Bipartisan Policy Center

U.S. LEADERSHIP IN THE COVID-19 PANDEMIC RESPONSE: GLOBAL HEALTH IS U.S. HEALTH

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Executive Summary

The COVID-19 pandemic poses extraordinary challenges to health care systems and public health infrastructures worldwide. Within four short months, the highly transmissible and lethal new coronavirus has led to more than 2.7 million confirmed cases across 185 countries resulting in more than 184,000 deaths. While the United States has suffered the greatest morbidity and mortality from the pandemic to date, concern is rising about the potential catastrophic public health and economic impacts in low-and middle-income countries in Africa, Latin America, and South Asia.

Specifically, COVID-19 cases in Africa are rising rapidly. With the potential for further spread in highly populated regions that have inadequate access to clean water, hand-washing facilities, and limited feasibility of social distancing, there is enormous potential for unmitigated spread and high rates of death and disease. In addition, given the limited number of health care workers, personal protective equipment, or PPE, hospital beds, intensive care units, and ventilators in many African countries, there is no surge capacity in their health care systems. This health emergency, along with a broader economic crisis, could be highly destabilizing to already fragile states and could set back years of U.S.-led disease prevention efforts in HIV, tuberculosis, malaria, vaccine preventable childhood diseases, neglected tropical diseases, and other major contributants to high rates of death, disease, and disability. Importantly, this emergency also strains and sets back critical efforts to build robust public health systems.

The Global Health Security Index, a comprehensive assessment of global health security capabilities in 195 countries, found 71% of low-income countries and 37% of middle-income countries earned the lowest rating of "least prepared" for a pandemic. Indeed, sub-Saharan Africa, as a whole, is particularly vulnerable to infectious disease outbreaks; the Global Health Security Index gave a rating of "least prepared" to nearly two-thirds of the region's countries. Initial reports reveal emerging gaps related to the prevention, detection, and response to COVID-19 across Africa.

While the Coronavirus Preparedness and Response Supplemental Appropriations Act and the CARES Act have designated cumulatively nearly $3 billion for the international response through the United States Agency for International Development, U.S. Department of State, and Centers for Disease Control and Prevention, this allocation is not nearly enough to support vulnerable countries around the world. In addition, given that an uncontrolled COVID-19 outbreak anywhere in the world is a threat to U.S. health, strengthening global health security would enhance U.S. health security.

In the Bipartisan Policy Center's 2015 report, we previously defined strategic health

diplomacy as the "idea that national governments do good by actively working to improve public health abroad and, by doing so, may also further their own foreign policy."[i] Any retreat from continued U.S. leadership in global health would be shortsighted because investment in the well-being of others pays not just humanitarian dividends, but also strategic dividends.

U.S. policymakers currently have a narrow policy window to further support the global response to the COVID-19 pandemic. This support should be based on a set of principles that include assisting the most vulnerable, protecting civil liberties, supporting science-based public health approaches, building on strengths of existing platforms, promoting sustainability, and projecting U.S. values and strategic health diplomacy.

The next Congressional supplement should include a substantial global component that is transformative in its global impact and concomitant benefit to U.S. interests. This budget level should be high enough to ensure that we significantly strengthen our global pandemic response and mitigate COVID-19's destabilizing effects on individuals, nations, and other public health programs, while vastly reducing current and future threats to America. Spent well, this supplement will yield public health, economic, and societal payoffs worth many times the invested amount. Good stewardship of these funds, including the initial $3 billion tranche, requires a balance between speed, effectiveness, and accountability, and should be a core responsibility of each federal agency with Congressional oversight.

Priorities for additional funding include distinct and dedicated funding for strengthening the core functions of health security – expressed in the Global Health Security Agenda in which USAID, CDC, and other agencies play a key role. Ongoing but underfunded programming can be rapidly scaled up to deal with the immediate threats this pandemic poses. Such investments will serve us in future epidemics. Priorities also include both bilateral and multi-lateral programs with substantial on the ground disease-fighting responses that have significant ability to pivot their programs beyond their principle mission. Programs such as the President's Emergency Plan for AIDS Relief, or PEPFAR, and the Global Fund to Fight AIDS, Tuberculosis and Malaria can serve as part of a rapidly strengthened front-line health systems response against COVID-19. They are also linked to the largest global health-pooled procurement mechanisms in the world, which will allow for rapid procurement and distribution of quality personal protective equipment, medicines, and other needed supplies – in coordination with national governments and other actors. They must be funded additionally in order to support this dual mission of fighting COVID-19, while not letting their highly effective responses against AIDS, TB, and malaria unravel. In addition, U.S. support through scientific advancement of vaccines and therapeutics, as well as more general humanitarian assistance, will be crucial to mitigate the impact of COVID-19 in low- and middle-income countries.

Finally, U.S. investments are less valuable and leveraged less if they are not coordinated with those of others. U.S. coordination must start with strengthened global health security leadership capacity in the White House National Security Council. Regular convenings of interagency leadership and clear role assignments are essential. In addition, it is in the interest of the United States to have a World Health Organization that is further strengthened to combat COVID-19. While the United States should push for reforms that will enhance the organization's effectiveness, its funding should not be frozen, but rather restored to help control further spread of the coronavirus around the world. Walking away from WHO only decreases U.S. leverage for making important reforms that are in our interest and the global interest.

Introduction

Over the past 115 days since the initial report to WHO, COVID-19 has severely strained even the well-resourced health systems of Asia, Europe, and the United States, and concern is rising about potential catastrophic public health and economic impacts in low- and middle-income countries across Africa, Latin America, and South Asia.

Specifically, COVID-19 cases in Africa are now rising rapidly with the potential for further spread through dense urban slums and among people affected by underlying conditions such as HIV, tuberculosis, and malnutrition. With only a small fraction of the ventilators and intensive care beds needed, inadequate access to clean water and hand-washing facilities, and limited feasibility of long-term social distancing, there is enormous potential for unmitigated spread and high rates of death. These effects, along with a broader economic crisis, could be highly destabilizing to already fragile states and could reverse years of U.S.-led disease prevention progress in HIV, TB, malaria, vaccine preventable childhood diseases, neglected tropical diseases, and other major contributants to high rates of death, disease, and disability. Importantly, this emergency also strains and sets back critical efforts to build robust public health systems.

