GHTC global health technologies coalition

Pain Points and Potential

How COVID-19 is Reshaping Global Health R&D

December 2020

advancing **innovation** to save lives

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Acknowledgments

This report was authored by Julien Rashid in consultation with the staff at GHTC. We would like to especially thank the non-attributed interviewees who contributed their time and insights to this report.

Suggested reference: Rashid J. *Pain Points and Potential: How COVID-19 is Reshaping Global Health R&D.* Washington, DC: Global Health Technologies Coalition; 2020.

Photo: Alberta Newsroom

Introduction

COVID-19 will be one of the single most impactful and defining events for global health research and development (R&D)—a sector working to address poverty-related and neglected diseases by creating new tools and innovations that often lack commercial demand. In many ways the pandemic has elevated the sector. The R&D response to COVID-19 was launched from a foundation of science built through decades of research on global health conditions, including HIV/AIDS, tuberculosis (TB), malaria, and neglected tropical diseases, and accordingly has raised awareness and the perceived importance of global health research investments. But the pandemic has also set back progress, redirecting resources, expertise, and attention away from research on longstanding global health challenges, leading to incalculable long-term setbacks. For better or worse, the trajectory of the global health R&D sector is ineluctably bound to COVID-19.

For this reason, our team at the Global Health Technologies Coalition (GHTC) has endeavored to take a pulse check nine months into the COVID-19 crisis to find out from researchers who advance new drugs, vaccines, and other technologies for neglected diseases and conditions how their research has been impacted by COVID-19 and what they anticipate the long-term effects to be over the next five to ten years. We conducted in-depth interviews with 22 leaders in academia, the private sector, government agencies, product development partnerships (PDPs), and other nonprofits, with perspectives from high-, low-, and middle-income settings.

Much of what we heard spoke to the resiliency of researchers and offered reason for cautious optimism. In the face of massive disruptions to their work, interviewees detailed the herculean and heroic efforts of themselves and their peers to keep ongoing projects afloat while also responding to COVID-19. Some offered optimistic projections on how the pandemic might positively shape the future of global health R&D by attracting new resources, raising public awareness, and fostering innovative research practices and technologies. For many, the unprecedented speed at which medical countermeasures for COVID-19 have been developed demonstrates what might be possible, with more funding and support, for the development of new tools to address other global health challenges, including HIV/AIDS, malaria, TB, antimicrobial resistance, and other neglected and emerging infectious diseases.

The primary undercurrent in our interviews, however, was that the global health R&D sector, as a subset of the life sciences sector, has been particularly negatively affected by COVID-19 for three reasons: First, the sector has historically subsisted on thin and vulnerable funding lines. The weight of COVID-19 has threatened to break these lines as funders redirect, or contemplate redirecting, research funding to COVID-19 priorities. Second, the sector has been a core reservoir of expertise tapped for the COVID-19 R&D response. The niche knowledge that these global health R&D experts hold makes it difficult to backfill their positions, causing non-COVID-19 projects to be stalled, slowed, or postponed with unclear timelines for resuming. Finally, global health R&D is especially dependent on international research collaborations that are largely reliant on affordable travel, transport, and dependable supply chains. The increasing costs and geopolitical challenges of international and subnational travel and supply chain management have added extra—and for many projects, unsustainable—costs and bandwidth constraints.

The inevitable implication of these factors is that research for neglected diseases, already underprioritized prior to COVID-19, remains at significant risk for disruption due to the pandemic, despite the sector's central role in enabling the COVID-19 R&D response.

While we asked interviewees to provide concrete data on the impacts they have experienced due to COVID-19, most could only estimate, as these impacts continue to compound and evolve. In place of hard numbers, however, we received detailed anecdotes and qualitative data that reinforced macro trends and a clear conclusion: COVID-19 is affecting the global health R&D sector in ways that will undoubtedly shape its future.

An additional caveat to our findings is that due to the sensitive nature of many of the topics in this report, we have followed a not-for-attribution format, adding context where appropriate to clarify the perspective of our interviewees (e.g., "a government scientist said"). Finally, this report does not officially represent the views of GHTC but rather attempts to reflect the interviews we conducted.

