

OUR 2021 ANNUAL LETTER

The year global health went local

The world has an important opportunity to turn the hard-won lessons of this pandemic into a healthier, more



We are writing this letter after a year unlike any other in our lifetimes.

Two decades ago, we created a foundation focused on global health because we wanted to use the returns from Microsoft to improve as many lives as possible. Health is the bedrock of any thriving society. If your health is compromised—or if you're worried about catching a deadly disease—it's hard to concentrate on anything else. Staying alive and well becomes your priority to the necessary detriment of everything else.

Over the last year, many of us have experienced that reality ourselves for the first time. Almost every decision now comes with a new calculus: How do you minimize your risk of contracting or spreading COVID-19? There are probably some epidemiologists reading this letter, but for most people, we're guessing that the past year has forced you to reorient your lives around an entirely new vocabulary—one that includes terms like "social distancing" and "flattening the curve" and the "R0" of a virus. (And for the epidemiologists reading this, we bet no one is more surprised than you that we now live in a world where your colleague Anthony Fauci has graced the cover of $\mathit{InStyle}$ magazine.)

When we wrote our last Annual Letter, the world was just starting to understand how serious a novel coronavirus pandemic could get. Even though our foundation had been concerned about a pandemic scenario for a long time—especially after the Ebola epidemic in West Africa—we were shocked by how drastically COVID-19 has disrupted economies, jobs, education, and well-being around the world.

Only a few weeks after we first heard the word "COVID-19," we were closing our foundation's offices and joining billions of people worldwide in adjusting to radically different ways of living. For us, the days became a blur of video meetings, troubling news alerts, and microwaved meals.

Fans of the movie Contagion might have already known this





But the adjustments the two of us have made are nothing compared to the impact the pandemic has had on others. COVID-19 has cost lives, sickened millions, and thrust the global economy into a devastating recession. One and a half billion children lost time in the classroom, and some may never return. Essential workers are doing impossible jobs at tremendous risk to themselves and their families. Stress and isolation have triggered farreaching impacts on mental health. And families in every country have had to miss out on so $many\ of\ life's\ most\ important\ moments-graduations,\ weddings,\ even\ funerals.\ (When\ Bill\ many\ of\ life's\ most\ important\ moments-graduations)$ Sr. died last September, it was made even more painful by the fact we couldn't all come together to mourn.)

BILL: I miss him every day

School closures during the COVID-19 pandemic

January 22, 2020







No data

No measures

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Required (all levels)

Source: Oxford COVID-19 Government Response Tracker, via Our World in Data

History will probably remember these last couple of months as the most painful point of the entire pandemic. But hope is on the horizon. Although we have a long recovery in front of us, the world has achieved some significant victories against the virus in the form of new tests, treatments, and vaccines. We believe these new tools will soon begin bending the curve in a big way.

The moment we now find ourselves in calls to mind a quote from Winston Churchill. In the fall of 1942, he gave a famous speech marking a military victory that he believed would be a turning point in the war against Nazi Germany. "This is not the end," he warned. "It is not even the beginning of the end. But it is, perhaps, the end of the beginning."

When it comes to COVID-19, we are optimistic that the end of the beginning is near. We are also realistic about what it's taken to get here: the largest public health effort in the history of the world—one involving policymakers, researchers, healthcare workers, business leaders, grassroots organizers, religious communities, and so many others working together in new ways.

That kind of shared effort is important, because in a global crisis like this one, you don't want companies making decisions driven by a profit motive or governments acting with the narrow goal of protecting only their own citizens. You need a lot of different people and interests coming together in goodwill to benefit all of humanity.

Philanthropy can help facilitate that cooperation. Because our foundation has been working on infectious diseases for decades, we have strong, long-standing relationships with the World Health Organization, experts, governments, and the private sector. And because our foundation is specifically focused on the challenges facing the world's poorest people, we also understand the importance of ensuring that the world is considering the unique needs of low-income countries too.