We previously defined strategic health diplomacy as the "idea that national governments do good by actively working to improve public health abroad and, by doing so, may also further their own foreign policy."[ii] In a 2015 study focused on the President's Emergency Plan for AIDS Relief, or PEPFAR, and in a subsequent 2018 study, we demonstrated that beyond the significant health benefits of the program, there were additional secondary effects on public

opinion, socio-economic development, and state stability in PEPFAR countries – all of which enhance U.S. national security interests.[iii] We also noted that despite PEPFAR's positive impact, the emergence of new global health challenges like pandemic threats, advancing additional U.S. global health programs of the same scope would be a challenge due to fiscal pressures. Nevertheless, we argued that any retreat from continued U.S. leadership in global health would be shortsighted given that investments in the well-being of others pays not just humanitarian dividends, but also strategic dividends.

Our previous studies identified six key lessons for maximizing the impact of strategic health diplomacy initiatives:

- Have clear goals and identify policies needed to achieve them.
- Address real needs with visible effect.
- Be sensitive to local contexts.
- Be in it for the long-term.
- Build capacity.
- Be transparent and accountable.

Further, when selecting these initiatives in the future, we noted that policymakers should take three main criteria into consideration:

- The prevalence or the rapidity of epidemic growth
- Treatment potential, or the potential for containment through prevention strategies
- Strategic value of stricken areas.[iv]

Using this framework of strategic health diplomacy, we believe the United States should augment global health assistance to low- and middle-income countries in response to COVID-19. **In this report, we summarize current U.S. global health investments to combat COVID-19, the situation on the ground in various parts of the developing world with a special spotlight on Africa, and recommendations for policymakers as they consider further steps.** This report was compiled through extensive research and interviews with a range of public and private sector global health stakeholders.

Background

COVID-19 has posed an extraordinary challenge to health care systems and public health infrastructures worldwide. The outbreak of the respiratory disease is thought to have begun in Wuhan, China in December 2019. WHO considered the first cases to be a form of pneumonia of unknown etiology.[v] All cases were eventually linked to Wuhan's Huanan Seafood Wholesale Market, a whole-fish and live animal market.[vi] Sustained human-human transmission of this new coronavirus led to an explosion of cases in the region.

Symptoms of COVID-19 include fever, dry cough, difficulty breathing, and diarrhea. Though most infected people have mild to moderate symptoms, for some individuals, particularly those who are older or have significant chronic conditions, COVID-19 can be fatal. For example, among the first cohort of COVID-19 patients in the United States, approximately 80% of deaths occurred in adults age 65 and older, with the highest percentage in adults age 85 and over.[vii]

Even with early warnings from scientists, the disease spread rapidly across China and then the globe. By January 30, WHO declared the outbreak a public health emergency with growing concern that it could develop into a pandemic. On March 11, WHO officially characterized COVID-19 as a pandemic.[viii]

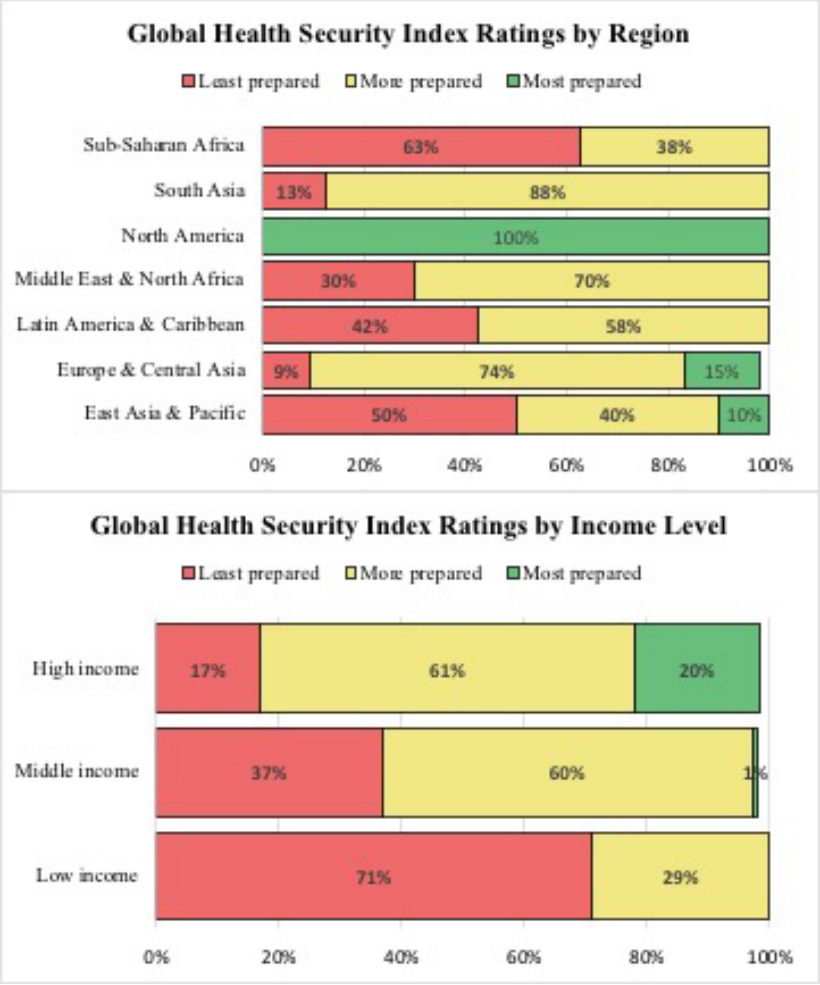
Responses to COVID-19 vary, but most heavily affected countries introduced measures that reduce social contact because the virus spreads primarily through droplets generated when an infected person sneezes or coughs. Chinese authorities introduced unprecedented policies as early as mid-January to reduce the spread of the virus, including restricting movement in and out of Wuhan, and suspending flights and trains. Unfortunately, these interventions occurred too late, as the highly transmissible virus spread to neighboring countries and beyond. The first case in the United States was identified on January 21 in a patient who had recently traveled to Wuhan, China.[ix]

According to Johns Hopkins University's COVID-19 Dashboard as of April 2020, there are currently more than 2.7 million confirmed cases of COVID-19 across 185 countries resulting in more than 184,000 deaths. It is widely thought the true number of cases are many-fold higher than what has been confirmed due to inadequate testing in many countries, including the United States.

Low- and Middle-Income Country Projections

Initially, COVID-19 cases were detected in hot spots across East Asia and Europe, but the virus has since spread globally. Low- and middle-income countries, or LMIC

– including those in Africa, Latin America, and South Asia – are at risk for long-term economic, health, and humanitarian consequences, given their low-resourced health care systems.



