419 words

Byline: By Farah Stockman

Body

When the Soviet Union crumbled in the 1990s, Americans did a victory lap that lasted for decades. We saw it as the triumph of capitalism over communism, freedom over authoritarianism, democracy over one-party rule. We assumed that the game was over and that we had won. We had reached "the end of history." We thought that it was only a matter of time before ***China***, which had already embraced some free-market reforms, transitioned to a system just like ours. Americans normalized trade with ***China*** and waited patiently for the "Chinese Gorbachev." If you're still out there waiting, don't hold your breath.

On July 1, the Chinese Communist Party celebrates its 100th birthday, under President Xi Jinping, a man who learned a very different lesson from the Soviet Union's demise. To him, the Soviet Union dissolved not because communism is doomed but because Soviet party officials had become corrupt and lost their convictions. One of the first pledges he made as party leader in 2013 was that he would never let that happen in ***China***.

The great debate over which system is better hasn't faded away. In fact, it's gearing up for another round. But rather than see competition with ***China*** as a zero-sum game, the United States could embrace a way of competing that spurs us to make investments in our people that we should have been making all along.

Mr. Xi's Communist Party has ruled ***China*** since 1949 -- longer than any other surviving political party on earth, except for North Korea's. The Chinese Communist Party didn't just outlive its Soviet patrons. It has overseen an economy far more vibrant and prosperous than the Soviet Union's. When Communists took over ***China***, only about 20 percent of the country could read and write. Today 97 percent of Chinese adults are literate. Per capita G.D.P. grew to over $10,000 today, from less than $90 in 1960. ***China***'s economy looks poised to be bigger than the U.S. economy by 2028, a trend that has accelerated with the ***Covid-19*** pandemic. ***China*** is investing in military strength, opening its first overseas military base, in Djibouti. But its economic power is even more formidable. ***China*** has quietly become the biggest lender in the world, surpassing the World Bank and the International Monetary Fund combined.

"It's no longer '***China*** is rising,'" said David Shambaugh, the author of several books on ***China***, including a new one, "***China***'s Leaders: From Mao to Now." "***China*** has risen. It is here."

The arrival of ***China*** as a global power has caused heartburn in Washington. The Biden administration has made it clear that it sees ***China*** as the greatest geopolitical challenge of the 21st century. A few weeks ago, Democrats and Republicans overcame their hatred of each other long enough to pass the United States Innovation and Competition Act of 2021, which boosts investment in research and higher education. And a recent NATO summit

addressed ***China***'s "growing influence" as a challenge for the alliance. Talk like that has sparked fears of a new and terrible cold war.

That's understandable, since the growing rivalry has the potential to spiral out of control and cause unthinkable damage. But if it is managed correctly, the competition could actually be a good thing for the United States, for ***China*** and for the world.

President Biden may have said it best in 2012, when he told Mr. Xi, "As Americans, we welcome competition. It's part of our D.N.A., and it propels our citizens to rise to the challenge."

If there's one thing our capitalist country should know, it's that competition is healthy. Monopolies tend to produce laziness, distortions and flat-out extortion. This is true in economics, and it's true when it comes to geopolitical supremacy. Superpower status has allowed Americans to neglect the aspirations of the Global South while squandering blood and treasure in disastrous wars of choice in Afghanistan and Iraq. It lulled Americans into believing that capitalism and democracy are destiny for all mankind -- so obviously so that we don't even have to make a case for them anymore. It left us imagining that our country could run without investments in the education, civic learning or sense of common purpose that keep democracies healthy and strong.

Economic competition with ***China*** could provide a path to reviving what has always made America great. If looking over our shoulders at ***China*** makes Americans spend more money on scientific research and education, that's a good thing. If it makes us ensure that our supply chains are more resilient and that our economy isn't too dependent on any one source, all the better. If it produces public debate in the United States about how to boost our collective prosperity -- not just the profits of the few -- then hallelujah.