To date, our foundation has invested \$1.75 billion in the fight against COVID-19. Most of that funding has gone toward producing and procuring crucial medical supplies. For example, we backed researchers developing new COVID-19 treatments including monoclonal antibodies, and we worked with partners to ensure that these drugs are formulated in a way that's easy to transport and use in the poorest parts of the world so they benefit people everywhere.

We've also supported efforts to find and distribute safe and effective vaccines against the virus. Over the last two decades, our resources backed the development of 11 vaccines that have been certified as safe and effective, and our partners have been applying the lessons we learned along the way to the development of vaccines against COVID-19.

It's possible that by the time you read this, you or someone you know may have already received a COVID-19 vaccine. The fact that these vaccines are already becoming available is, we think, pretty remarkable—especially considering that COVID-19 was a virtually unknown pathogen at the beginning of 2020 and how rigorous the process is for proving a vaccine's safety and efficacy. (It's important that people understand that even though these vaccines were developed on an expedited timeline, they still had to meet strict guidelines before being approved.)

MELINDA:

These include vaccines for pneumonia, cholera, meningitis, rotavirus, typhoid, and Japanese encephalitis—which together have saved millions of lives.

BILL: These are manufactured antibodies that grab onto a virus and disable it, just as the naturally occurring antibodies in your immune system do.

MELINDA:

March.

Many of the parents who

took on added caregiving

responsibilities when schools closed last



A resident of a nursing home in New York City receives a COVID-19 vaccine. (Spencer Platt/Getty Images)

No one country or company could have achieved this alone. Funders around the world pooled resources, competitors shared research findings, and everyone involved had a head start thanks to many years of global investment in technologies that have helped unlock a new era in vaccine development. If the novel coronavirus had emerged in 2009 instead of 2019, the road to a vaccine would have been much longer.

Of course, creating safe and effective vaccines in a laboratory is only the beginning of the story. Because the world needs billions of doses in order to protect everyone threatened by this disease, we helped partners figure out how to manufacture vaccines at the same time as

soon as it received FDA approval.

they were being developed (a process that usually happens sequentially).

Now, the world has to get those doses out to everyone who needs them—starting with frontline health workers and other high-risk groups. Our foundation has worked with manufacturers and partners to deliver other vaccines cheaply and on a very large scale in the past (including to 822 million kids in low-income countries through Gavi, the Vaccine Alliance), and we're doing the same with COVID-19.

Our foundation and its partners have pivoted to meet the challenges of COVID-19 in other ways as well. When our friend Warren Buffett donated the bulk of his fortune to double our foundation's resources in 2006, he urged us to stay focused on the issues that have always been central to our mission. Tackling COVID-19 was an essential part of any global health work in 2020, but it hasn't been our sole focus over the last year. Our colleagues continue to make progress across all of our program areas.

The malaria team has had to rethink how to distribute bed nets in a time when it's no longer safe to hold an event to give them to a lot of people at once. We're helping partners understand COVID-19's impact on pregnant women and babies and making sure that they continue to receive essential health services. Our education partners are helping teachers adjust to a world where their laptop is their classroom. In other words, we remain trained on the same goal we've had since our foundation opened its doors: making sure every single person on the planet has the chance to live a healthy and productive life.

MELINDA:

And that women who don't want to get pregnant continue to have access to contraceptives.







Health workers deliver mosquito nets in Benin. (Yanick Folly/Getty



A healthcare worker wearing personal protective equipment helps a pregnant woman in labor in Ankara, Turkey. (Ozge Elif Kizil/Getty Images)



A young woman talks about contraception at a community center in Nairobi, Kenya. (Alissa Everett/Getty Images)

If there's a reason we're optimistic about life on the other side of the pandemic, it's this: While the pandemic has forced many people to learn a new vocabulary, it's also brought new meaning to old terms like "global health."

In the past, "global health" was rarely used to mean the health of everyone, everywhere. In practice, people in rich countries used this term to refer to the health of people in non-rich countries. A more accurate term probably would have been "developing country health."