The following are our key findings, which are intended to inform Congress, the executive branch, and other stakeholders as they make policy and budget decisions that affect the future of R&D for neglected diseases.

Immediate impacts:

- Daily business, lab, and staffing operations have been disrupted or redirected across the sector.
- Supply chains have seen major disruptions, raising costs and slowing research.
- Clinical trials have been paused, delayed, canceled, and strained.
- Funding shifts have brought new opportunities and greater risk.
- US agencies were commended for flexibility and support, but remain resource constrained.

Long-term challenges and opportunities:

- COVID-19 has revealed that even in a pandemic, tough commercial dynamics persist.
- On the global stage, US leadership is missed and losing credibility.
- Political interference adds to the erosion of public trust in science.
- Recent events have renewed the movement for decolonization and equity in global health.
- COVID-19 has increased the rhetoric of security in relation to global health.
- COVID-19 is fast-tracking new research approaches that could benefit other global health areas.
- COVID-19 has affirmed the power of collaboration and public-private partnerships.
- COVID-19 could advance political will for global health R&D.

Section I: Immediate impacts

The pandemic has stalled, disrupted, and strained global health R&D programs, as well as created new costs, supply chain challenges, and administrative burdens to manage and overcome. Researchers and leaders described to us how their ongoing projects have been impacted; what follows are summaries of those impacts.

Daily business, lab, and staffing operations have been disrupted or redirected across the sector

Businesses, governments, and nonprofits around the world have had to adapt their basic operations and routines to the realities of COVID-19, and the global health R&D sector has not been spared. While a few interviewees reported that the digital work environment has benefited their work in some ways, such as by

reducing the number of meetings and freeing up time for strategic thinking, most focused their comments on the disruptions and challenges imposed by the pandemic.

For instance, academic researchers we spoke with described facing major continuity challenges after university administrators had to abruptly shut down campuses in March, leading to chaos as long-term projects, including animal research, had to be suddenly stopped. Since academic researchers must adhere to the policies of their universities and funders, in addition to government restrictions, there was additional confusion about which programs might be considered essential and exempt and when researchers might be able to return to their labs. Given university-based global health researchers often rely on partners overseas to conduct clinical work, several interviewees also expressed challenges maintaining their partnerships and fieldwork abroad, at sites which they could no longer affordably send supplies to or reach because of travel restrictions.

In the face of these challenges, academic researchers have found ways to adapt by reopening labs at reduced capacity with rotating staff shifts, establishing new laboratory safety protocols, diverting work to non-academic institutions with fewer restrictions, and identifying alternative routes to acquire personal protective equipment (PPE), reagents, and other essential research supplies. Despite some recouped productivity many months into the pandemic, the researchers still described ongoing struggles to maintain hands-on animal research, secure service and repairs for lab equipment, complete additional paperwork requirements, and manage reduced staff productivity and diminished access to physical labs.

Interviewees from PDPs—a type of nonprofit public-private partnership designed to develop new global health medical products that lack commercial viability—also noted challenges created by COVID-19. Many PDPs operate like virtual biotech companies, contracting out their R&D work to academic and commercial labs. This operating model has presented some advantages during the pandemic: two PDPs noted that having contract labs around the world allowed them the flexibility to shift research activities depending on where the pandemic was most active. For instance, in the early stages of the pandemic, one PDP moved its research from China to the United States, and several months later, as the pandemic worsened in the United States, moved its research back to China. One interviewee described their PDP's virtual structure as "remarkably efficient" during COVID-19. While this global interconnectivity may benefit organizations with larger research networks, others noted that the PDP model and its dependence on contract organizations can also make PDPs more vulnerable to disruption. For instance, if a PDP's contractors are working on interdependent projects, a delay in one contractor's project can cascade, leading to delays in other projects.