Sources: NTI and JHU Center for Health Security, Global Health Security Index, 2019. World Bank, Country and Lending Groups, 2020.

While a country's income level does not always correlate with capacity for public health response, systematic evaluations of international pandemic preparedness consistently paint a concerning picture in resource-limited settings. The Global Health Security Index, a comprehensive assessment of global health security capabilities in 195 countries, found 71% of low-income countries and 37% of middle-income countries earned the lowest rating of "least prepared" for a pandemic.[x] Even countries like South Africa, which has one of the strongest health systems in Africa, earned poor index scores for capacity to treat infected patients and protect health workers.

Due to limited testing infrastructure in LMIC, the pandemic response in these countries has focused on social distancing efforts to reduce spread of the virus and the surge on the health care system.

African countries, in particular, are facing an unprecedented health and economic crisis. Dr. John Nkengasong, director for Africa's Centers for Disease Control and Prevention, has referred to the virus as an "existential threat" to the continent.[xi] Government leaders, public health officials, and policymakers fear the impact could

reverse substantial development and stunt future growth. Cases continue to grow daily. As of April 18, at least 19,000 cases have been confirmed in all 54 African countries, with South Africa leading the continent containing the highest number of cases.[xii] This is likely a significant underestimation of infections secondary to a lack of a robust testing infrastructure.

The projected number of COVID-19 related deaths is largely dependent on intervention strategies. The United Nations Economic Commission for Africa released a report on April 17 estimating that as many as 3.3 million African people could die from COVID-19, with at least 300,000 likely to die even with the most effective measures in place.[xiii] This is partially due to Africa's weak health care and public health infrastructure, as well as limited access to hand-washing facilities.[xiv] As discussed in the "Spotlight on Africa" section of this report, African nations face a unique array of challenges that will require a coordinated global response.

Similarly, Latin America is expected to face severe health and economic consequences due to the pandemic. The first confirmed COVID-19 case was found in Brazil February 26 and has continually spread across the continent. Brazil's health minister, commenting on the upcoming health care surge on March 20, said bluntly "our health system will collapse" by the end of April.[xv]

Responses to the pandemic vary across Latin America. El Salvador's President was the first in the region to declare a ban on flights from China on January 31 – before the country saw any confirmed cases. Contrastingly, Nicaragua's President Daniel Ortega ignored public health warnings and held a "Love in the Time of Coronavirus" parade March 14.

Research shows the economic impact of COVID-19 is estimated to devastate the entire Latin American region. Before COVID-19, the International Monetary Fund predicted the area would see a growth rate of only 1.8 percent in 2020.[xvi] The region is now expected to see a negative growth of -1.8%.

South Asia is another area at high risk of significant economic and public health loss, partially due to its dense population and widespread poverty.[xvii] The region is home to the second most populous country in the world, India, with a population of 1.3 billion.[xviii] The country has already seen nearly 15,000 cases despite a 21-day stay-at-home order declared on March 24. [xix],[xx] The order came after alarming projections that 300 to 500 million people could be infected if no mitigation measures were taken.[xxi] India's Prime Minister Narendra Modi has since extended the lockdown for an additional 15 days.

Economic growth projections for South Asia have fallen from 6.3% to 1.8%-2.8%, the region's worst projections in the last 40 years. Worst-case scenario projections expect the region to experience a negative growth rate for the rest of the year, with an economic downturn lingering into 2021.

Current U.S. Global Health Investment in Epidemic Preparedness and Response

The United States has long been a major contributor to global health efforts. Most notably, the federal government has made critical investments to improve population health and reduce the disease burden of HIV, TB, and malaria; these efforts have seen strong bipartisan support.

U.S. global health funding grew significantly from 2001 to 2010, partially due to the creation of bilateral programs such as PEPFAR and the President's Malaria Initiative. However, since 2010, global health funding has been relatively stagnant at approximately $11 billion per year. The President's FY2021 budget request included a reduction in global health funding to $7.7 billion from the FY 2020 level of $11.2 billion.[xxii] While the President's budget cut global health funding overall, including to WHO, there was a very slight increase in funding for global health security. The U.S government is the single largest contributor to WHO, typically providing $400-500 million annually; in FY2019, the United States contributed $300 million in voluntary funds and $119 million in assessed funds. On April 14, President Trump suspended funding to WHO, pending a further review of the international agency's response to COVID-19. [xxiii],[xxiv]

The global health security portion of U.S. global health investments focus on preventing, detecting, and responding to novel infectious diseases and antibiotic resistance around the world. Funding has slightly increased over the last decade, with a notable increase in 2015 and 2016 in response to the Ebola and Zika virus outbreaks (see Table 1).

Table 1. Funding of Global Health Security by Agency and Programs (in millions)

Agency	2010	2015	2019	2020	2021 Request
USAID	$201.50	$384.50	$138.00	$100.00	$90.00
Global Health Programs	$201.00	$72.50	$100.00	$100.00	$90.00
Emergency Ebola	-	$312.00	$38.00	-	-
CDC	$61.90	$652.10	$108.20	$183.20	$225.00
Global Public Health Protection	$61.90	$55.20	$108.20	$183.20	$225.00
Emergency Ebola	-	$597.00	-	-	-
DoD	$223.10	$305.00	$257.30	$263.40	$242.30
Biological Threat Reduction Program	$169.10	$256.80	$197.60	$203.60	$183.60
Global Emerging Infections Surveillance & Response System	$54.00	$48.20	$59.80	$59.80	$58.70
Total	$486.50	$1,341.60	$503.50	$546.60	$557.30

Source: Kaiser Family Foundation, Breaking Down the U.S. Budget By Program Area, 2020.

COVID-19 Related Supplements

Prior to recent Congressional action, the Department of State and USAID made available $100 million in existing funds to assist China and other affected countries "to contain and combat" COVID-19. In addition, the U.S. Department of Health and Human Services made available $105 million from the Infectious Disease Rapid Response Reserve Fund for domestic and international COVID-19 responses.[xxv] These contributions were supplemented by a substantial boost in funding through the Coronavirus Preparedness and Response Supplemental Appropriations Act and the CARES Act. Table 2 summarizes global health funding activities supported by these bills.

