Is It Possible to Avert Chaos in the Vaccine Scramble?

By J. Stephen Morrison, Anna Carroll, and Katherine E. Bliss

THE ISSUE
The race for a Covid-19 vaccine is unprecedented in its scope, speed, scale, and urgency. The stakes could not be higher for the United States, which leads the world with over 4.8 million confirmed cases and over 155,000 deaths, as uncontrolled outbreaks proliferate across the country, triggering a worsening economic crisis and social strife. The stakes are no less profound for other countries. Together with improved diagnostics and therapeutics, a safe and effective Covid-19 vaccine will be fundamental to ending the pandemic, restarting the world’s economy, and mitigating the cascade of crises, including extreme poverty, famine, civil unrest, and instability, that most acutely affect lower-income countries.

The United States has thus far pursued a strictly nationalist approach, one fueled by ideology, escalating confrontation with China, and the 2020 presidential electoral cycle, focused overwhelmingly on procuring doses of the most promising vaccines for the entire U.S. population. Other powerful, wealthy countries are pursuing similar nationalist paths, determined to lock down vaccine supply for their sovereign purposes. But many of these same countries are simultaneously joining COVAX, a nascent international initiative to develop and equitably distribute Covid-19 vaccines to benefit all countries, rich and poor. Despite widespread interest, early progress in fundraising, and promising ongoing action to secure new commitments, COVAX is still short of the ample resources that are urgently needed.

If the dominance of vaccine nationalism persists into the next phase—as promising vaccines become available for mass use—the odds are high that the wealthy and powerful will secure access while the less wealthy and less powerful are left to wait in uncertainty. Such a chaotic and inequitable outcome will prolong suffering and insecurity, thwart economic recovery, and stoke global discontent.

Nationalism does not foreclose U.S. global leadership. The United States is a dominant contributor to Covid-19 vaccine research and development globally. That is innately a form of global leadership, but only if that leadership strategically is used to bring broader benefit.

It is a matter of leadership whether the United States continues on its current nationalist path or pursues a hybrid Covid-19 vaccine strategy that blends nationalism and internationalism and embraces the values of equity, access, transparency, and diplomacy. Given the breakneck speed at which vaccine development is proceeding, little time remains for the United States to change course.
It is in the core national security interests of the United States to engage diplomatically, at high levels, to coordinate and contribute to equitable access to vaccines globally. It is possible to do so while maintaining a robust domestic effort that satisfies America’s needs at home.

THE SPOTLIGHT ON VACCINES

The accelerating competition for a Covid-19 vaccine is a scientific, logistical, and geopolitical enterprise that is unprecedented in its breadth, speed, complexity, and scale—and its profound urgency. The scramble is unfolding under the pressure of a worsening pandemic that, as of August 6, has already infected over 18 million people globally, taken over 700,000 lives, and is estimated to cost the global economy $12 trillion. A staggering amount hangs on the timing and outcomes of this global vaccine race, including how it is managed internationally.

Together with strengthened diagnostics and therapeutics, safe and effective Covid-19 vaccines will be fundamental in ending the pandemic, restarting the world’s economy, and mitigating the cascade of crises on the horizon. Fragile and lower-income countries are especially vulnerable to deepening poverty, famine, civil unrest, and instability.

For the United States, the stakes could not be higher: as of August 6, it leads the world with over 4.8 million confirmed cases and over 155,000 deaths, while uncontrolled outbreaks proliferate across the country.

Failure by the U.S. government to control the virus at home has recently led the White House to over-promise that vaccines and therapeutics will be the quick fix to America’s health and economic crises, setting the stage for disappointment and backlash. Popular trust and confidence in the competence of the federal government are at a historic low, a function of the administration’s woeful record on masks, personal protective equipment, and ventilators and its failure to ensure that there are local capacities to test, trace, and isolate. Continued endorsement of hydroxychloroquine and open hostility toward science and public health have only fed confusion and frustration. At the same time, the administration has yet to lay down a comprehensive national plan that maps the country’s manufacturing and distribution capacities, identifies who will be first to receive vaccines, and addresses popular skepticism and hesitation about vaccine safety.

