A GLOBAL CRISIS NEEDS A GLOBAL SOLUTION: THE URGENT NEED TO ACCELERATE VACCINATIONS AROUND THE WORLD

HEARING

BEFORE THE

SELECT SUBCOMMITTEE ON THE CORONAVIRUS CRISIS

OF THE

COMMITTEE ON OVERSIGHT AND REFORM

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No additional documents were entered into the record for this hearing.

A GLOBAL CRISIS NEEDS A GLOBAL SOLUTION: THE URGENT NEED TO ACCELERATE VACCINATIONS AROUND THE WORLD

Tuesday, December 14, 2021

HOUSE OF REPRESENTATIVES
COMMITTEE ON OVERSIGHT AND REFORM
SELECT SUBCOMMITTEE ON THE CORONAVIRUS CRISIS
Washington, D.C.

The subcommittee met, pursuant to notice, at 2:10 p.m., via Zoom; Hon. James E. Clyburn (chairman of the subcommittee) presiding.

Present: Representatives Clyburn, Waters, Maloney, Velazquez, Foster, Krishnamoorthi, Scalise, Jordan, Malliotakis, and Miller-Meeks.

Chairman CLYBURN. Good afternoon. The committee will come to order. Without objection, the chair is authorized to declare a recess of the committee at any time. I now recognize myself for an opening statement.

Tragically, in the two years since the coronavirus emerged, there have been more than 270 million infections and over 5.3 million deaths worldwide.

Even more tragically, more than a third of these deaths have occurred since life-saving vaccines became widely available to those of us in the United States and most other highly developed nations.

Nearly 40 percent of people around the world have not yet received even a single dose of a coronavirus vaccine. That's three billion people who remain at far higher risk than they should be.

Some of these three billion are those who have been unwilling to get the vaccine. The Select Subcommittee held a hearing of vaccine hesitancy earlier this year, and we continue to examine its causes and seek solutions to increase vaccine uptake.

Many others, who remain unvaccinated, however, have been among those who have been unable to get the vaccine because it is unavailable in the countries where they live.

Many poor countries around the world have received only a fraction of those in the United States and elsewhere in the Western half.

Fifty-six countries, largely in Africa and the Middle East, have not been able to vaccinate even 10 percent of their populations. In some of the world's poorest countries, such as Haiti, that figure is below one percent.

This inequitable access to coronavirus vaccines is causing unnecessary death and suffering, and we have a moral obligation to save lives by expanding vaccine access.

But ensuring that vaccines are available around the world is not just the right thing to do, it is necessary to protect our own health and our economy.

Experts say that variants are 6 to 8 times more likely to emerge from less developed countries where a lag in vaccination rates create opportunities for the virus to mutate.

The more that new virus develop, the greater the risk that there will be more infections, more deadly, and that they will be resistant to the current life-saving vaccines.

We have learned from this pandemic just how difficult it is to prevent new variants from reaching our shores once they emerge.

The best protection is, therefore, to make sure they do not develop in the first place. By increasing access to vaccines around the globe, we can save lives and protect public health at home.

Helping other countries vaccinate their citizens is also the right thing to do for our economy. The American economy, like the economies of all nations in the 21st century, relies on international trade to reach its full potential.

Many goods we manufacture here depend on materials sourced elsewhere. Other goods made in the United States are exported and sold to other countries. Outbreaks in these countries hurt American businesses and workers.

Coronavirus surges in southeast Asia this summer illustrate how connected our economy is to global public health. In Malaysia semiconductor plants shut down because of coronavirus outbreaks, American car companies like Ford and General Motors could not produce new cars.

They were, therefore, forced to suspend work in factories here at home. American workers and American consumers feel these consequences. As a result of the shutdowns in Malaysia, General Motors was forced to cut production by an estimated 100,000 fewer vehicles in the second half of this year.

Outbreaks in Vietnam have similarly hurt the supply of clothing, footwear, and cell phones manufactured by American companies. Global vaccination will help us avoid empty shelves and higher prices here at home.

A fully vaccinated world is critical to the American recovery. In fact, a report commissioned by the Gates Foundation found that high-income countries like the United States could reap economic benefits from global vaccination that are more than 12 times the cost of funding those mass vaccination efforts.