Diversion of staffing and expertise was also noted as a distinct vulnerability for the sector. Many experts in neglected diseases have been redirected to the research response for COVID-19, forcing them to put ongoing and new non-COVID-19 research projects on hold. Two interviewees from US government agencies said half their teams have been deployed to COVID-19 response teams. A private-sector interviewee described their organization, which is developing COVID-19 medical countermeasures, as falling lopsided, with difficult-to-meet high demand for COVID-19 products on one end and staffing shortages on the other. This has led to delays in the development of non-COVID-19 products, they reported. As in other life sciences sectors, the expertise for global health researchers is often specific and limited, making it difficult to find temporary contractors to backfill gaps.

Supply chains have seen major disruptions, raising costs and slowing research

Global health R&D is highly dependent on international supply chains, but the pandemic has caused many of these chains to be stretched thin or snap, according to interviewees, raising costs of shipping and supply acquisition and delaying basic research and clinical trials.

Most interviewees, across geographies, reported difficulty acquiring PPE and laboratory reagents also used for COVID-19 diagnostics. For example, one large research center in a low-resource setting had to wait four months for a shipment of reagents and PPE to arrive from a high-income country (HIC) in Europe. When it did arrive, the order included one-tenth of what was expected, though the center was still charged for the whole supply. No date was given for when the center might receive the rest of its order. The center reported that a higher supply of PPE will be needed to support its business continuity going forward.

A US-based researcher who conducts research in a low-resource country reported that shipping costs to that country increased by sixfold, an amount that would have consumed their entire shipping budget for their five-year grant from the National Institutes of Health (NIH). They applied for supplemental funding from NIH to ship PPE to maintain their research abroad but were declined. Their research was able to resume in October but is now missing 6 to 12 months of data. The researcher noted, ironically, that it became easier for their lab to acquire PPE after their state became a COVID-19 hotspot and local companies made PPE donations.

Within the US government, one agency official reported that procurement costs for their agency had increased by about 20 percent because of factory shutdowns, limited shipping containers, and more restricted border crossings. The official reported that the extra costs and delays were enormously disruptive for program delivery and added an extra administrative burden that distracted from other projects.

Global health clinical research is reliant on the shipment of pharmaceutical products and active pharmaceutical ingredients, which are precursors to pharmaceutical products. These substances need to be consistently available for clinical trials, but their procurement chains are more prone to disruption because, unlike reagents used in lab research, products intended for use on humans must be manufactured in facilities with the highest quality assurance standards. Tight regulations make it difficult to quickly shift the production of those resources to a new facility. In combination with restricted international transport, this has made medical product procurement more complicated during COVID-19, according to interviewees.

These shortages and procurement limitations have led to global bidding wars and resource-based inequities. For instance, a policy expert in a middle-income country (MIC) reported that a shipment of medical supplies was initially offloaded in their country—only to be reloaded onto another flight, bound to a higher bidder.

Clinical trials have been paused, delayed, canceled, and strained

Clinical trials are the most logistically complicated, expensive, and important step for successfully developing new global health products. Nearly every interviewee involved in clinical trials reported that their trials have been strained, paused, or delayed indefinitely, leading to inestimable setbacks for bringing new global health products to market. The challenges they reported are multiple: increased difficulty recruiting trial participants and higher attrition rates; problems securing contract research facilities under high demand for COVID-19 research; additional paperwork demands from regulators and funders; and added costs for COVID-19 screening, compensation for participant transport, and increased PPE needs.

Notably, these challenges are greater for phase 3 trials than for phase 1 or 2, since the number of participants, and thus costs, is multiplied in the former. For instance, one researcher in a low-income setting reported that their country's regulatory agency recommended tripling the compensation for transportation so that clinical trial participants could take private transport instead of public transport to the trial site. For a few dozen participants in a phase 1 trial, this may be possible—but for thousands of participants in a phase 3 trial, such a scheme is financially unsustainable, according to the interviewee. Likewise, recruitment is also a scale-dependent challenge. One interviewee reported being unable to fully enroll a trial with 300 participants, and others reported pausing all late-stage clinical trials. One interviewee told us they were grateful their organization had completed enrollment of a phase 3 clinical trial in January, saying it would have been extremely difficult to conduct that same enrollment only two months later.