Table 2. Summary of COVID-19 Supplements

Act	Summary of Global Health Funding Activities		
	Centers for Disease Control and Prevention (CDC)	**U.S. Department of State**	**United States Agency for International Development (USAID)**
The Coronavirus Preparedness and Response Supplemental Appropriations Act *$8.3 billion for the domestic and international COVID-19 response.*	Global Health Security: $300 million for global disease detection and emergency response.	Diplomatic & Consular Programs: $264 million to support consular operations, emergency evacuations, and other U.S. embassy needs.	Global Health Programs: $435 million, including $200 million for the Emergency Reserve Fund International Disaster Assistance: $300 million to address humanitarian and health needs in affected areas Economic Support Fund: $250 million to address related economic, security, and stabilization requirements.
The CARES Act *$2.2 trillion for the domestic and international COVID-19 response.*	Global Health Security: $500 million for global disease detection and emergency response. Infectious Diseases Rapid Response Reserve Fund: $300 million	Migration and Refugee Assistance: $350 million	International Disaster Assistance: $258 million

Source: U.S. Senate, Summary of Provisions: Coronavirus Emergency Supplemental, 2020; Kaiser Family Foundation, The Coronavirus Aid, Relief and Economic Security Act: Summary of Key Health Provision, 2020.

Federal Agency Involvement in U.S. Global Response

The government agencies leading the U.S. global response efforts in the wake of the COVID-19 pandemic are the Department of State, USAID, and CDC. It should be noted the efforts of the National Institutes of Health, through an $826 million allocation for research into vaccines, therapeutics, and diagnostics from the first supplemental appropriations act and a subsequent $1 billion allocation from the CARES Act will also help the global response since countries around the world will benefit from the research. In addition, the first supplemental appropriations act made $3.1 billion

available to The Public Health and Social Services Emergency Fund for domestic and international coronavirus preparedness, specifically related to advanced research, development, and manufacturing of countermeasures.

Finally, the CARES Act included new approvals and funding for the World Bank, the African Development Group, and IMF for the global economic response.

Table 3 describes a summary of the relevant contributions each health agency has made.

Table 3. Lead Agency Response to COVID-19

Agency	Summary of Global Activities
U.S. Department of State	The Department of State continues to provide international aid to contain and prevent the spread of COVID-19. Over $500 million has been committed in foreign assistance since the beginning of the outbreak. The department is actively engaging with international partners and allies such as the WHO, UNICEF, the World Food Program, and the Global Fund to support health systems, humanitarian assistance, and economic, security, and stabilization efforts worldwide.
United States Agency for International Development (USAID)	USAID is leading the U.S. government's response in humanitarian aid and health assistance by mobilizing resources to respond both domestically and abroad. The State Department and USAID provided an initial investment of approximately $247 million in emergency assistance to countries in need. Of the total investment, nearly $100 million is sourced from USAID's Global Health Emergency Reserve Fund and another $110 million from USAID's International Disaster Assistance account. Emergency health and humanitarian assistance has been provided to 64 prioritized countries that are most at-risk or have the highest potential for impact.
Centers for Disease Control and Prevention (CDC)	CDC staff in-country partner with ministries of health to strengthen capacity to prevent, detect, investigate, and respond to outbreaks. CDC also focuses on mitigating COVID-19 transmission in communities, across borders, and in healthcare facilities. CDC has developed pandemic preparedness materials and response plans for its global partners. These efforts will help countries respond effectively to the pandemic. CDC continues to work closely with partners at WHO to support the global response to COVID-19.
National Institutes of Health (NIH)	At the National Institute of Allergy and Infectious Diseases, scientists are working to develop diagnostics, therapeutics, and vaccines to combat COVID-19. NIH is also collaborating with many agencies, including the CDC, to streamline the process of finding vaccine and drug candidates and coordinating regulatory processes. NIH is participating in Accelerating COVID-19 Therapeutic Interventions and vaccines, a public-private partnership that brings together five federal agencies, the European Medicines Agency, the Foundation for the National Institutes of Health (FNIH), and more than a dozen leading biopharmaceutical companies. The partnership is coordinated by FNIH and aims to develop an international strategy for coordinated research.
HHS Assistant Secretary for Preparedness and Response (ASPR)	The Public Health and Social Services Emergency Fund is providing the HHS Secretary with funding for the office of the HHS Assistant Secretary for Preparedness and Response and the Biomedical Advanced Research and Development Authority to support domestic and international coronavirus preparedness and response. These funds will support a variety of activities, including product development and manufacturing for medical countermeasures (vaccines, diagnostics, and therapeutics), the purchase of medical countermeasures and medical supplies, the expansion of medical surge capacity, and grants to improve non-federally owned facilities for the production of medical countermeasures.

Sources: National Institutes of Health, NIH begins study to quantify undetected cases of Coronavirus Infection, 2020; National Institutes of Health, NIH to Launch Public-Private Partnership to Speed COVID-19 Vaccine and Treatment Options, 2020; Centers for Disease Control and Prevention, CDC In Action, 2020; U.S. Department of State, Coronavirus Disease 2019 (COVID-19), 2020; U.S. Department of State, Global Health, 2020; U.S. Agency for International Development, The United States is Leading the Humanitarian and Health Assistance Response to COVID-19, 2020; Congressional Research Service, Coronavirus Preparedness and Response Supplemental Appropriations Act, 2020 (P.L. 116-123): First Coronavirus Supplemental, 2020.

Spotlight on Africa: Challenges and Emerging Gaps

Baseline level of preparedness

A variety of factors make African nations especially vulnerable to the coronavirus pandemic. High-population densities in urban areas, shortages of health workers, underdeveloped public health systems, and limited financial resources will all constrain the ability of regional governments to prevent and contain outbreaks. High burdens of HIV, TB, and malaria, coupled with low health system capacity, mean the mortality rate of COVID-19 may be far higher in Africa than in the United States or Europe. Systemic global health assessments have consistently found that as a whole, the region is unprepared for a pandemic of this magnitude. The Global Health Security Index gave nearly two-thirds of the governments in sub-Saharan Africa a rating of "least prepared," and the RAND Corporation's Infectious Disease Vulnerability Index found 22 of the 25 world countries most vulnerable to communicable disease outbreaks are in Africa.[xxvi]

Beyond constrained financial resources and systems capacity, LMIC in Africa face a tangible shortage of the resources needed to treat the sickest COVID-19 patients: namely, hospital beds, intensive care units, and ventilators. On average, sub-Saharan Africa has 1.2 hospital beds per 1,000 people.[xxvii] In comparison, hospitals were overwhelmed by COVID-19 in Spain (3 beds per 1,000 people) and Italy (3.4 beds per 1,000 people). Experts estimate that without effective and long-lasting containment and mitigation, 40% to 70% of the world's adult population could be infected with coronavirus.[xxviii] Given these infection rates and the fact that up to 20% of patients with COVID-19 develop severe disease requiring hospitalization, hospitals in low-resource settings will almost certainly have a severe shortage of beds.[xxix]