For all these reasons, I applaud the Biden administration for its leadership and ensuring vaccines are available around the world. As reflected in this chart, the United States has donated nearly 300 million vaccine doses and has committed to donate over 800 million more, more than every other country combined.

President Biden recently reaffirmed his commitment to help vaccinate the globe, pledging an additional $400 million to help low-income countries administer vaccines on top of the $1.2 billion previous dedicated to global vaccination efforts.

As we face another new coronavirus variant, we call on other countries around the world to step up and follow America's example.

I would like to thank today's witnesses for being with us today. I look forward to hearing more about the importance of increasing global vaccinations for both public health and economic strength.

I now recognize the ranking member for his opening statement.

Mr. SCALISE. Thank you, Mr. Chairman, and appreciate you having this hearing. Appreciate our witnesses who are before us today.

It is a true testament to President Trump's Operation Warp Speed that anyone in America who wants the COVID vaccine can get that vaccine and its fully paid for. I've been proud to support President Trump's Operation Warp Speed, an amazing public-private partnership that led to the development of three different vaccines, which, by the way, only took less than a year to produce when many were saying it would be years to produce that.

But in addition to that, produced, manufactured and distributed enough vaccines to give shots to every single American who wants one.

America has also donated millions of doses to countries around the world, as the chairman just showed. I believe there is bipartisan agreement on this subcommittee, the vaccines have helped us reopen our economy, helped people get back to work, and helped people to live their lives again. There's no doubt about it, they have saved millions of lives.

But they have been around for about a year now, and widely available for more than six months. Yet about 1,300 people are still dying each day in the United States. Sadly, there have been more COVID deaths this year than last year.

Though there's still plenty left to learn about COVID, one thing we know for sure at this point is that vaccinations are not a panacea against preventing the spread of the virus.

Despite these facts, after nearly a year in office, President Biden still has no real strategy to protect American families from COVID.

The same administration that promised to shut down the virus still does not have an FDA commissioner. It took President Biden almost a year to finally get a nominee to lead the FDA, and he's just having his confirmation hearing in the Senate today.

There's been no hearing or investigation into the origins of COVID, which we, in the minority, have continued to push for.

The only strategy they seem wedded to is one that increases government control over people's lives with more illegal mandates.

The Biden administration ignores naturally acquired immunity and won't dedicate much attention to therapeutics, but they want to mandate vaccines in any setting they can think of. They want to bully and shame Americans into thinking like they do or else face termination from their jobs.

The Biden administration has tried to apply unlawful vaccine mandates to private companies with over 100 employees, to healthcare workers, to Federal contractors, and even Federal employees.

President Biden has dedicated more time trying to get healthcare workers fired if they don't get vaccinated than he has spent on alternatives like therapeutics to keep families safe.

Fortunately, for Americans, the Biden administration is losing big time in the courts. The Federal courts have struck down, halted, or delayed most of President Biden's unlawful mandates.

This slide actually shows all of the different mandates that have been blocked. The OSHA mandate, for example, that President Biden issued for Federal—for private employers was blocked by the Fifth Circuit Court of Appeals last month.

The CMS mandate that healthcare workers had to be at least partially vaccinated by December 6 of this year or face termination, that after a preliminary injunction issued by a Federal district court in Missouri, which applied to ten states, the healthcare workers mandate was finally blocked nationally just two weeks ago.

The unlawful mandates for Federal contractors and subcontractors was blocked last week as well after a Federal district court in Georgia found it exceeded executive authority.

Finally, under executive order 14043, virtually all Federal employees had to get vaccinated or risk losing their job. Sound familiar?

On November 29 of this year, leadership in the Office of Management and Budget and the Office of Personnel Management encouraged Federal agencies to delay enforcement of yet another Federal mandate.

This is a dismal record of failure and rejection of President Biden's unlawful mandates.

With healthcare systems still treating COVID patients and facing staffing shortages, I warned months ago that the Biden administration's proposed vaccine mandate on healthcare workers would exasperate the shortage and could harm patient care.