VACCINE NATIONALISM DOMINATES

The global Covid-19 vaccine landscape is a patchwork of narrow nationalist approaches and broader international initiatives. The most powerful governments have invested billions of dollars in bilateral purchasing agreements with pharmaceutical companies to lock down doses for their own citizens. These investments include unprecedented levels of “at-risk” financing to fast-track the manufacturing of vaccine candidates even before field trials have been completed. If safety and efficacy are proven, rapid distribution becomes possible. If not, the investments will be written off. Though exorbitantly expensive, this approach is seen as essential to shorten the path between field trials and actual manufacturing and delivery. And the cost is a minuscule fraction of the ongoing economic losses driven by the pandemic, an estimated $500 billion per month.

The United States and China dominate the quest for vaccines, locked in a strategic confrontation, the unraveling of their relationship marked by reciprocal recriminations, espionage, falsehoods, and conspiracies. Between them, they account for more than half of the more than two dozen promising vaccines presently in human field trials. Each is pursuing a vaccine to meet the full needs of its respective home population. In the United States, the scramble for vaccines figures prominently in the administration’s reelection strategy, stoking fears of an “October Surprise”—that the administration might press the Food and Drug Administration to prematurely grant Emergency Use Authorization to a vaccine candidate that has not yet been fully vetted for safety and efficacy.

On practical grounds, however, neither China nor the United States can pursue a strictly nationalist approach or rule out broader future collaborations. China is already executing deals with external allies—Brazil, Canada, the United Arab Emirates, and others—to conduct field trials. These agreements, in turn, carry a responsibility to provide a share of production to those countries. The United States is committing billions of dollars to contracts with major pharmaceutical firms, some American, others based overseas, which may result in production in excess of U.S. national needs.

Other powerful, wealthy nations, including the United Kingdom, Germany, France, and Italy, as well as the European Union, are striking costly deals with many of the same
pharmaceutical companies. Russia, which sees a vaccine as critical in controlling the country’s expanding outbreak, has declared it will launch a national vaccination campaign in October, before completing clinical trials to determine safety and efficacy—a risky exercise in cutting corners. Russia has also allegedly sought to steal vaccine research data from the United States, the United Kingdom, and Canada.

The ACT Accelerator, by contrast, a multilateral initiative launched in April, invites countries to pursue a collaborative approach. An ambitious, nascent international endeavor, the ACT Accelerator seeks to speed up development, production, and equitable access to Covid-19 diagnostics, therapeutics, and vaccines, in an effort to stem gross inequities in access for low- and lower-middle-income countries.

The Vaccine Pillar of the ACT Accelerator—known as the COVAX Pillar—is designed to accelerate the development of Covid-19 vaccines and guarantee equitable access for high-, middle-, and low-income economies alike. COVAX is co-led by the World Health Organization (WHO), the Coalition for Epidemic Preparedness Innovations (CEPI)—charged with advancing vaccine field trials—and Gavi, the Vaccine Alliance, charged with implementing plans for the procurement and distribution of the vaccines.

The COVAX Facility, administered by Gavi, is the marketplace through which all economies—rich and poor—can have access to a diversified and actively managed portfolio of vaccines. While it is not yet known which vaccines will be successful, the COVAX Facility offers through its portfolio an insurance policy for participating countries that either do not have bilateral agreements with individual manufacturers or that seek a safeguard for the bets they have placed.

High- and middle-income self-financing economies are encouraged to invest directly in COVAX to procure vaccines for their own populations. More than 75 countries have formally registered their interest in procuring vaccines through the COVAX Facility. In addition, within the COVAX Facility is the Gavi COVAX Advanced Market Commitment (AMC). Through donor financing, the AMC aims to secure Covid-19 doses for 92 low- and lower-middle-income countries and economies at the same time as wealthy ones.

The COVAX Facility combines the two streams of financing to provide manufacturers with large volume guarantees, encouraging them to rapidly scale up production. The goal is to deliver 2 billion doses of a Covid-19 vaccine by the end of 2021. Once a vaccine is approved, the COVAX Facility will purchase these vaccines with the goal to initially provide doses for an average 20 percent of each participating country’s population, focusing on health care workers and other vulnerable groups. It is estimated that $18.1 billion is needed for COVAX to deliver on these goals.