Developing nations also lack critical care facilities; the ICU beds that are available tend to be located only in large urban referral hospitals.[xxx] As of April 2020, WHO reported there are fewer than 5,000 ICU beds across 43 African countries.[xxxi] Nigeria has just 120 ICU beds for almost 200 million people, while Uganda has just 55.[xxxii],[xxxiii] Half of the African countries surveyed in a WHO readiness assessment indicated that they lack the ICU capacity to treat severe COVID-19 cases in-country, and many of those that responded they do have capacity described hospitals that can only

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accommodate a few dozen critical care patients.[xxxiv] Ventilators are even more scarce; WHO estimates there are fewer than 2,000 working ventilators across 41 African countries and 10 countries on the continent have no ventilators at all.[xxxv]

Response to date in African countries

As COVID-19 spread in February and March 2020, governments across the continent moved quickly to close borders, suspend international travel, declare states of emergency, and sharply curtail public movement.[xxxvi] As of April 1, 65% of countries in sub-Saharan Africa had implemented national or local lockdowns, on par with 70% of European countries.[xxxvii],[xxxviii] According to Google analytics, visits to public transit hubs in Nigeria, Egypt, and South Africa have dropped by 48%, 62%, and 78%, respectively.[xxxix] All affected countries in Africa have activated their public health emergency operations centers and are conducting screening at points of entry. Countries have also rapidly scaled up diagnostic capacity, and 42 of 47 countries in the WHO African region now have the ability to test for SARS-CoV-2.[xl] In keeping with the International Health Regulations, or IHR, a 2005 agreement among all WHO member states to improve global health security, LMIC developed pandemic response plans that are now being put into action. Of 34 African countries that provided readiness data to WHO in April 2020, 94% indicated that they have implemented a national preparedness and response plan for COVID-19 and 82% have event-based surveillance in place.

In addition to implementing public health responses consistent with IHR, governments in LMIC have developed innovative ways of meeting local needs. For example, because many management algorithms developed for Europe and Asia require rapid access to expensive diagnostic tests or equipment, the WHO Uganda office and Makerere University produced simplified COVID-19 triage strategies to guide isolation and targeted testing in low-income settings.[xli] Countries have created new communications infrastructure to provide accurate information about COVID-19, including WhatsApp chatbots in Senegal and dedicated call-centers in Nigeria. Recognizing economic and food insecurity are a major obstacle to stay-at-home orders, Rwanda and Uganda launched programs to deliver food directly to vulnerable populations.[xlii],[xliii]

With trade and travel restrictions in place, lower-resourced nations have also partnered with international organizations to create new supply chains. Because commercial flights are grounded, many countries have been unable to transport medical cargo. In coordination with the World Food Programme, or WFP, and Africa CDC, WHO launched a supply chain task force to coordinate a major airlift operation to bring medical supplies to the world's most vulnerable countries. So far these relief flights have carried more than 130 shipments of PPE, and laboratory supplies to 95 at-risk countries across all six WHO regions.[xliv]

Emerging gaps in the response

Despite the innovative responses of many African countries, significant gaps are emerging that could have a devastating impact across the continent. Keeping with the framework used in joint external evaluations under IHR, emerging gaps in African

countries can be grouped into the broad categories of prevention (including national policy and financing), detection, and response. Most of these gaps exist to varying degrees even in the United States and other high-income countries, making it all the more likely that LMIC will struggle to mount an adequate response. While this study focuses on the response in Africa, similar gaps are likely to emerge in other LMIC.

Prevention, national policy, and financing

- **Lack of PPE undermines infection prevention in medical settings.** Seventy-six percent of African Ministries of Health surveyed by WHO reported their countries lack national stockpiles of PPE, other infection prevention, and control materials. Nearly half of the countries surveyed said PPE is not universally available for all health workers, even though most countries in Africa have yet to experience the bulk of anticipated cases.[xlv] Significant PPE shortages have also been experienced by the United States and other high-income countries, meaning LMIC will have even greater competition for scarce resources.
- **The effectiveness of lockdowns in low-income settings is limited by poverty, food insecurity, and urban crowding.** Prolonged lockdowns are unsustainable for populations that live hand-to-mouth in crowded urban centers. Faced with hunger and lost earnings, urban populations are unlikely to abide by stay-at-home orders. Kenya, South Africa, and Nigeria have already seen social unrest as food shortages occur in dense urban areas under lockdown. Moreover, more than 1 billion people worldwide live in urban slums or informal settlements where social distancing is impossible even with strict stay-at-home orders.[xlvi]
- **Inadequate access to water and sanitation facilities prevents widespread hand-washing.** Along with social distancing and isolation of infected individuals, effective hand-washing is a low-tech yet effective way of interrupting transmission. But just 15% of sub-Saharan Africans have access to basic hand-washing facilities, making even this low-cost intervention difficult to implement. [xlvii]
- **Frozen capital markets and underfunded health budgets impair up-front actions to stop the spread of coronavirus.** Over 40% of African governments surveyed by WHO have no available funds that can be readily allocated for COVID-19 response activities.[xlviii] In particular, supply chain management systems are in urgent need of funding to obtain supplies before hospitals are overwhelmed. WFP is acting as the logistics backstop for many low-income countries, but so far has raised less than a quarter of the $350 million it needs to support shipping, storage, and transport of essential supplies.[xlix]
- **Procurement and equitable distribution of an eventual vaccine will face regulatory and fiscal challenges, requiring significant advance planning.** The same decentralized procurement approaches and lack of purchasing power that resulted in supply shortages will risk delays in vaccine distribution. With candidate vaccines being rushed through trials and possibly approved under Emergency Use Authorizations, rather than the typical FDA approval process, it is not clear whether USAID or CDC will be able to procure such vaccines for use overseas, or if funding for these purposes will be available. Policy planning to address these regulatory bottlenecks needs to occur among LMIC, donors, and international organizations.

- **Assisting ministries of health to manage emergency operation centers will be essential to enable a coordinated country response.** Centralized communication and decision-making is key to using resources effectively and efficiently.