But the Biden administration pushed for it anyway. They continued to offer nonsensical solutions that don't solve the purported problem but rather create serious problems of their own.

What is this twisted infatuation President Biden has with firing millions of hardworking families right before Christmas and especially at a time when most employers can't find workers?

It seems like all President Biden wants to do is threaten people, bully people, and try to get them fired from their jobs when the courts are saying it's illegal for the President to do this.

They want to do the same thing on global vaccinations. To increase the vaccine supply worldwide, the Biden administration wants to force the American developers of COVID–19 vaccines to give away their intellectual property, to give away those rights.

That's right, for years we all spoke out against China trying to steal America's intellectual property. Now we have the American President trying to give our intellectual property away to China and other countries for free.

If President Biden gets his way, imagine the chilling effect this would have on the ability to develop more life-saving drugs in the future.

On a bipartisan basis for more than 25 years, the U.S. trade representative made protection of U.S. intellectual property a cornerstone of our trade agreements. When America's ingenuity is protected and able to flourish, America can compete and win.

American pharmaceutical companies have led the world in both research and development and introduced more life-saving drugs.

The COVID vaccines are a great example of this. We're the world's leader because we have strong IP protections, and because we prohibit the U.S. Government from setting prices, like the socialized healthcare systems abroad.

Now President Biden wants to take a sledge hammer to innovation by removing protections for U.S. intellectual property. Stripping innovators of their constitutionally protected patents will undermine innovation, weaken our international competitiveness, and only help communist China, the country that spread the pandemic in the first place.

Even if the U.S. Government was successful in forcing the companies to give away their vaccine recipe, it would take the manufacturing process years to build those facilities, to source the materials that are needed to safely produce these complex vaccines.

This would not yield more safe and effective shots in arms across the world. It's yet another illegal attempt to undermine American competitiveness. As I've said before, we should protect IP. We should contract with U.S. manufacturers and help distribute the vaccine to countries who need it.

It is a quicker and smarter and safer strategy. There would be more shots administered, and we wouldn't have to knee-cap future innovations to do that.

It seems like some people just want to use COVID as an excuse to exert control over Americans and expand the powers of big government socialists even when it makes no sense. Americans are sick of this.

Thankfully, and finally Mr. Chairman, people are coming around to the idea that these shutdowns and mandates must end. Quote, the emergency is over. That was a quote from Democrat Governor and former colleague of ours from Colorado, Jared Polis.

The *New York Times* editorial page had an article just this Sunday titled, COVID isn't going anywhere, it's time we started acting like it. We need to stop living in a state of emergency. It's time to figure out a way to both protect people and their freedoms while doing a better job of handling COVID. The Biden administration must finally lead on this. First, they need to clean up their mixed messaging on public health that has left Americans confused and frustrated, and then they need to start following the science on schools, masks, and vaccines. Americans have had enough.

Thank you, Mr. Chairman. I yield back.

Chairman CLYBURN [continuing]. Mr. Scalise. I am pleased to welcome today's witnesses. I would first like to welcome Dr. Ali Khan, a practicing physician and dean of the College of Public Health at the University of Nebraska Medical Center. Dr. Khan previously served as the director of Office the Public Health, Preparedness, and Response at the Centers for Disease Control and Prevention, where he led our responses to numerous domestic and international public health emergencies.

I would next like to welcome Dr. Katheryn Russ, a professor of economics at UC Davis. Dr. Russ is an expert in open economy, microeconomics, and international trade policy, a research associate at the National Bureau of Economic Research, and a senior fellow at the Peterson Institute for International Economics.

She previously served as senior economist for international trade and finance for the White House Council of Economic Advisers.

Next, I would like to welcome Dr. Martin Makary, a professor of surgery at Johns Hopkins School of Medicine.

I would like also to welcome Dr. Krishna Udayakumar—I'm going to have problems with a few of these names, but I hope I get them OK—the founding director of the Duke Global Health Innovation Center and associate professor of medicine and an associate professor of the practice of global health at Duke University.