It is still too early to know whether this promising and innovative initiative, COVAX, will succeed. Nationalism dominates the scramble for vaccines, while pressure to secure more resources for COVAX intensifies. It remains to be seen which of the many wealthy countries which have signaled interest in joining COVAX will commit significant funding. While high- and upper-middle-income countries will pay for their own doses through the facility, the AMC has raised nearly $600 million toward its initial requirement of $2 billion to carry it through the end of 2021. Another $3.5 billion will be required in a second phase. CEPI has over half of the $2 billion it needs to support field trials and will need higher resources as other promising vaccine candidates are added.

Whether COVAX receives sufficient political and financial support in time to meaningfully shape global outcomes remains an open—and vitally important—question.

HOPE, FEAR, AND THE VERY REAL POSSIBILITY OF CHAOS

Amid considerable uncertainty—no one knows yet which vaccines will be safe and effective or for how long they may provide immunity—there is good reason to be of two minds. One can arguably feel optimistic, excited, and even confident that a safe and effective vaccine will be discovered within the next year. Never before have we seen such accelerated scientific development of diverse vaccine candidates and such prodigious resources and urgency. Simultaneously, one can feel skeptical, cautious, and even fearful that the vaccines will not be developed soon enough, and that when they are, governments will hoard supply and prize speed at the expense of safety and efficacy.

REASONS FOR HOPE

There are many reasons to be optimistic about the global effort to develop a Covid-19 vaccine. Just six months into the pandemic, there are over 200 Covid-19 vaccines in development, 27 of which are in human clinical trials. (In contrast, nearly 40 years into the HIV epidemic, 46 HIV vaccines have been tested in clinical trials.) Promising new vaccine platform technologies have emerged in recent years, shortening estimated development timelines. The candidates in development form a diverse portfolio, ranging from the more established (e.g., inactivated virus, protein models) to unproven, experimental platforms (e.g., messenger RNA, viral vector models). Despite geopolitical tensions at the international level, unprecedented collaborations are unfolding...
at subnational levels, as academia, industry, and regulatory bodies share ideas, data, protocols, and best practices.

**U.S. AND CHINESE MUSCLE**

While nationalistic and competitive, the concentrated efforts by the United States and China are bringing exceptional resources and capacities to the table.

The United States possesses unrivaled biomedical research and development assets: the National Institutes of Health (NIH), the Biomedical Advanced Research and Development Authority (BARDA), the Centers for Disease Control and Prevention (CDC), and a global field trials infrastructure, much of it built over the past two decades through massive investments in research and development for HIV/AIDS. It has one of the world's strongest and most comprehensive regulatory bodies, the Food and Drug Administration, a critical component of any safe and effective vaccine development effort. Over the past several decades, the United States has made steady advances in gene sequencing and immunology, developing platforms capable of making and scaling vaccines quickly. This research ecosystem, including its technological capabilities and dense web of partnerships, is now being repurposed in the search for a Covid-19 vaccine.

The U.S. effort is spearheaded by Operation Warp Speed, a $10 billion partnership between the Department of Health and Human Services (HHS) and the Department of Defense (DOD) that seeks to have 300 million doses of a safe and effective vaccine—reserved for Americans—by January 2021. Operation Warp Speed integrates multiple agencies under a hierarchical command structure. It has vested considerable decisionmaking power in the hands of a highly regarded industry leader in vaccine development, Moncef Slaoui, Operation Warp Speed's chief scientific adviser. General Gustave F. Perna, an expert in logistics, has been named the chief operating officer and has already enlisted military capacities to support the initiation of large field trials in the United States.

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Operation Warp Speed has moved rapidly to seal up multiple, massive contracts: $2.1 billion with Sanofi and GlaxoSmithKline, $1.95 billion with Pfizer, $1.6 billion with Novavax, $1.2 billion with AstraZeneca, $1 billion with Moderna, $0.5 billion with Johnson & Johnson, and $38 million with Merck. These sums flow from BARDA's $6.5 billion dedicated to developing vaccines and the NIH's $3.5 billion dedicated to supporting field trials. At the time of writing, two companies, Moderna and Pfizer, have progressed their candidates to large-scale human trials in the United States, each involving 30,000 people. If one or more of these bets pay off, the benefits could extend well beyond the United States.