Detection

- **Test kit and reagent shortages have limited lab-based testing.** As in other countries, low-resource nations have struggled to obtain the test kits, swabs, PPE, lab reagents, and instruments necessary to perform wide-spread testing. Nearly a quarter of African governments surveyed by WHO reported lacking the primers and positive quality control materials needed to run COVID-19 assays.[l] According to United Nations estimates, African countries will require a minimum of 74 million test kits over the next year.[li] As with PPE, these shortages are being experiences by high-income countries as well, meaning African nations may face substantial competition for supplies.
- **Rapid point-of-care tests are needed for real-time surveillance and reporting of test results.** Difficulties with sample transport, lab infrastructure, and notification of positive results are key obstacles in lower-resource countries. Portable point-of-care molecular tests bypass these bottlenecks, but so far these tests are only available in high-income countries and need improvement with respect to accuracy. Training lab personnel and assurance of quality control will also be key. CDC is currently working with many ministries of health; however, this effort will need to be expanded.
- **More public health workers are needed for contact tracing.** Africa CDC reports that the continent lacks personnel skilled in epidemiology and biostatistics to monitor surveillance data and track down contacts of confirmed cases.[lii] Contact tracing is labor-intensive; although no estimates are available for low-income countries, in the United States alone, one estimate suggests at least 100,000 additional contact tracing workers may be needed to address COVID-19.[liii] CDC's frontline Field Epidemiology Training program expansion will be needed in order to have a workforce able to conduct the needed contact tracing.

Response

- **Supply shortages are preventing effective medical care.** Global shortages and bidding wars have prevented low-resource countries from obtaining PPE, ventilators, oxygen tanks, and essential medications on the open market. WHO estimates that each month, developing countries will require 100 million medical masks and gloves, 25 million respirators, 2.5 million diagnostic tests, and countless other medical supplies.[liv]
- **Inadequate health infrastructure limits capacity to care for severe cases.** Shortages of staff, hospital beds, critical care facilities, and ventilators impair treatment for patients across the spectrum of disease severity. Under the most conservative projections, African nations will likely see a shortage of at least 80,000 ICU beds.[lv] Even if low-income countries had sufficient supplies of ventilators, many hospitals in developing countries lack piped oxygen, reliable electricity, and the high staff-to-patient ratios required for intensive care. Providing adequate care

for COVID-19 patients in these settings will require tens of thousands of portable oxygen concentrators, electrical generators, and substantial redistribution of health workers.

- **Many health workers have not yet received essential in-service training.** During the Ebola outbreak in West Africa, trainings helped avoid workplace infections among health workers and ensure patients received standard-of-care treatment.[lvi] As of April, only 50% of African ministries of health reported that their health workers had been trained on COVID-19 case management.[lvii]
- **Infections among health workers will exacerbate shortages and increase mortality from other diseases.** Medical worker infections and resulting staff shortages hindered national responses during the West Africa Ebola outbreak and impacted health systems long after infections subsided.[lviii] Health workers account for 10% to 20% of U.S. COVID-19 cases; given PPE shortages, the toll in low-resource settings will likely be higher.[lix] Provision of training on infection control will be a critical component to the response.

Secondary effects of the pandemic

Beyond the immediate impact on morbidity and mortality, COVID-19 risks disrupting decades of progress in global health and development. Prenatal visits for pregnant women, vaccination campaigns for children, and routine clinic visits for patients with HIV, TB, and malaria are on hold as hospitals brace for a surge in patients. If the 2014-16 Ebola outbreak in West Africa is any indication, damage to health systems will be extensive. During the West Africa outbreak, providers were forced to reduce essential health services by an estimated 50%, resulting in thousands of additional deaths from HIV, TB and malaria, as well as a 75% increase in maternal mortality.[lx],[lxi] Global cases of polio and measles are expected to increase as vaccination campaigns have been suspended.[lxii] COVID-19 also complicates the response to simultaneous infectious disease outbreaks, including Ebola in the Democratic Republic of the Congo, Lassa fever in Nigeria, measles in Central African Republic, and dengue in Latin America.

In addition to the impact on domestic public health campaigns, disruption of the global pharmaceutical supply chain in China and India may undermine established disease treatment programs through potential drug shortages. African nations have minimal capacity for domestic drug production and import 94% of all pharmaceuticals.[lxiii] In particular, most generic antiretroviral drugs purchased by programs like PEPFAR to treat HIV in developing countries are made in India, which has shut down ancillary businesses required for drug production and recently restricted exports of certain drugs to protect against domestic shortages.[lxiv]

Finally, apart from devastating health effects, the pandemic will have a profound economic impact on low-income countries. The World Bank estimates the outbreak will cause sub-Saharan Africa's first recession in over 25 years, and Oxfam projects that the fallout from coronavirus could push half a billion people into poverty worldwide.[lxv] Disruption to agricultural production and food supply chains risks causing a food security crisis, complicating efforts to feed people during lockdowns. A recent World Bank analysis estimates agricultural production contracting between 2.6% and 7% in the event of trade blockages and food imports declining substantially

– as much as 25% or as little as 13% – due to a combination of higher transaction costs and reduced domestic demand.[lxvi] Without urgent stabilization efforts to address these challenges, the world risks backsliding on decades of progress made by global health, economic development, and food security programs.

Recommendations for U.S. Policymakers

Some of our proudest actions as Americans have come when we have rallied to a cause bigger than ourselves and supported fellow human beings in need. Historic public health responses have employed the full armamentarium of U.S. medical, humanitarian, and public health expertise – and finances that the United States has been, and still is, uniquely equipped to provide. In the early 2000s, when the HIV pandemic was devastating the African continent, PEPFAR marshalled strong American leadership that that has saved more than 18 million lives, stabilized communities and countries, and encouraged other countries to join the fight.[lxvii] U.S. leadership was also indispensable during the 2014-16 Ebola epidemic that killed more than 11,000 people in West Africa, as well as the current outbreak in the Democratic Republic of the Congo.

The COVID-19 pandemic has impacted nearly all nations across the globe. The virus presents an acute threat for millions of people around the world already living on the knife's edge of poverty, sickness, and displacement. And because of its transportability and transmissibility, COVID-19 must be controlled everywhere for it to be controlled anywhere.

Given the factors above, we believe the United States has not only a moral imperative to assist people and nations that will be the hardest hit and least able to respond, but also a self-interest in ensuring the United States and its trading partners do not experience waves of new infections from other nations as economies reopen.

"No matter how successful we are in fighting the threat of the COVID-19 pandemic at home, we will never stop it unless we are also fighting it around the world."

– Admiral James Stavridis (Ret.) and General Anthony Zinni (Ret.), March 21, 2020

What are the principles of the U.S. global health response to COVID-19?