Finally, I would like to welcome Dr. Sebnem Kalemli-Ozcan—is that Ookan? Whatever it is, I'm going to let you tell us when you speak—she's a Neil Moskowitz professor of economics at the University of Maryland, a research associate at the National Bureau of Economic Research and a research fellow at the Center for Economic Policy Research.

She co-authored a leading study commissioned by the International Chamber of Commerce Research Foundation that analyzed the economic value of global coronavirus vaccinations.

Will the witnesses please raise their right hands? Do you swear or affirm that the testimony you're about to give is the truth, the whole truth, and nothing but the truth so help you God?

Let the record show that the witnesses answered in the affirmative.

Without objection, your written statements will be made part of the record.

Dr. Khan, you are recognized for five minutes for your opening statement.

STATEMENT OF DR. ALI KHAN, DEAN, COLLEGE OF PUBLIC HEALTH, PROFESSOR, DEPARTMENT OF EPIDEMIOLOGY, UNIVERSITY OF NEBRASKA MEDICAL CENTER

Dr. KHAN. Good afternoon, and thank you, Chairman Clyburn and Ranking Member Scalise and distinguished members of the Select Subcommittee on the Coronavirus Crisis. As you just heard, I'm Ali Khan, a physician, scientist, former assistant Surgeon General, former director of preparedness at CDC, and currently the dean of the College of Public Health at the University of Nebraska Medical Center.

With the emergence of the Omicron variant, I'm pleased to be here today to offer testimony to support an improved strategy that will allow us to defeat COVID and end this pandemic.

In September of this year, COVID–19 surpassed the 1918 Spanish influenza pandemic death toll and is now the deadliest disease event in our Nation's history. This is despite the scientific advancements we have made since the early 1900's.

And yet 800,000 Americans have lost their lives from a preventable disease with 5.3 million deaths globally.

Over the years, many have claimed the mantle of the great pandemic or Black Death, including plague, smallpox, influenza, HIV, SARS, and now COVID.

And we have repeatedly addressed these pandemics with better and better tools, technologies, and transformational public health solutions.

Now, undoubtedly, we are in a much better position than we were a year ago. So, two years later, why do we still say we're in a pandemic? Well, because COVID is still disrupting critical healthcare, social, and economic functions in our communities.

In the U.S., we still see almost 65,000 hospitalizations a day and healthcare rationing going on in America, in addition to supply chain disruptions and outbreaks closing schools, businesses and sports.

And the emergence of a new variant like Omicron has sent capital markets into a tailspin, but the rise of the Omicron variant may or may not draw out this pandemic. We are at risk of more infections and deadly variants until we fully address this pandemic globally.

Now thanks to American ingenuity, I'm happy to tell you that we already have all the tools we need to beat COVID and transition to a post-COVID world that still has some ongoing cases.

We have vaccines that are safe and effective, developed by President Trump, we have quarantine, self-isolation, masks, proven effective control methods, and we're seeing new and cutting-edge antivirals emerge, free COVID testing across the Nation and increasingly in our homes.

But the end of the pandemic no longer depends just on good public health science. It depends on action, and it depends on rebuilding citizen trust in their government that has been eroded by the politization of this response and rampant misinformation.

So how do we balance our right to freedom, personal autonomy, and responsibilities with the right of everyone to be protected from infection and death? How do we remember that sacrificing for the common good is how communities are built. And it's how wars are won, including wars on microbes.

It all starts, I think, with the admission that we're stalled and need a new and different strategy to end this pandemic. In the U.S., we need new public health officials and voices, and we need new national and local political leaders to help restore trust to those who are skeptical about the vaccine and even skeptical about the disease itself.

We need to increase vaccine confidence. The 60 percent vaccination rate nationally is clearly not enough to return our lives to something resembling normal even with those who have natural immunity.

We need better solutions to increase coverage to at least 85 percent or more through vaccine mandates, incentives, or non-mandate approaches that are people-centered and community-based.

And for the skeptical, we do need standardized tests to recognize the duration of natural and acquired immunity. We also desperately need public-private partnerships to support collection of realtime COVID data in the U.S., so we stop relying on foreign countries for our data, to decide what to do with vaccines, et cetera.