This past year, though, that changed. In 2020, global health went local. The artificial distinctions between rich countries and poor countries collapsed in the face of a virus that had no regard for borders or geography.

We all saw firsthand how quickly a disease you've never heard of in a place you may have never been can become a public health emergency right in your own backyard. Viruses like COVID-19 remind us that, for all our differences, everyone in this world is connected biologically by a microscopic network of germs and particles—and that, like it or not, we're all in this together.

We hope the experience we've all lived through over the last year will lead to a long-term change in the way people think about global health—and help people in rich countries see that investments in global health benefit not only low-income countries but everyone. We were thrilled to see the United States include \$4 billion for Gavi in its latest COVID-19 relief package. Investments like these will put all of us in a better position to defeat the next set of global challenges.

Just as World War II was the defining event for our parents' generation, the coronavirus

MELINDA:

Growing up, I heard a lot about how WWII had changed my family's life—especially my maternal grandmother's. She's one of the many women who

entered the workforce to fill roles left open by men fighting

pandemic we are nving through right now will define ours. And just as world war it led to greater cooperation between countries to protect the peace and prioritize the common good, we think that the world has an important opportunity to turn the hard-won lessons of this pandemic into a healthier, more equal future for all.

In the rest of this letter, we write about two areas we see as essential to building that better future: prioritizing equity and getting ready for the next pandemic.



Can we emerge from this pandemic more equal than we entered it?

Melinda: One of the things I've missed most over the last year is traveling to see our foundation's work in action. I have photos all over our house of the women I've met on these trips. Now that I'm working from home, I see their faces all the time.

I often wonder what the pandemic looks like through their eyes and how they're coping. When I'm on videocalls with experts and world leaders, I try to imagine how the decisions being made in these conversations will affect these women and their families. They're a daily reminder of the importance of ensuring that the world's COVID-19 response leaves no one behind.

From AIDS to Zika to Ebola, disease outbreaks tend to follow a grim pattern. They hurt some people more than others—and who they hurt most is not random. As they infect societies, they exploit pre-existing inequalities.

The same is true of COVID-19. People with less are faring worse than those with more. Essential workers are facing greater risks than those who can work from home. Students without internet access are falling behind students who are learning remotely. In the United States, communities of color are more likely to get sick and die than other Americans. And all around the world, women who have been fighting for power and influence over their lives are seeing decades of fragile progress shattered in a matter of months.

From the beginning of the pandemic, our foundation has worked with partners in the United States and around the world to address the uneven social and economic impacts of COVID-19 and keep those pre-existing inequalities from growing deeper.

In the United States, many of our anti-COVID efforts overlap with our work on racial equity. For example, the data tell us that Black Americans are three times as likely as white Americans to get COVID-19, and they are also more likely to live in an area with limited access to COVID-19 testing. To help meet the demand for local community testing, our foundation partnered with historically Black colleges and universities to expand diagnostic testing capacity on their campuses.

MELINDA:

This is a group of women I met in Indonesia in 2017. That's Ibu Suparti holding the tablet.

MELINDA:

The reasons why have a lot to do with systemic



Healtncare workers test people for COVID-19 in Nashville, Tennessee. (Menarry Medical College)

We're also addressing the pandemic's disproportionate impact on people of color in other ways, including through our foundation's U.S. education work. We're concerned about students falling behind at all levels (when schools closed last spring, the average student lost months of learning), but we're especially troubled that COVID-19 could exacerbate long-standing barriers to higher education, particularly for students who are Black, Latino, or from

MELINDA: It's devastating to think that hundreds of thousands of young people could miss out on

opportunities for the rest of their lives just because they had the bad luck of graduating in a pandemic. high school graduates, so the stakes for these young people are high. To help students navigate COVID-19 roadblocks, our foundation expanded our partnerships with three organizations that have a proven track record of using digital tools to help students stay on the path to a college degree. We think the models and approaches these organizations are honing now will continue to expand opportunities for students post-pandemic, too.