Clinical trial administrators also expressed concern about attrition. One interviewee said their organization's clinical trial in a low-resource setting was losing participants to follow-up, because those individuals feared if they visited the clinic, they would contract COVID-19. Preventing attrition is especially challenging in low-resource settings where it is already more difficult to reach volunteers because of technological limitations and more frequent migration and moving due to economic hardship.

Interviewees reported that while their organizations anticipated many of these challenges, others were unforeseen. For instance, one interviewee reported that their organization had trouble convening internal review boards for clinical trials in settings where internet teleconferencing was unreliable and board members faced competing priorities due to COVID-19. Another organization reported being able to transition its clinical trial follow-ups to phone calls, but in the low-income community where that trial was happening, individuals often change their phone SIM cards to save money, which changes their phone numbers, making it difficult for trial coordinators to stay connected. The organization now offers phone plan vouchers to trial participants to ensure they do not change their phone numbers, but this has added additional costs.

Likewise, many clinical trial administrators have sought to transition participant follow-up to virtual formats where possible. Several interviewees noted that by making this virtual transition, their organizations had been able to save resources and break old assumptions about how this work should be done. One interviewee reported that their organization was helping trial participants set up online accounts, such as email, which could benefit those participants in the long term. Others, however, were less optimistic about the virtual transition, particularly in low-resource communities, emphasizing that it excludes certain populations that do not have reliable internet or telephone access and offers a false promise, since many trials necessitate in-person follow-up to monitor vitals and collect samples.

The pandemic has inflicted similar challenges on most organizations, but for those with fewer resources at their disposal, these challenges can be close to insurmountable. For instance, several grant-reliant organizations we talked with were forced to pause or delay clinical trials. In contrast, two private, well-resourced organizations told us they had the resources available to ensure research continuity. This distinction is important, because compared to other health areas, the poverty-related and neglected disease R&D GHTC tracks is greatly dependent on the work of nonprofit organizations. These organizations often operate projects on thin budgets with little flexibility, which leaves their research at high risk for disruption.

Funding shifts have brought new opportunities and greater risk

COVID-19 has been a double-edged sword for global health R&D funding, according to those with whom we spoke. On one hand, the pandemic has spurred unprecedented funding for research from public and private sources. One researcher who works on emerging infectious diseases noted that COVID-19 has been a windfall for some organizations and has unlocked new grant opportunities for their own organization. On the other hand, COVID-19 has diverted or delayed funding for non-COVID-19 global health issues. Some interviewees report that they have seen donors backtracking, shifting commitments, or delaying the rollout of new grants, and one researcher said they believe their institution was identifying fewer funding opportunities overall for non-COVID-19 research. In the United States, since funding for COVID-19 research has been primarily mobilized through supplemental funding packages, other global health research areas have for now been largely protected from cannibalization; however, a few interviewees did cite some delays in disbursement and programming within certain US agencies.

Many expressed fear that their current funding sources may be inadequate to sustain operations in the near term, given new costs and challenges. For example, in order to maintain their workforce for the future, some organizations reported they have continued to pay their staff despite having to temporarily reduce or delay activities, leading to concerns that their funding will run dry before they complete their projects. Many academic labs have also been pulled into assisting their state and university COVID-19 responses, sometimes without adequate funding. One researcher said their lab had been tasked with providing COVID-19 testing by the state government under the promise of being reimbursed. Their lab expended all its discretionary funds on testing but has not yet been compensated. Furthermore, their lab's discretionary funding is tied to their university's clinic, which has faced revenue shortfalls because of reduced elective procedures during the pandemic, a challenge likely to continue until COVID-19 is contained.

Many researchers based in low- and middle-income countries (LMICs) may be at higher risk for disruption than researchers based in HICs because of resource constraints. For instance, one researcher in an MIC told us their university-based organization was at risk of shutting down entirely since it could not acquire new grant funding because of COVID-19 and could not receive additional support from the university. We also heard from academics based in the United States whose research partners in LMICs were forced to close their labs because their institutions could not front funding.