And to fully protect us from new variants, we need to increase global vaccination supply, access, and confidence. So, globally as you said, Mr. Chairman, only 7.1 percent of residents of low-income countries have had a single dose yet. And remember, individuals may require two, potentially three doses to be protected.

So, immediate actions include the U.S. must share its Moderna patent with the global community and announce temporary waivers on other intellectual property and licenses, actively share technology and know-how, remove export controls for critical materials, and continue to fulfill our 1.2 billion vaccine donation.

We learned this lesson with the HIV pandemic, that in the time of deadly pandemics, profits will never outweigh lives anywhere in this world. We need to solicit more partners in the U.S. vax logistic efforts to make vaccines become—to have vaccines become vaccinations. Can't have vaccines sitting on tarmacs as we see happening.

And finally, we need global standardization for strategies and triggers to help fight misinformation and help fight the global anxiety, as people know what's going to happen and when and why. And we saw this recently with the trigger for travel bans again.

So, as somebody with 30 years of experience responding to outbreaks all over the world, I want to assure the American people that there's hope and there's a light at the end of the pandemic tunnel. And so I will leave you with a simple message—get vaccinated, get tested, and mask on, America.

Chairman CLYBURN. Thank you, Dr. Khan.

Dr. KHAN. Thank you, sir.

Chairman CLYBURN. We will now hear from Dr. Russ. Dr. Russ, you are recognized for five minutes.

STATEMENT OF DR. KATHERYN RUSS, PROFESSOR, DEPARTMENT OF ECONOMICS, UNIVERSITY OF CALIFORNIA, DAVIS

Dr. RUSS. Good afternoon, honorable Chair Clyburn and members of the Select Subcommittee. Thank you for the opportunity to testify that, in addition to the humanitarian urgency, ensuring vaccination against COVID–19 globally and with the most effective vaccines available is critical to the U.S. economy. I'll tell you four reasons why.

First, leaving large pools of people unvaccinated overseas increases the risk that new variants will sweep through the U.S. work force. As we saw this fall, each new wave has a direct and serious impact throughout our economy, including the services sector.

Second, failing to vaccinate the world as a whole creates a host of supply chain problems. The lack of availability of effective vaccines overseas has worsened some of the biggest hang-ups that American businesses and consumers are experiencing now.

Perhaps the most visible example is the one the chair mentioned—the plight of the U.S. auto industry in the third quarter of this year. A COVID–19 outbreak in Malaysia triggered public health restrictions that curtailed the already short supply of semiconductors for U.S. auto makers.

The acute shortage forced massive shutdowns at U.S. auto plants. Monthly domestic auto production dropped below a hundred thousand units by September, the only time on record this has happened in the last 28 years, other than our lockdowns in spring 2020.

These shutdowns helped keep prices elevated in domestic car markets which is a key driver of the overall inflation facing American consumers over the last few months.

Malaysia's vaccination rate has reached 80 percent, but the first 15 million shots they got were a vaccine that is much less effective at preventing infection than the ones you and I have received.

Countries across southeast Asia and throughout the world have had to use vaccines from China and Russia, which are much less effective than our mRNA vaccines. This increases the chance of outbreaks that can cause supply chain disruptions.

Other examples are the COVID-related shutdowns affecting two major ports in China over the summer—Yantian and Ningbo. China is quick to resort to lockdowns to prevent the spread of the virus, partly because the vaccines there are not as effective as vaccines in the U.S.

These two ports are so large that the closures generated prolonged shipping delays for a wide array of products headed for the U.S. and other countries. The closures were also a reminder that shutdowns could suddenly interrupt the supply of many of the products that the U.S. sources from China.

Third, failing to ensure global delivery of vaccines can lead to labor market shortages, causing additional supply problems for the U.S. economy. Because there are large pools of people who have not been vaccinated, some countries have resorted to restrictions on workers' movement to reduce spread.

Resulting labor shortages are affecting production in a broad array of agricultural and manufacturing industries worldwide, like footwear and textiles in Vietnam, wine and other agricultural products in Europe.

These restrictive measures might be mitigated or avoided were all workers properly vaccinated and tested.