By committing to purchasing hundreds of millions of doses, the United States has assumed the power to determine the price of a Covid-19 vaccine in the United States. This may ultimately lower the price of the vaccine in the United States, a gesture that might build popular trust in new and unproven products.

China is pursuing a vaccine for its citizens as aggressively as the United States, building off its recent efforts to transform its domestic pharmaceutical and biotechnology sectors into a strategic global force, a central pillar of its Made in China 2025 strategy. The Chinese government has stated that it plans to invest $1.4 billion in Covid-19 vaccines, therapeutics, and diagnostics, although the true number is likely considerably higher. The opaque interconnectivity of the Chinese state and pharmaceutical sector makes it difficult to determine the extent of the government’s investments. In contrast to the United States, China has also declared the Covid-19 vaccine to be a global public good, although whether it delivers on that promise remains to be seen.

To advance its vaccine trials, China, which has radically reduced the levels of infection within its borders, has no choice but to establish multiple external partnerships. China is actively moving ahead with plans to conduct large-scale clinical trials in Brazil, Canada, and the United Arab Emirates—where the virus is still circulating widely—reportedly in exchange for some doses of a proven vaccine. Domestically and internationally, China’s efforts may be impeded by its questionable field trial practices and its history of poor vaccine quality and regulation.

**THE PROMISE AND POTENTIAL OF COVAX**

The establishment of COVAX reflects both a shift in international norms—in favor of equity, access, and transparency—and market logic. By investing in the largest, most diverse portfolio of vaccine candidates, COVAX is trying to beat the difficult odds of vaccine development. The average probability of success for a vaccine in the preclinical phase is about 7 percent and rises to only 15 to 20 percent for vaccines that reach the clinical stage. By pooling risk and resources, COVAX raises
the odds of procuring doses of a safe and effective vaccine for participating countries—rich and poor. This is not only equitable, but recent research suggests that vaccinating the most at-risk 20 percent in every country will be far more effective in accelerating economic recovery than vaccinating everyone in a single country.

Ursula von der Leyen, the president of the European Commission, has demonstrated considerable leadership in supporting the ACT Accelerator. In early May, she convened 25 major donors, including the European Union, Japan, Norway, Canada, the United Kingdom, and Saudi Arabia, to secure pledges of $8 billion toward the research and development costs of Covid-19 diagnostics, vaccines, and therapeutics. The United States, Russia, and India did not participate. China sent an ambassador but made no pledge. In June, the European Commission convened a second pledging summit with Global Citizen, which mobilized over $6.9 billion for Covid-19 relief, including $389 million for the ACT Accelerator. In bringing together several heads of state at these convenings, including President Emmanuel Macron and Chancellor Angela Merkel, von der Leyen created powerful moments of global summity and solidarity.

**REASONS FOR CONCERN**

There are also understandable reasons for concern. It is important to acknowledge them while recognizing that those opposed to vaccines will exploit these concerns for their own purposes.

Scientific uncertainty persists. There is no guarantee that this global competition will result in a safe and effective Covid-19 vaccine. No coronavirus vaccine has ever been approved by regulatory authorities for human use, and multi-billion-dollar purchasing agreements and technological prowess do not guarantee clinical success. A safe and effective Covid-19 vaccine may not provide lasting immunity, although a vaccine that confers short-term immunity could help to end the pandemic. The virus might also mutate, setting back vaccine efforts.

In the urgent quest to end the crisis, companies are trying to develop vaccines in months rather than years. But speed can be a double-edged sword. There is sufficient global capacity to manufacture vaccines on a mass scale, but the complex technology transfers that will be required for scale-up may cause delays. And while leaders in government and industry are quick to reassure the public that the compressed vaccine development timelines will not compromise safety, history urges caution.

In 2016, the Philippines launched a massive campaign to vaccinate nearly 1 million children against Dengue with Dengvaxia—the only vaccine available against dengue. But the risks associated with the vaccine were not clearly communicated to parents, and the campaign was suspended after it became clear that the vaccine could, in fact, make some children more ill in case of Dengue infection. The breach in public trust was so severe that vaccine coverage subsequently dropped across multiple disease areas. Sanofi Pasteur, which produced Dengvaxia, had spent 20 years developing it. The Dengvaxia case is particularly instructive because it demonstrates the challenges of effective risk communication about vaccine safety, an issue that is even more sensitive in the Covid-19 era.