As described above, COVID-19 is projected to greatly impact LMIC that lack adequate health workforces and systems to effectively contain and mitigate the virus. This may result in devastating health, economic, and humanitarian outcomes, including the consequences of social, economic, and political instability.

Past U.S. global health engagements have made significant strides in promoting

health and improving the lives of millions around the world. As previous BPC reports have concluded, "strategic health diplomacy" has the potential to protect the health and civil liberties of the world's most vulnerable populations, with the additional benefits of improving economic development, social stability, and public opinion towards the United States.[lxviii] In other words, this framework not only promotes the health of individuals around the world, but also advances American foreign policy objectives. This global engagement is especially critical when faced with a virus that does not respect international borders and has proven extremely difficult to contain.

During this time of global uncertainty, the United States has an opportunity to build on the strengths of existing platforms and create long-term, sustainable diplomatic relations with international partners, all while enhancing national security at home and projecting American values abroad. U.S. leadership and support of science-based global health efforts in response to COVID-19 is crucial in the face of the largest public health threat in modern history.

In summary, we believe the following principles should guide the U.S. global health response to COVID-19:

- Assist the most vulnerable.
- Protect civil liberties.
- Support science-based public-health approaches.
- Build on the strengths of existing platforms.
- Promote sustainability.
- Project U.S. values.

Where should we focus?

While wealthier nations across the world will also need assistance, much of the developing world is just now starting to experience the first wave of this pandemic and has the greatest vulnerability to both health and economic consequences. Given limited resources, we recommend focusing U.S. efforts on regions that combine great need with strategic interests.

Africa is home to 1.2 billion people and accounts for half of the world's extreme poor.[lxix] Although many countries in the region have made progress in slowing the initial advance of COVID-19 through lockdowns and other measures, recent data suggest a large proportion of households are not equipped to endure prolonged lockdowns.[lxx] Africa, therefore, faces an enormous direct threat from COVID-19. Without substantial intervention, African countries are at risk of losing gains the United States has helped to make in maternal and child health, HIV, TB, and malaria. In addition, given the proximity of Latin America and the immediate threats to these nations' economies and stability due to COVID-19, the United States should also make this an area of strategic interest. Worsening instability in the region gives rise to migration that may result in greater pressures on U.S. immigration systems. Finally, security, trade, and longstanding partnerships in South Asia make that populous region an important priority for U.S. aid.

What is the appropriate magnitude of our response?

The CARES Act marshaled over $2 trillion in economic aid, largely focused on the domestic response. However, the United States has every reason not to underfund global aid. To do otherwise will undermine our long history of global leadership in public health and cede the health, development, stability, and security of regions of the world in which the United States has substantial interests. Moreover, a lack of robust global response risks a future pandemic wave in the United States from travelers coming from abroad.

We recommend that the next supplemental funding bill include a substantial global component that is transformative in its impact and potential benefit to U.S. interests. The funding level should be high enough to ensure that we significantly strengthen our global pandemic response and mitigate COVID-19's destabilizing effects on individuals, nations, and other public health programs and thereby, vastly reduce current and future threats to America. Spent well, this supplement will yield public health, economic, and societal payoffs worth many times the invested amount.

Good stewardship of these funds is critical. Although the U.S. response to the coronavirus pandemic requires urgent action, it also presents an opportunity to demonstrate the rigor with which our government can track funding outlays and metrics of progress as a result of the expenditure of federal funding.[lxxi] Good stewardship of these funds requires a balance between speed, effectiveness, and accountability, and should be the responsibility of each federal agency with Congress having oversight.

How should we support partner nations to prevent, detect, and respond to COVID-19 and future outbreaks?

Through past global health engagements, the United States has learned a great deal about how to support partner nations as they strengthen their ability to prevent, detect, and respond to infectious threats. Global aid for the COVID-19 response can be delivered through numerous effective and complementary preexisting funding channels with a history of success. In addition, COVID-19 clearly meets our definition of a response that has potential for strategic health diplomacy due to its rapid advance, potential for containment, and strategic value of stricken regions. U.S. support should therefore be conducted in such a way that it maximizes strategic health diplomacy through the six lessons referenced in the introduction, including: having clear goals, identifying policies needed to achieve them, addressing real needs with visible effect, being sensitive to local contexts, being in it for the long-term, building capacity, and being transparent and accountable.[lxxii]

We recommend supplemental funding for the global COVID-19 response focus on the Global Health Security programs administered by USAID, CDC, and other agencies. These funding lines include both bilateral and multi-lateral programs with substantial on-the-ground disease-fighting responses that have the ability to pivot their programs to include the COVID-19 response alongside their original mission. In addition, programs such as PEPFAR and the Global Fund can help rapidly strengthen front-line health systems' response to COVID-19. These programs are also linked to

the largest global health-pooled procurement mechanisms in the world, which can help provide for rapid procurement and distribution of quality PPE, medicines, and other needed supplies in coordination with national governments and other actors. These programs require supplemental funding to support the COVID-19 response while ensuring that their efforts against AIDS, TB, and malaria do not unravel.

Critical agencies and programs that should receive supplemental funding include:

USAID, which manages a number of critical programs, including:

- USAID's Global Health Security program supports countries' ability to prevent, detect, and respond to COVID-19.
- The President's Malaria Initiative, along with TB, maternal and child health, and Family Planning programs will need assistance in order to backfill the contributions these programs have already made to the COVID-19 response and help them meet the higher costs of conducting their primary programs during the pandemic.
- USAID's PREDICT program was wisely established in 2009 to track early-stage viruses and diseases like COVID-19 so we better understand their potential for spread and accelerate vaccine and therapeutics development. This program was essentially disbanded in late 2019 and should be provided a five-year funding extension.
- Market-shaping, advanced market commitments help speed the launch and scale-up of promising COVID-19 therapeutics.
- Water, sanitation, and hygiene – or WASH – activities are in dire need of additional funding to allow hard-hit communities to protect themselves and others from the spread of the virus. Greater investments in WASH will also be critical to preventing some of the spillover effects of lockdowns in areas with poor access to running water that are at high risk for the spread of not only COVID-19, but also diarrheal and other illnesses caused by poor hygiene.

CDC equally requires additional support to:

- Build immediate and sustained capacity in laboratory, epidemiology, surveillance, and public health workforce development.
- Strengthen capacity to prevent, detect, investigate, and respond to local COVID-19.
- Mitigate COVID-19 transmission in the community, across borders, and in health-care facilities.
- Support governments, nongovernmental organizations, and healthcare facilities to rapidly identify, triage, and diagnose potential cases to improve patient care and minimize disruptions to essential health services.
- Address crucial unknowns regarding clinical severity and the extent of trans-mission and infection with support for special investigations and other forms of cooperation between CDC and country partners.
- Ensure readiness to implement vaccines and therapeutics when available.