If ***China***'s Covid diplomacy pushes the United States to "become an arsenal of ***vaccines*** for other countries," as Mr. Biden promised, that's a win-win. And if, in an effort to counter ***China***'s $1.2 trillion Belt and Road plan to boost infrastructure around the world, Western countries start lending more money to developing countries at better interest rates, then African and Latin American countries might finally be able to get a fair shake.

"If it gets the U.S. out of our doldrums, we could achieve a lot of at least the liberal agenda in the country," Bruce Dickson, a political scientist at George Washington University who studies the Chinese Communist Party, told me. "In that sense, the competition of ***China*** could be a good thing. The problem is that it spills over into racist and nationalist rhetoric, and the military dimension is very real."

The irony is that as this rivalry heats up, ***China*** and the United States are grappling with similar problems: vast inequality, manufacturers leaving for lower-wage countries, environmental damage and the impossible dreams of a precarious middle class. We must keep the doors of communication open and work together where we can to address common challenges.

Perhaps one day this global rivalry will make Chinese leaders reflect more deeply on the true source of prosperity and innovation and open their system to a freer exchange of ideas. After all, the incredible success of the Communist Party comes not from its communism but from its ability to adapt the free market to ***China***'s situation.

China didn't gain global power status because of the policies of Mao Zedong, who abolished private property and waged an endless war against educated professionals. Those policies led to one of the worst famines in human history, an unending cycle of political purges and Red Guards killing one another.

In fact, ***China*** owes its success to the reforms that came after, instituted by Deng Xiaoping, who opened up the system to private ownership, public feedback and decisions based on results, not ideology. If the U.S. system swings between Democrats and Republicans, ***China***'s system swings between those who want to tighten control over the people and the economy and those who want to loosen it. Mr. Deng was a loosener who sought to learn from the best practices around the world.

Mr. Xi is a tightener who has clamped down on dissent, rolled back reforms and returned to one-man rule. Members of his wing of the party have mainly looked to other countries to figure out what not to do. They studied the "color revolutions" in former Soviet republics and the Arab Spring to figure out how to avoid similar fates. When they discovered that entrepreneurs tend to be on the side of revolution, they recruited the emerging capitalist class in ***China*** into the party. When they learned that the Soviet Union's economic isolation had been a weakness, they integrated into the global economy, becoming indispensable to the West.

In recent years, Mr. Xi has seemed to think there's nothing more to learn. After the 2008 financial crisis and the election of Donald Trump, Mr. Xi could be forgiven for seeing America's demise as a foregone conclusion. "The East is rising and the West is declining," he declared in March. I'm not so sure. As messy as American democracy has been lately, I'd still bet on it over dictatorship. If we invest in ourselves, Americans have nothing to fear from competition.

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Graphic

PHOTO: (PHOTOGRAPH BY Lintao Zhang/Getty Images FOR THE NEW YORK TIMES)

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142 ***How Dangerous Is the Delta Variant?***

The New York Times

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Byline: Spencer Bokat-Lindell

Highlight: Having spread to at least 85 countries, the Delta variant is now fueling outbreaks around the world and prompting new lockdowns.

Body

This article is part of the Debatable newsletter. You can *sign up here* to receive it on Tuesdays and Thursdays.

When a wave of ***coronavirus*** infections crashed over India in the spring, scientists wondered whether a new variant, Delta, was partly to blame. Time appears to have answered the question: Having spread to at least 85 countries, the Delta variant is *now fueling outbreaks around the world* and prompting *new lockdowns* — *even in countries* that seemed to have the virus under control.

“The Delta variant is currently the greatest threat in the U.S. to our attempt to eliminate ***Covid-19***,” Dr. Anthony Fauci *said* last week.

What makes the Delta variant so concerning, and how will it affect the course of the pandemic? Here’s what people are saying.

What scientists know about the variant so far

The Delta variant has multiple mutations that appear to make it *40* to *60* percent more transmissible than Alpha, the variant first identified in Britain, which is itself estimated to be about *30 to 50 percent* more transmissible than the original ***coronavirus***. In Australia, security cameras even documented a transmission that occurred between two people *passing each other in a shopping mall*.