Even if a safe and effective Covid-19 vaccine were to be developed on an accelerated timeline, it may only be partially effective, and it would undoubtedly be met with questions and concern in many parts of the world, including the United States. The pandemic has revealed the power of an “infodemic”—the rapid and pervasive spread of misinformation and disinformation that sows doubt in public officials, health experts, and scientists. Much of the infodemic is driven by Russian and Chinese disinformation campaigns.

This has played out against the backdrop of a growing crisis of confidence in vaccines in the United States and globally that might intensify if safety or efficacy issues emerged after a rushed rollout. There is a widespread perception in the United States that the vaccine development is being rushed. Recent polls suggest that only 50 to 75 percent of Americans would get the vaccine when it became available, which may not be sufficient to protect the entire population. Only one-third of Americans trust the administration’s Covid-19 response.

Geopolitical dynamics compound these scientific and public health risks, most importantly, the toxic strategic confrontation between the United States and China. The United States recently accused China of sponsoring hackers who are targeting firms working to develop Covid-19 vaccines and treatments, ordering China to close its consulate in Houston, with China retaliating by ordering the closure of the U.S. consulate in the city of Chengdu. As the United States and China exchange escalating recriminations and allegations, the clash paralyzes the UN Security Council and contributes to the stark diplomatic void. With the exception of pledging conferences, there has been minimal high-level summity that might promote coordination and collaboration to ease the world’s health and economic crises. There is a risk that the United States and China could use the vaccine as a tool to win economic or political concessions.

Despite COVAX’s compelling investment case, leaders of wealthy countries face enormous pressure to meet their
sovereign vaccine requirements and to address intensifying economic dislocation at home. Ursula van der Leyen, the president of the European Commission, while committed in principle to COVAX, has to balance that against the acute pressures to ensure access to a vaccine for European Union member states and forge consensus around an economic rescue package. Many powerful European countries are pursuing bilateral purchasing agreements while still deliberating over what level of support to provide to COVAX. It remains to be seen whether COVAX will attract sufficient funding to be a credible force and an effective competitor in a field dominated by powerful states pursuing nationalist agendas.

THE POSSIBILITY OF CHAOS

The predominant nationalist behavior of the United States, China, and many wealthy European countries carries high risks. Through intense competition, vaccine nationalism inexorably drives up prices and international tensions, as countries engage in bidding wars for limited vaccine supply. Higher prices, in turn, compromise access—particularly in lower- and middle-income countries—limiting the ability to curb the spread of Covid-19 in poorer and less powerful countries. Alternatively, by pooling demand through purchasing blocs, a single purchaser could cut the cost of procurement by a factor of 13, according to one analysis.

Nationalist approaches do not adequately account for the transnational nature of the vaccine development process. To manufacture any vaccine at mass scale requires global supplies (e.g., glass vials) and manufacturing capacity. Ignoring this reality and devaluing international cooperation invites supply-chain disruptions.

Nationalist approaches focus predominantly on meeting the vaccine requirements of individual nations, with minimal regard for the less wealthy and less powerful nations, which may be left without access. Those few wealthy countries that do succeed in immunizing their own populations will—paradoxically—not be any more secure if other parts of the world remain vulnerable to continued outbreaks.

The threat of chaos under current circumstances is real. What might such a scenario look like? A safe and effective vaccine is discovered, but the vast portion of supply is captured by the most wealthy and powerful of countries. Populist nationalists in the United States and elsewhere continue to attack science and public health, as public trust and confidence wanes, and skepticism of vaccines spreads. A void persists in international efforts to build common ground and seek shared solutions. High-level diplomatic summity continues to sputter while COVAX languishes. Despite promises by some manufacturers to pursue not-for-profit pricing, a lack of coordinated action opens the door to price gouging, hoarding, and disrupted supply chains.

Lower- and middle-income countries, at the back of the queue, and under considerable economic stress, fail to receive the vaccine for years, enabling the continued spread of the virus through many of the poorest and most fragile parts of the world. Ongoing, runaway outbreaks in these countries could generate a destabilizing ripple effect, with spikes in food insecurity and extreme poverty fueling unrest, conflict, and instability, jeopardizing lives and stability and short-circuiting the restart of the global economy.