Finally, due partly to lack of access to vaccines, emerging markets in low-income countries are unlikely to return to the growth path that they were on pre-pandemic for some time.

This lower growth abroad threatens jobs and U.S. export industries. More than ten million American jobs depend on exports of goods and services to the rest of the world.

Close to half of these exports are purchased by developing countries, where the most effective COVID–19 vaccines are harder to come by than they are here.

Risks of lockdown-induced slowdowns also loom in many high-income, U.S. trading partners where vaccination is incomplete, including Australia, Austria, and Germany.

We must wage a global war on COVID–19, due foremost to the immense humanitarian need but also to reduce economic volatility and uncertainty for American businesses and consumers.

Whether it is $50 billion or double that, it would be a bargain compared to the cumulative injury to the U.S. economy and our influence abroad were we to delay any longer. Thank you.

Chairman CLYBURN. Thank you, Dr. Russ.

We will now hear from Dr. Makary. Dr. Makary, you are recognized for five minutes.

STATEMENT OF DR. MARTIN MAKARY, PROFESSOR OF SURGERY, JOHNS HOPKINS SCHOOL OF MEDICINE

Dr. MAKARY. Chairman Clyburn, thank you, Ranking Member Scalise, members of the committee, thank you for the opportunity

to testify. My name is Marty Makary. I'm a public health researcher at Johns Hopkins.

By way of background, I studied epidemiology at the Harvard School of Public Health where I received a master's in public health and have served on the faculty of the Johns Hopkins School of Public Health for the past 16 years.

I also take care of surgical patients, including immunocompromised patients.

I would like to personally ask you to consider new scientific data that tells us that some COVID policies have become too extreme, too rigid, and are no longer driven by clinical data.

Take for example, boosters in children who already had COVID. When pharma announced on Wednesday that they did a lab experiment that shows that boosters raise antibody levels against Omicron, without releasing the underlying scientific data, the CDC immediately urged everyone 16 and 17 years old to get a booster.

Is this what we've come to? Pharma tells people what to do in a press release and the CDC just falls in line?

Meanwhile, Germany just reported that no healthy child, 5 through 17, has ever died of COVID in the first 15 months of their pandemic, with nearly all of those children unvaccinated.

The CDC has never told us if any U.S. COVID deaths in children have been in healthy children.

And Germany, France, and other countries now restrict the Moderna vaccine from people under age 30 because of concerns of heart complications.

Now, I'm very pro vaccine, I've been vaccinated, but we have a modern-day McCarthyism, if somebody asks a question about boosters in young people. Remember, just 12 weeks ago, the FDA external experts voted against boosters for everybody by a 16–2 vote, and for good reasons.

But weeks after that vote, the FDA made another internal push to ream through boosters for all. But this time they inexplicably did not convene their experts, their external experts. The CDC did the same.

As a result, they got their broad booster recommendation by circumventing their external experts who opposed it. Public health officials justified it, pointing to declining antibody titers, but they ignore, and continue to ignore, the powerful T-cell immunity, which a study just last week, done by the NIH itself, found to be highly effective against Omicron.

Vaccine doses are now being used to boost young people without any supporting clinical data. Those vaccinated—those vaccine doses to boost young people should be going to the 93 percent of the population of the world in low-income countries who have received no vaccine.

Let me be clear, there is nothing that represents American waste, excess, and global arrogance more than requiring a young, healthy, low-risk student, who had the infection in the past and already has natural immunity, to get a booster.

Yet dozens of colleges and universities have already announced this as a requirement.

I believe in mammograms, and I believe they save lives, but I don't recommend them universally for men or children. We need

precise medical guidance, not blanket medical guidance that's good for marketing departments.

If the U.S. wants to help struggling countries ration their limited vaccine supply in the midst of an epidemic, tell them to recognize natural immunity and have those who had COVID step aside of the vaccine line to protect those who are vulnerable faster with the live-saving vaccine. That's what we should have done.

Over 20 scientifically sound studies have demonstrated that natural immunity is as good or better than vaccinated immunity. Yet our public health officials continue to ignore it. In fact, they never talk about it.