“It is the most hypertransmissible, contagious version of the virus we’ve seen to date, for sure — it’s a superspreader strain if there ever was one,” Eric Topol, a professor of molecular medicine and an executive vice president at the Scripps Research Institution, *told* Scientific American.

The good news: Several of the ***vaccines*** in use still appear to work well against Delta.

- A *Public Health England study* published in May found that the variant only slightly reduced the effectiveness of two doses of the Pfizer and AstraZeneca ***vaccines***. The *Moderna* ***vaccine*** is expected to perform similarly well.
- A preprint from Public Health England *found* that two doses of either ***vaccine*** also provided exceptional protection against hospitalization from the Delta variant.

But: The Delta variant does seem to pose a greater risk to people who have received only one dose.

- According to Public Health England, a single dose of either AstraZeneca's or Pfizer's ***vaccine*** reduced a person's risk of developing ***Covid-19*** symptoms by 33 percent, compared with 50 percent for the Alpha variant.
- A single dose of AstraZeneca showed reduced protection against hospitalization. (There was no major difference with Pfizer.)

Preliminary evidence also *suggests* that the two Chinese ***vaccines***, Sinovac and Sinopharm, may be less effective against Delta. Those ***vaccines*** are being used in more than 90 countries, including the Seychelles, Chile, Bahrain and Mongolia, which have all outpaced the U.S. ***vaccination*** rate. All four ranked among the top 10 countries with the worst Covid outbreaks as recently as last week. "If the ***vaccines*** are sufficiently good, we should not see this pattern," *said* Jin Dongyan, a virologist at the University of Hong Kong.

What scientists don't know

Whether the Delta variant causes more severe illness than other variants remains an open question. One Scottish *study* published in The Lancet found that the hospitalization rate of patients was about *85 percent higher* than that of patients with the Alpha variant. But virulence is a difficult trait to measure, as Katherine Wu *explains* in The Atlantic, and any one study should be taken with a grain of salt: "If a surge in virulence happens, it's often incidental — collateral damage from an increase in contagiousness," she writes.

It is also not yet known how effective the Johnson & Johnson ***vaccine*** is against the Delta variant, though studies are in progress. "Generally people are agreeing that they anticipate that J&J will perform well against the Delta variant as it has so far against other variants circulating in the United States," *said* Dr. Rochelle P. Walensky, the director of the Centers for Disease Control and Prevention.

Yet others say it may be time for people who received the Johnson & Johnson ***vaccine*** to consider supplementing their protection with a dose of Pfizer or Moderna — an idea the C.D.C. and the F.D.A. have not yet weighed in on. "I just decided that it was a good idea for me to get a boost," Angela Rasmussen, a virologist at the University of Saskatchewan, *told* Slate. "We know that at least two doses of an adenovirus vector ***vaccine*** and an mRNA ***vaccine*** provide protection equivalent to having two mRNA ***vaccines***."

The danger of Delta

Many experts are concerned by Delta's contagiousness, regardless of whether it causes more severe disease. "In unvaccinated populations, experts generally have greater fears about more transmissible variants than ones that are, say, just deadlier, because by causing more cases than would have occurred otherwise, the faster spreading strains can result in greater hospitalizations and deaths overall," Andrew Joseph *writes* in Stat. "Delta appears to be able to do that and more."

Health care systems may strain even in places where ***vaccination*** rates are relatively high. In Britain, for example, where about half the population is fully vaccinated and the variant accounts for *90 percent of new infections*, cases have increased *sixfold* in recent weeks. "What we're seeing in U.K. is very likely to show up in other Western countries soon," The Financial Times's John Burn-Murdoch *predicted* at the end of May.

He was right. At the beginning of June, the Delta variant was responsible for *6 percent of U.S. infections.* Now, *it has overtaken the Alpha variant* and is expected to account for a majority of infections by mid-July. Already, The Washington Post *reports*, it appears to be taxing hospitals in a lightly vaccinated part of Missouri, and hospitalizations are rising in Arkansas, Nevada and Utah, where less than 50 percent of the eligible population has received at least one ***vaccine*** dose.