The United States significantly raises the odds of this outcome if it continues on its current path. The United States has thus far pursued an exclusively nationalist approach, fueled by ideology and the presidential electoral cycle, focused overwhelmingly on procuring doses of the most promising vaccines for the entire U.S. population. As part of this nationalist approach, it has announced the termination of U.S. membership in the WHO, arguing that the organization has become a captive of China. That decision has drawn near-universal condemnation.

NATIONALISM DOES NOT FORECLOSE U.S. GLOBAL LEADERSHIP

The Covid-19 pandemic requires global solutions—a narrow nationalist approach will fail.

It is in the core national security interests of the United States to shape and contribute to the global Covid-19 vaccine enterprise. If the United States seeks to end the pandemic, restart the global economy, and prevent further instability and conflict, it needs a revised Covid-19 vaccine strategy. The United States has the wherewithal to protect Americans at home while at the same time using its influence and power—and excess vaccine capacity—to address acute needs outside its borders in a way that will benefit the security and economic interests of the United States.

The current nationalist approach is a sharp departure from years of U.S. leadership on global health issues, both bilaterally and multilaterally, across both Republican and Democratic administrations, with strong bipartisan support in Congress. By stepping away from any international leadership role amid a catastrophic pandemic, the U.S. government has retreated from its past. It is not too late to reembrace its legacy of internationalism.
WHITHER U.S. POLICY?
A revised U.S. Covid-19 strategy can embrace the values of coordination, equity, access, and transparency. It can be built on sustained, high-level U.S. diplomacy, including a willingness to deescalate the confrontation with China, engage collaboratively with the European Commission, leverage the influence of the G-7 and G-20, and reestablish membership in the WHO, contingent on concrete internal reforms.

A dedicated series of summits and compacts can expand manufacturing capacity across multiple regions in an orderly way and coordinate the simultaneous distribution of a vaccine to the most at-risk and vulnerable around the world. The United States can—and should—join COVAX and commit funds and political will to a trusted U.S. partner, Gavi, and a highly promising new institution, CEPI, wholly deserving of U.S. support. Making this financial and political commitment to COVAX will go a long way in convincing other donor countries to invest in COVAX at this critical juncture.

The United States has contracted for far more vaccines than it needs for domestic purposes. It can pledge to make excess doses available to the lower- and lower-middle-income countries in COVAX and give COVAX the right of first refusal for all the doses it manufactures but does not require. Such surplus pledging is not normal best practice, but in the current emergency, it makes pragmatic sense and can have significant impact.

The U.S. Senate’s $1 trillion HEALS Act includes $4.4 billion for the global Covid-19 response, specifically $3 billion for Gavi and $1 billion for UN agencies for vaccine delivery and logistics. If this measure is included in a final bill passed by both chambers of Congress and signed by the president, it will be a major step forward in broadening the United States’ vaccine strategy.

The United States can—and should—join COVAX and commit funds and political will to a trusted U.S. partner, Gavi, and a highly promising new institution, CEPI, wholly deserving of U.S. support.

For this strategy to succeed, the United States will also need to bolster its long-term support for health and immunization system strengthening activities so that once an effective Covid-19 vaccine becomes available, it can be disseminated across diverse geographies. It will also require heightened, determined efforts at home and abroad to empower, modernize, and amplify the voices of sound public health and science in order to counter weaponized social media and disinformation campaigns.

At home, the administration will need to move ahead expeditiously in forging a national vaccine manufacturing and distribution plan in close coordination with state and local officials. This plan will need to designate priority subpopulations and clearly communicate the value of vaccines to the American people. The administration will need to ensure that there is stringent regulatory action by the FDA, with full support from its vaccine advisory committee, the National Academies of Science, Engineering, and Medicine, and industry partners.

A hybrid U.S. approach to the Covid-19 vaccine—one that blends nationalism and internationalism—can better protect the American people. If high-level leadership makes the case that an international component is an essential ingredient to protect the health and economic prosperity of Americans and that it will motivate other donor countries and partner efforts to do their part, Americans will respond with their support.

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