When it comes to our work outside the United States, my major focus has been calling on world leaders to put women at the center of their COVID-19 response. If governments ignore the fact that the pandemic and resulting recession are affecting women differently, it will prolong the crisis and slow economic recovery for everyone.

For example, because of the economic shutdowns over the last year, hundreds of millions of people in low-income countries have needed help from their government to meet basic needs. But the cruel irony is that the women who most need these economic lifelines tend to be invisible to their governments. It's hard to send cash safely and swiftly to a woman who doesn't appear in the tax rolls, have a formal identification, or own a mobile phone. Unless financial systems are specifically designed to include these women, these systems are likely to exclude them, pushing them even further to the economic margins. Our foundation has worked with the World Bank to help countries overcome these hurdles and create digital cash transfer programs with women's needs in mind.

A business correspondent agent helps a woman with a bank transaction in Silana, India.

More broadly, we're supporting efforts to design economic response plans targeted at women and low-wage workers. In low- and middle-income countries, the poorest people tend to be self-employed in the informal sector—as farmers or street vendors, for example. Policymakers often overlook these workers, and traditional stimulus measures don't meet their needs. (Tax rebates don't really help people who don't pay taxes—and who pays for your paid leave if you work for yourself?) Our foundation helped fund research into how governments can repair these holes in the safety net by prioritizing measures like cash grants, food relief, and moratoriums on rent and utilities.

This past year has also shined a spotlight on women's unpaid labor, an issue I've written about in this letter before. With billions of people now staying home, the demand for unpaid care work—cooking, cleaning, and childcare—has surged. Women already did about three-quarters of that work. Now, in the pandemic, they've taken on even more of it. This work may be unpaid, but it comes at an enormous cost: Globally, a two-hour increase in women's unpaid care work is correlated with a 10 percentage point decrease in women's labor force participation. As governments rebuild their economies, it's time to start treating child care as essential infrastructure—just as worthy of funding as roads and fiber optic cables. In the long term, this will help create more productive and inclusive post-pandemic economies.



Bill and I are deeply concerned, though, that in addition to shining a light on so many old injustices, the pandemic will unleash a new one: immunity inequality, a future where the wealthiest people have access to a COVID-19 vaccine, while the rest of the world doesn't.

Already, wealthy nations have spent months prepurchasing doses of vaccine to start immunizing their people the moment those vaccines are approved. But as things stand now, low- and middle-income countries will only be able to cover about one out of five people who live there over the next year. In a world where global health is local, that should concern all of

BILL:
We're working with
College Advising Corps
City Year, and Saga
Education.

MELINDA:

Some have called the global economic crisis a "she-cession."

MELINDA:

If governments get this right, it could connect millions of women to their first bank accounts.

From the beginning of the pandemic, we have urged wealthy nations to remember that COVID-19 anywhere is a threat everywhere. Until vaccines reach everyone, new clusters of disease will keep popping up. Those clusters will grow and spread. Schools and offices will shut down again. The cycle of inequality will continue. Everything depends on whether the world comes together to ensure that the lifesaving science developed in 2020 saves as many lives as possible in 2021.

Existential crises such as these leave no facet of life untouched. But solutions that are worthy of these historic moments also have ripples. Demanding an inclusive response will save lives and livelihoods now—and create a foundation for a post-pandemic world that is stronger, more equal, and more resilient.



It's not too soon to start thinking about the next pandemic.

Bill: One of the questions I get asked the most is when I think the world will get back to normal. I understand why. We all want to return to the way things were before COVID-19. But there's one area where I hope we never go back: our complacency about pandemics.

The unfortunate reality is that COVID-19 might not be the last pandemic. We don't know when the next one will strike, or whether it will be a flu, a coronavirus, or some new disease we've never seen before. But what we do know is that we can't afford to be caught flat-footed again. The threat of the next pandemic will always be hanging over our heads—unless the world takes steps to prevent it.