US agencies were largely commended, but remain under resourced

Interviewees largely commended the work of US agencies, citing their efficiency, determination, flexibility, and ability to quickly refocus in the face of the pandemic. Several, however, also stated or implied that these agencies—including the US Centers for Disease Control and Prevention (CDC), NIH, the US Food and Drug Administration (FDA), and the US Agency for International Development—lack sufficient funding and staff capacity to both fully address the challenges that COVID-19 has wrought and maintain other activities long term. While some interviewees praised US agencies for offering timely guidelines and grant flexibilities and extensions that made it easier for them to continue their work, several organizations reported they have faced delays in getting approvals for new research protocols or have been kept in the dark, as of September, about whether their grant timelines will be extended given COVID-19-related delays. Others have said the agencies did not

provide enough guidance to universities or research institutions in the United States and around the world. Some universities, in the absence of clear policy or direction from agencies, anticipatorily instituted very restrictive measures on research activities.

In conversations with agency representatives, they made clear the multiple constraints they have faced in sustaining their ongoing work. Many have had to redirect capacity to the COVID-19 response, putting projects on hold while doing their best to ensure continuity. A common dilemma is that the work of many agency employees requires niche expertise, making it difficult to backfill positions through temporary hires. For instance, one agency leader we interviewed had already been temporarily transferred for two 45-day assignments in the past six months as part of their agency's COVID-19 response. That agency was hiring contract workers to cover the COVID-19 response so that full-time employees could return to their core portfolios, but it is difficult to anticipate when affected projects will again be operating at full capacity without additional resources. One center of an agency had asked its sub-departments to submit requests for funding they needed to simultaneously maintain their work and respond to COVID-19; the center tabulated a number four times greater than the supplemental funding it had available.

Section II: Long-term opportunities and challenges

We asked interviewees for their perspectives on how the global health R&D ecosystem could evolve in the next five to ten years in reaction to the COVID-19 pandemic. Some saw potential to reach a new era in which global public health becomes an enduring political priority. Others were concerned that the political pendulum could swing too far in one direction, prioritizing acute risks, such as pandemic threats, over slow-burning and perennial global health threats, such as antimicrobial resistance and neglected diseases. In tandem with the rise of ballooning debt and nationalism focused on protecting borders and economies, interviewees were afraid that global health R&D for non-COVID-19 challenges could face an uphill battle. What follows are key considerations about how COVID-19 might open new opportunities and impact the future of global health R&D.

COVID-19 has revealed that even in a pandemic, tough commercial dynamics persist

What unites global health R&D endeavors across neglected diseases, emerging infectious diseases, and other global health challenges is that success depends on developing products for which little commercial viability exists. COVID-19, as a global health issue, has attracted unprecedented research funding, but this has not changed the prevailing models that direct most of that funding to creating products that are designed for high-resource settings, where greater profit potential exists.

For instance, many medical countermeasures for COVID-19, including monoclonal antibody therapies, laboratory-based diagnostics, and mRNA platform vaccine candidates, will be challenging to implement in low-resource settings that lack the medical expertise, laboratory capacity, and utilities, such as adequate refrigeration, which are taken for granted in health centers in HICs. For this reason, one interviewee said that COVID-19 is still in many ways a neglected disease, because similar to HIV, TB, malaria, and neglected tropical

diseases, the business model for creating products for COVID-19 that are appropriate for low-resource settings has faced the same long-standing commercial gaps.

Several interviewees noted that one difference between COVID-19 and more typical global health challenges is the high level of investment by the private sector in COVID-19 research. One interviewee avowed that the pandemic has demonstrated that private industry is critical for filling public health vacuums. Though most interviewees did not go that far, many said that COVID-19 has affirmed the value of public-private partnerships for producing new medical products.

A senior government scientist said that the last few months have demonstrated what can be achieved in global health R&D when you deploy resources truly commensurate to the scale of a challenge. For example, a vaccine for COVID-19 will likely be approved with emergency use authorization in one-tenth the time that vaccine development typically takes. Such a research success could demonstrate to funders that much faster progress is possible if adequate resources and energy are dedicated to R&D for other persistent global health challenges.