By far the biggest risk, though, is to countries that have limited access to ***vaccines***, Ewen Callaway *writes* in Nature. Experts are especially concerned about the potential for spread in Africa, where most nations have vaccinated less than 5 percent of their populations. Africa has weathered the pandemic *much better than North America and Europe*, but cases and deaths on the continent have increased by *40 percent* in the past week.

“Many nations that excelled at protecting their citizens are now facing a triple threat,” Ed Yong *writes* in The Atlantic. “They controlled ***Covid-19*** so well that they have little natural immunity; they don’t have access to ***vaccines***; and they’re besieged by Delta.”

How to deal with Delta

The C.D.C. has given no indication that it plans to revise its guidance from May that fully vaccinated people can forgo masking in most situations, which paved the way for restrictions to be lifted across the country. But the *W.H.O. disagrees,* warning that while immunization is highly effective at preventing severe illness and death, the degree to which ***vaccines*** prevent transmission is unknown. In Los Angeles, the county reissued its indoor mask recommendation in part because of its large number of unvaccinated residents — particularly children, Black and Latino people and essential workers.

“Am I going to wear a mask among friends who are fully vaccinated? Probably not,” Gregg Gonsalves, a Yale epidemiologist, *told* The Times. “However, in public, I certainly will. This is about promoting a social norm: Right now there are enough people unvaccinated that we should be modeling good behavior, showing social solidarity.”

But others say that it is unrealistic to expect Americans to revert, so the goal should be getting more people vaccinated as quickly as possible. While staunch opposition to the ***vaccines*** remains a formidable obstacle to widespread immunity, “there’s still a big problem with people not having easy access,” Rasmussen *told* Scientific American. “We should start going door-to-door.”

And globally, democratizing ***vaccine*** access still remains the most urgent priority for containing the virus. “***vaccines*** that can save lives and turn this disease into a pre-pandemic baseline risk are available but in dire short supply,” *says* Zeynep Tufekci, a sociologist at the University of North Carolina, noting that even breakthrough infections from the Delta variant are overwhelmingly asymptomatic or mild. “Billions around the world deserve this. And there’s no time.”

Do you have a point of view we missed? Email us at *debatable@nytimes.com*. Please note your name, age and location in your response, which may be included in the next newsletter.

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“Human Behavior During the Pandemic Is More Important Than Any Covid Variant” [The New York Times]

*“In **China**’s latest outbreak, doctors say the infected get sicker, faster.”* [The New York Times]

*“Will the Johnson & Johnson **vaccine** Need a Boost Against the Delta Variant?”* [New York]

WHAT YOU’RE SAYING

Here’s what readers had to say about the last edition: *Britney Spears and the last resort of mental health care*.

Kristen: “I think you have under-emphasized the role insurance companies have played in making mental health services out of reach to most people. … If you have a child with mental health issues (and I do), it is almost impossible to find a therapist who will treat children and who will accept insurance. I don’t mean ‘who will accept one’s specific insurance plan,’ I mean any insurance at all. You pay $100 and up for a 30-minute session or you

don’t get treatment. And unless you live in the city, try to find a psychiatrist who will treat children. There just aren’t any.”

Smita: “One perspective I was hoping you would discuss was that of the hundreds of thousands of families with loved ones whose mental illnesses are driving them to destroy themselves and are destroying their families in the process. … There should be some kind of middle ground, short of a conservatorship, in cases where someone is clearly not capable of caring for themselves, where parents can petition for access to doctors and medical records so they can be part of the treatment team. Of course, there would have to be safeguards to ensure that was not used in an abusive way.”

PHOTO: (PHOTOGRAPH BY Illustration by The New York Times; photographs by Iryna Veklich and onlyyouqj via Getty Images FOR THE NEW YORK TIMES)

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