The good news is that we can get ahead of infectious disease outbreaks. Although the world failed to prepare for COVID-19 in many ways, we're still benefiting from actions taken in response to past outbreaks. For example, the Ebola epidemic made it clear that we needed to accelerate the development of new vaccines. So, our foundation partnered with governments and other funders to create the Coalition for Epidemic Preparedness Innovations. CEPI helped fund a number of COVID-19 candidates—including the Moderna and Oxford AstraZeneca vaccines—and is deeply involved in the vaccine equity work that Melinda wrote about.

To prevent the hardship of this last year from happening again, pandemic preparedness must be taken as seriously as we take the threat of war. The world needs to double down on investments in R&D and organizations like CEPI that have proven invaluable with COVID-19. We also need to build brand-new capabilities that don't exist yet.

Stopping the next pandemic will require spending tens of billions of dollars per year—a big investment, but remember that the COVID-19 pandemic is estimated to cost the world \$28 trillion. The world needs to spend billions to save trillions (and prevent millions of deaths). I think of this as the best and most cost-efficient insurance policy the world could buy.

The bulk of this investment needs to come from rich countries. Low- and middle-income countries and foundations like ours have a role to play, but governments from high-income nations need to lead the charge here because the benefits for them are so huge. If you live in a rich country, it's in your best interest for your government to go big on pandemic preparedness around the world. Melinda wrote that COVID-19 anywhere is a threat to health everywhere; the same is true of the next potential pandemic. The tools and systems created to stop pathogens in their tracks need to span the globe, including in low- and middle-income countries.

To start, governments need to continue investing in the scientific tools that are getting us through this current pandemic—even after COVID-19 is behind us. New breakthroughs will give us a leg up the next time a new disease emerges. It took months to get enough testing capacity for COVID-19 in the United States. But it's possible to build up diagnostics that can be deployed very quickly. By the next pandemic, I'm hopeful we'll have what I call megadiagnostic platforms, which could test as much as 20 percent of the global population every week

BILL:

As scary as it is to imagine, the next pandemic might even be the result of bioterrorism.





A lab technician inserts a swab into a COVID-19 rapid test machine. (Angus Mordant/Getty Images)

I'm confident that we will have better treatments next time, too. One of the most promising COVID-19 therapeutics is monoclonal antibodies. If a patient gets them early enough, you can potentially reduce the death rate by as much as 80 percent.

Our foundation has funded research into monoclonal antibodies as a potential treatment for flu and malaria for over a decade. These antibodies can be used to treat any number of diseases. The downside is that they're time-consuming to develop and manufacture. It will likely take another five years of perfecting the technology before we can quickly churn them out in response to new pathogens.



I also expect we'll see huge advances over the next five years in our ability to develop new vaccines—in large part due to the success of mRNA vaccines for COVID-19. I wrote about this at length in my Year in Review, but the short version is that mRNA vaccines are a new type of vaccine that delivers instructions to teach your body to fight off a pathogen. Although our foundation has been funding research into this new platform since 2014, no mRNA vaccine had been approved for use before last month. This pandemic has massively sped up the platform's development process.

Just as I think we'll see huge improvements in diagnostics and monoclonal antibodies, I predict that mRNA vaccines will become faster to develop, easier to scale, and more stable to store over the next five to ten years. That would be a huge breakthrough, both for future pandemics and for other global health challenges. mRNA vaccines are a promising platform for diseases like HIV, tuberculosis, and malaria. The R&D progress made as a result of COVID-19 might one day give us the tools we need to finally end these deadly diseases.

When it comes to preventing pandemics, scientific tools alone aren't enough. The world also needs field-based capabilities that constantly monitor for troubling pathogens and can be spun up as soon as they're needed. There is still a lot to be figured out in terms of specifics, including where these capabilities would be housed and how exactly they'd be structured. But here is my broad thinking:

First, we need to spot disease outbreaks as soon as they happen, wherever they happen. That will require a global alert system, which we don't have at large scale today. The backbone of this system would be diagnostic testing. Let's say you're a nurse at a rural health clinic. You notice that more patients are showing up with coughs than you'd expect for this time of year, or maybe even that more people are dying than normal. So, you test for common pathogens. If none of them test positive, your sample is sent elsewhere to get sequenced for further investigation.