COVID-19 has demonstrated that even in a pandemic, alternative business models are still needed to circumvent the challenging market dynamics that persist. Some of these models have existed for decades but remain insufficient, and several interviewees said that COVID-19 has exposed their gaps and identified opportunities for improvement.

On the global stage, US leadership is missed and losing credibility

The United States has long been an international leader in global health R&D and implementation. COVID-19 is perhaps the first global health crisis in which US leadership has been largely absent in the multilateral space, leaving a clear vacuum of leadership, according to several interviewees. In the first half of 2020, many nations endorsed multilateral statements and agreements citing the need for equitable access to COVID-19 innovations and global collaboration, but several interviewees said those promises were unfulfilled and that many countries were pulling in opposite directions without US endorsement of those pledges.

At the ground level, we heard from global health researchers that they feel the United States has lost credibility in global health because of its absent multilateral leadership and how poorly it has managed its domestic response. One US researcher who works with colleagues in an MIC—which has so far fared well in large part because its leaders were trained in pandemic response by US experts—said their recent phone calls often begin with condolences for what has happened in the United States. They ask how the international flag bearer in global health could fare so poorly against a global pandemic.

Political interference adds to the erosion of public trust in science

Many interviewees were highly concerned about political interference in research and public health decision-making and its effect on public trust in science. In many countries, including the United States, scientific processes have recently been tainted—or at least have the appearance of having been tainted—by political interference. In the United States, several interviewees were concerned that the political miasma surrounding FDA's review of COVID-19 vaccine candidates could erode the public's trust in science, regulatory processes, and vaccines more broadly. Similar concerns were expressed regarding political interference at CDC, and the public's

loss of confidence in the organization's recommendations due to this politicization. Public confidence in these institutions is critical for adoption of and trust in new technologies, and a loss of confidence could have long-term implications for public health outcomes.

Recent events have renewed the movement for decolonization and equity in global health

In tandem and in relation to the pandemic, recent events in the United States have fueled a global conversation about racial inequities, decolonization, diversity, equity, and inclusion. Several interviewees emphasized that rather than being separate issues, the pandemic has magnified and exacerbated many underlying disparities and inequities.

Some interviewees believe that the intersection of these issues has created an opportunity for learning; for bending global health R&D toward social empowerment, decolonization, greater equity, and products more aptly designed for and informed by target populations; and for a global health R&D system that is truly global and focused on addressing challenges in low-resource settings everywhere, including within the United States and other HICs.

COVID-19 has increased the rhetoric of security in relation to global health

Interviewees were divided in their perspectives on how COVID-19 and the growing prominence of global health security—or the focus on preventing and responding to potential epidemic threats—may shape the evolution of global health. At one end, we heard that going forward global health security should be the foundation of global health, so that HIV/AIDS, TB, and malaria are characterized as health security threats first and foremost. At the other end, we heard that this rhetoric could frame global health through the lens of nationalism, leading policymakers to ignore perennial global health issues beyond their borders, which, while threatening to human health and flourishing in many regions, are unlikely to pose a global pandemic threat that puts their own citizens at risk.

Regardless, global health security will likely remain an international priority. One interviewee stated that if anything, COVID-19 has demonstrated the value of pandemic preparedness organizations, and they expect to see pandemic preparedness structures in the future that are larger in scale than what existed prior to COVID-19, when many of those structures were designed for regional rather than global outbreaks. Another interviewee said they believe investments in technologies for global health security, such as new vaccine platforms, could lead to new tools for long-standing global health challenges.

COVID-19 is fast-tracking new research approaches that could benefit other global health areas

A near consensus from interviewees was that though global health R&D, like many sectors, has been negatively impacted by the pandemic to date, the sector will emerge from the crisis with new learnings and insights. Several research experts said COVID-19 was demonstrating new approaches and methods for conducting clinical research, while also driving advancements in platform technologies and enhanced collaboration.