While CDC received some initial support for certain global activities in the supplementals, they do not begin to approach the investments needed to protect Americans from threats abroad.

PEPFAR currently supports care in 7,000 clinics, mostly in Africa, and funds a highly successful HIV response that has built stronger health systems and trained hundreds of thousands of health care providers. PEPFAR has already begun to work through existing partners to support COVID-19 testing, health care worker education and training, laboratory capacity, and infection control. These efforts, along with work to maintain the continuity of the HIV response, require additional funding.

Global Fund to Fight AIDS, Tuberculosis and Malaria supports a larger number of countries than PEPFAR, at more than 100, and invests roughly $4 billion per year in grants to end these three top infectious disease killers and strengthen health systems. The Global Fund has successfully shifted some existing funds – including significant savings realized in the current grant cycle – to assist partner countries with expanding supply chains for PPE, health workforce training, and purchase of COVID-19 diagnostics. These efforts leverage existing government, non-government, and faith-based partners in national HIV, TB, and malaria responses, which makes the Global Fund an attractive and efficient vehicle for rapid impact. Given the existential threat COVID-19 represents to investments in fighting AIDS, TB, and malaria, the Global Fund developed a rapid COVID-19 Response Mechanism.[lxxiii] Advocates for the Global Fund have made an additional funding request to the United States of $1 billion that should be fully funded.

Gavi, the Vaccine Alliance currently supports market-shaping for key vaccines and purchases and ensures delivery of vaccines for 66 million of the world's children.[lxxiv] Strong support for Gavi and its upcoming replenishment remains crucial to prevent other infectious disease outbreaks and protect access to vital immunization for future generations of children. Also, Gavi is working to accelerate the development, manufacturing and delivery of safe and effective COVID-19 vaccines for all those who need them. To support these efforts, $900 million should be included as part of a COVID-19 supplemental funding request to address the global efforts against the pandemic.

NIH continues to play an essential role, using its internal and external scientific expertise to shape therapeutics and vaccine development programs. NIH is also able to pivot its substantial global clinical trials networks to rapidly evaluate vaccine candidates in a variety of populations and will need additional funding for these additional activities.

Biomedical Advanced Research and Development Agency (BARDA) within the U.S. Department of Health and Human Services is focused on supporting public-private partnerships to help drive vaccine and therapeutics development that are key to the U.S. response and will have global applications.

The Coalition for Epidemic Preparedness Innovations (CEPI) is an international partnership established in 2017 with the mission of driving rapid vaccine development for emerging pathogens and expanding global access for vaccines.

The United States has never contributed to CEPI but should do so now at a level of at least $200 million, which is 10% of the CEPI's projected budget for COVID-19 vaccine development. It is in America's national security interest to ensure not only rapid development of a COVID-19 vaccine, but broad global dissemination of this vaccine as quickly as possible and other core work on other epidemic threats beyond COVID. CEPI's coronavirus vaccine research predates the discovery of COVID-19, and the organization has invested in flexible, rapid response vaccine development platforms.[lxxv] CEPI has ten COVID-19 vaccine candidates and is well-positioned to move rapidly through clinical development and human trials, licensing, and into widespread production.

Humanitarian Assistance

There is significant potential for widespread humanitarian catastrophe in countries with poor underlying economic and health status. COVID-19 has the potential to disrupt economically fragile communities through the loss of life, loss of income, and economic shocks that may lead to cascading instability. This is especially likely for those experiencing forced migrations due to conflict and food insecurity, including the 60 million people living in refugee camps worldwide. USAID, the U.S. Department of Agriculture, the State Department, and the Department of Defense all have important roles to play in humanitarian relief, as they did in the 2014-15 Ebola response. Funding must be sufficient for a robust response across many heavily affected countries.

Diplomatic, and other U.S. agency overseas operations

Finally, U.S. diplomats and our posts require special protection for the continuity of essential activities during the COVID-19 pandemic and its aftermath. The State Department and other agencies must protect their staff and ensure timely evacuations, re-postings, and consular affairs proceed. There are substantial additional costs associated with these activities; they are essential for maintaining America's standing in the world and our diplomatic and business ties with other nations.

How should the US coordinate with other actors?

U.S. investments are less valuable if they are not coordinated with those of others. We must both ensure that our own response is coordinated across federal agencies and invest in organizations such as WHO that are best positioned to effectively coordinate the response in countries with fewer resources.

U.S. coordination must start with a strengthened global health security leadership capacity in the White House National Security Council.[lxxvi] Regular convenings of interagency leadership, clear role assignments, and tracking funding and metrics of progress are essential.

The United States cannot do it all. We believe that it is in the U.S. interest to have a WHO that is appropriately resourced to combat COVID-19. Although WHO is far from perfect, its singular platform and mission enable it to bring together 192 member states in a coordinated fashion, ensuring supplies reach countries and regions most in

need and supporting scientific consensus and recommendations that play an essential role for disease control around the world. WHO and Africa CDC can also provide rapid coordination and technical assistance to enable efficient regulatory action for effective therapeutics in African countries. We believe WHO is in need of reforms to strengthen its ability to work effectively with member nations and the United States should push for these and other changes that will improve transparency and enhance the organization's effectiveness. But the bottom line is that its funding from the United States should not be frozen, but rather restored to help control further spread of the coronavirus around the world. Walking away from WHO only decreases U.S. leverage for making important reforms that are in our interests and the global interest.

Conclusion

U.S. global health leadership is vital as the COVID-19 pandemic continues to challenge even well-prepared and resourced countries. Strategically supporting global health has long been a priority for the United States. And in the case of COVID-19, we believe our investments in the global response will improve global health outcomes, build greater goodwill with partner nations, bolster international stability, and promote American prosperity – each being important elements of strategic health diplomacy.

Without adequate detection, prevention, and response, the global consequences of COVID-19 could be catastrophic. Fortunately, our nation has resources that place us in a position to provide significant relief to regions most in need. U.S. policymakers should align the global health response with principles that protect the health and civil liberties of the world's most vulnerable populations. Mitigating the threat of the virus is not only humanitarian in nature, but also vital to our strategic interests. Strengthening global health security would enhance U.S. health security. As such, we strongly recommend that U.S. policymakers use the current policy window to further support the global response to the COVID-19 pandemic.

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