BILL: Monoclonal antibodies weren't available to treat COVID-19 until November. Imagine how many lives could've been saved if we had them months earlier.

BILL:
Our foundation funds small scale versions of this for diseases like polio and malaria.
They've been effective at identifying outbreaks early.



Workers assemble COVID-19 testing kits at the Incas Diagnostics lab in Kumasi,

If your sample turns out to be some super infectious—or entirely new—pathogen, a group of infectious disease first responders springs into action. Think of this corps as a pandemic fire squad. Just like firefighters, they're fully trained professionals who are ready to respond to potential crises at a moment's notice. When they aren't actively responding to an outbreak, they keep their skills sharp by working on diseases like malaria and polio. I estimate that we need somewhere around 3,000 responders throughout the world.

To learn how to best use these first responders, the world needs to regularly run germ games —simulations that let us practice, analyze, and improve how we respond to disease outbreaks, just as war games let the military prepare for real-life warfare. Speed matters in a pandemic. The faster you act, the faster you cut off exponential growth of the virus. Places that had recent experiences with respiratory outbreaks—such as Taiwan with SARS and South Korea with MERS—responded to COVID-19 more quickly than other places because they already knew what to do. Running simulations will make sure everyone is ready to act quickly next time.

Ultimately, the thing that makes me the most optimistic that we'll be ready next time is also the simplest: The world now understands how seriously we should take pandemics. No one needs to be convinced that an infectious disease could kill millions of people or shut down the global economy. The pain of this past year will be seared into people's thinking for a generation. I am hopeful that we'll see broad support for efforts that make sure we never have to experience this hardship again. We're already seeing new pandemic preparedness strategies emerge, including from this year's UK-led G7, and I expect to see more in the months and years to come.

The world wasn't ready for the COVID-19 pandemic. I think next time will be different.

MELINDA: Now that's what I call a

BILL: Firefighters do this, too, when they run practice drills.

A healthier, brighter future for all









(Above) Medical workers in Prato, Italy wear photos of themselves or top of their personal protection equipment. (Alberto Pizzoll'AFP via Gettly Images). (Below) A woman helps her daughter with an online lesson in Jakarta, Indonesia. (Jefta Images/Barcroft Media via Gettly Images).

(Above) A teacher works with students in a classroom equipped with plastic dividers to reduce COVID-19 transmission in Bangkok, Thailand. (Romeo Gacad/AFP via Getty Images). (Below) A school worker hands out free meals to students in Melbourne, Austraid, William West/AFP via Getty Images).

As hard as it is to imagine right now while so many people are still suffering from COVID-19, this pandemic will come to an end someday. When that moment comes, it will be a testament to the remarkable leaders who have emerged over the last year to steer us through this crisis.

When we say "leaders," we don't just mean the policymakers and elected officials who are in charge of the official government response. We're also talking about the healthcare workers who are enduring unimaginable trauma on the frontlines. The teachers, parents, and caregivers who are going above and beyond to make sure kids don't fall behind in school. The scientists and researchers who are working around the clock to stop this virus. Even the neighbors who are cooking extra meals to make sure no one in their community goes hungry.

Their leadership will get us through this pandemic, and we owe it to them to recover in a way that leaves us stronger and more prepared for the next challenge. Over the last year, a global threat touched nearly every person on the planet. By next year, we hope an equitable,

effective COVID-19 response will have reached the whole world, too.

We hope that you and your loved ones are staying safe and healthy in these difficult times.

Bill of milinda

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These breakthroughs will

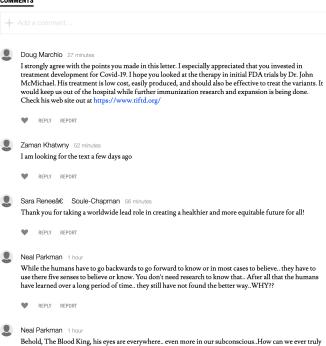
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