Some of these learnings took root in the international response to Ebola. One interviewee said that the Ebola crisis made their organization realize there is a need for quick, reactive research. Though their organization lagged in the Ebola epidemic, it jumped to action for COVID-19, reaching out to LMIC partners early to establish a research agenda instead of waiting for direction from the United States, United Kingdom, or Europe. This same organization is now creating a platform clinical trial by engaging the African Vaccine Regulatory Forum, a historically underutilized regulatory mechanism.

Many advances are being made in clinical trial innovations. For instance, adaptive clinical trial design—a method that continuously incorporates ongoing results from a trial to inform that trial's future course—has been used for decades in other health sciences, such as oncology, and is now being used in multiple trials to identify new treatments for COVID-19. One interviewee based in a low-resource setting described an accelerator grant their institution had received in partnership with another institution in a high-income setting in which the latter institution identifies and fast-tracks potential treatments for COVID-19 in preclinical research so that those treatments can immediately enter phase 1/2 trials at the former institution. For COVID-19, these trial innovations have been yielding results at unprecedented speeds and efficiency and may be adapted to other infectious disease areas in the future. As noted previously, some interviewees cited success in using virtual technologies and telemedicine to conduct follow-up with trial participants during COVID-19. This approach could help produce cost savings and efficiencies in clinical research for global health; others, however, noted challenges in scaling these approaches in low-resource settings.

COVID-19 may set a record as the disease with the greatest variety of vaccine approaches—such as mRNA, non-replicating viral vector, or attenuated vaccines—developed against it, which could lead to greater knowledge about how to develop vaccines for other infectious diseases. Many of these new vaccines are built on platform technologies, an evolving R&D approach that creates a plug-and-play foundation to rapidly and affordably produce vaccines against new pathogens.

If impact can be demonstrated, large-scale research efforts such as Operation Warp Speed, the World Health Organization Solidarity Trials, the Coalition for Epidemic Preparedness Innovations (CEPI), and the Access to COVID-19 Tools (ACT) Accelerator may de-risk and demonstrate the potential of these new research methods, according to interviewees, leading to breakthroughs in other disease areas and perhaps making development of future vaccines, therapeutics, and diagnostics more predictable. COVID-19 could ultimately shape global health R&D to become more efficient and attractive to funders.

COVID-19 has affirmed the power of collaboration, especially public-private partnerships

Many interviewees held up the power of partnership as a core learning from the COVID-19 research response. Though COVID-19 has made it physically more difficult to collaborate by hampering opportunities to convene and to share biological samples, it has also fostered collaborations at a level not seen prior. Interviewees reported that the private sector, public sector, US agencies, and academia have come together in various forums to share learnings, standards, technologies, and expertise.

In particular, the large-scale use of public-private partnerships to develop COVID-19 medical countermeasures was referenced several times. While public-private partnerships are already widely used to advance global health R&D, many interviewees cited the success of COVID-19-related partnerships—such as the NIH ACTIV

partnership, CEPI, and Operation Warp Speed—as affirming the value of this model. These partnerships have not been limited to HICs. For instance, an R&D expert in an MIC reported that a public-private partnership led to the manufacturing of ventilators in their country, and that post–COVID-19, this manufacturing would continue to supply the region.

Scientists have also found ways to continue collaborating globally despite challenging national politics. For instance, despite US political reluctance to engage directly in multilateral partnerships like the ACT Accelerator, US government scientists are sharing learnings and knowledge with international partners through established memorandums of understanding. Researchers and institutions based in low-resource settings, however, have been underrepresented in these global scientific collaborations and conversations. If these voices were more involved in high-level conversations, it is likely there would be greater emphasis on developing COVID-19 medical countermeasures that are appropriate for low-resource settings. Still, COVID-19 has forged new relationships and new levels of collaboration that may endure post-crisis.

COVID-19 could advance political will for global health R&D

To paraphrase one interviewee from the private sector, governments have always chosen tanks over health—but COVID-19 may be the turning point at which leaders, and the constituents they represent, begin to equate public health to national security. Around the world, from low- to high-income countries, governments are prioritizing funding for the COVID-19 response, including for R&D. The pandemic has also raised research literacy and global health awareness among the public.

Those who work in public health, however, know that every public health crisis sparks a boom and bust cycle of political will, public attention, and financing. Will COVID-19 be the exception? Interviewees emphasized that global health R&D advocates will need to shape the narrative following COVID-19 by tying the pandemic to broader global health priorities. Past investments in global health R&D enabled the world's quick research response to COVID-19, and, as one senior government scientist said, this should make it easier to shape a political narrative that recognizes that greater investment in global health R&D—which keeps scientific bases warm and continues to expand foundational knowledge of infectious diseases—will strengthen capacity to prepare for and respond to future pandemic threats.

One interviewee noted that for the past decade, the global health sector has begun to more comprehensively recognize and respond to the growing threat of non-communicable diseases (NCDs). COVID-19, however, may be an incident that emphasizes to politicians and funders that infectious diseases remain a perennial threat which can wreak devastating economic impact and that growing investment in NCDs must not come at the expense of steady funding for infectious disease threats.

Interviewees were split on whether COVID-19, amid the current rhetoric, would shape the political perception that global solidarity and collaboration are essential for defeating global health threats. One interviewee was concerned that the multilateral leadership vacuum left by the United States has been filled by Russia and China, and that this could lead to the commodification of global health, transforming it into a foreign policy bargaining chip.

Many interviewees were worried about uncertain funding in the future. Global health R&D is already an underfunded space, with donor governments financing significant portions of this work through international assistance budgets. Several interviewees cited concern that economic challenges and domestic response priorities could lead donor governments, including the United States, to reduce funding for international assistance, leading to long-term, negative implications for the pace of global health R&D.

Conclusion

Like a driverless bulldozer, COVID-19 is remolding the field of global health R&D, leaving new contour lines—across processes, technologies, and collaborations—as those who are working in the field hurry to wrangle it. In the interviews we conducted, we heard two options for how the sector might emerge from this crisis.

The first is a pessimistic, myopic future: COVID-19 and the threat of future pandemics eclipse perennial global health challenges, funneling the attention of HICs, donors, and the international community toward what are perceived to be more severe, near-term threats. Constrained budgets tighten and suffocate programs focused on long-standing global health issues that are not viewed as truly global threats but as abstract, foreign policy challenges, less important than pandemic risks. Few learnings are translated from the grand, short-term COVID-19 research missions to the quotidian, long-term global health research endeavors.

The second is optimistic and expansive: progress against COVID-19 demonstrates the scientific potential for tackling disease; confirms that this potential is best achieved through global coordination and collaboration, strong investments, and smart policy; and suggests that, with sufficient political will and funding, this same level and pace of progress is possible against other, perennial global health challenges.

The sector will likely emerge somewhere between these two futures, but bringing it closer to the second will require hard work and delicate coalition building. COVID-19 has emerged on top of an already fragile and shifting global environment shaped by other threats and concerns. These dynamics will affect the trajectory of the global health R&D sector—but most influential will be the choices of policymakers. It is the responsibility of advocates to grasp this moment of political attention, to carefully illustrate that there is a binding thread among diverging priorities and that this thread leads to a future beyond the COVID-19 crisis, a future that fully realizes the potential of R&D for global health.

About this paper

This report was informed by interviews with 22 scientists, leaders, and advocates involved in global health R&D from the US government, private, nonprofit, and academic sectors in low-, middle-, and high-income settings. These interviews were semi-structured, with prearranged questions for each sector, and non-attributive. To preserve confidentiality, names and organizations have not been listed. The interviews were transcribed and analyzed via coding and thematic content analysis to inform this report.

GHTC
global health technologies coalition

The Global Health Technologies Coalition (GHTC) works to save and improve lives by encouraging the research and development of essential health technologies. We bring together around 30 nonprofit organizations, academic institutions, and aligned businesses to advance policies to accelerate the creation of new drugs, vaccines, diagnostics, and other tools that bring healthy lives within reach for all people.

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December 2020