Why don't they just do their own study of people who had the COVID infection 20 months ago in New York, test their bloods and interview them? Why have they never done that study with their gigantic budgets? Instead they say it's unknown. Well, my research team is doing that study because the government has failed to do it.

Teachers, nurses, soldiers, they have circulating antibodies from prior COVID infection, they have antibodies that neutralize the COVID virus, but they are antibodies that the government does not recognize. As a result, careers have been destroyed and medical privacy is essentially dead.

The U.S. can also show leadership with medications. Fluvoxamine and inhaled budesonide, a steroid inhaler, both have been around for years, both are inexpensive, both have impressive, randomized control trial data that show they dramatically reduce COVID deaths.

Why do we never hear our public health leaders talk about them? These are not medications with the controversies of hydroxy and ivermectin. These are solid, randomized, controlled, trial-supported interventions.

Paxlovid cut COVID deaths and hospitalizations by 91 percent. The application has been sitting at the FDA for four weeks as Americans die every day.

Molnupiravir had its up vote by the external experts two weeks ago. What is the FDA doing two weeks after the experts vote to authorize the medication?

Finally, anyone in the world getting vaccinated today with an mRNA vaccine should space it out to at least three months. That data is in.

Many of us begged U.S. policymakers to do this. The U.K. actually did it as a broad policy. Makes sense. Why would you give two life preservers to people in an ocean when some are drowning with none?

The data are now in. The experiment is over. The U.K. did it right. We did it wrong.

Yet Uganda has had approximately one percent of its population vaccinated when the President announced that they will use a new shipment of almost 700,000 vaccines for second doses, following U.S. guidance.

As the world rations a scarce vaccine supply, they should learn from our mistakes, not repeat them. Thank you, Mr. Chairman.

Chairman CLYBURN. Thank you, Dr. Makary. We will now hear from Dr. Udayakumar.

STATEMENT OF DR. KRISHNA UDAYAKUMAR, ASSOCIATE DIRECTOR FOR INNOVATION, DUKE GLOBAL HEALTH INSTITUTE, ASSOCIATE PROFESSOR OF GLOBAL HEALTH AND MEDICINE, DUKE UNIVERSITY SCHOOL OF MEDICINE, DIRECTOR, DUKE GLOBAL HEALTH INNOVATION CENTER

Dr. UDAYAKUMAR. Chairman Clyburn, Ranking Member Scalise, and members of the House Select Subcommittee on the Coronavirus Crisis, it's an honor to be with you today. My name is Krishna Udayakumar, and I'm an internal medicine physician and global health and policy researcher at Duke University.

Through the nonpartisan COVID Global Accountability Platform, led by Duke and COVID collaborative, we're generating actionable insights to accelerate an effective, equitable, global-pandemic response.

We know that the COVID–19 pandemic continues to evolve in a highly dynamic manner around the world. We are in a global war against a virus that doesn't respect borders and rapidly advances across continents.

But global leaders have yet to use the full arsenal of tools available to fight this war. Unprecedented scientific achievements, begun under the Trump administration and continued under President Biden, have led to the development of highly effective and safe vaccines, promising therapies, and other critical interventions, including diagnostics.

But the world has been unable to marshal a coordinated, effective, and equitable response. The widening gap between vaccine haves and have-nots around the world has prolonged the pandemic, worsened inequity, and increased the risk of the emergence of additional variants that could pierce vaccine immunity.

Indeed, we are witnessing the consequences of a failed global response with Delta variant-driven surges in many parts of the world, including the U.S., while the Omicron variant spreads rapidly with worrying signs of increased transmissibility and immune evasion.

Based on current vaccination rates, nearly all low-income countries, including most African countries, are not on track to reach the globally agreed upon 40 percent vaccination target for the end of this month.

Our recent analysis identified three urgent actions to accelerate global vaccination. First, improve transparency of vaccine production, supply, and allocation, to drive stronger accountability and more effective vaccination planning and implementation.

Second, allocate a rapidly increasing supply of vaccines much more equitably and urgently.

And third, strengthen country-level capabilities and capacity to ensure effective and efficient vaccination.

As overall global vaccine supply continues to increase significantly, now with over a billion doses produced each month, challenges in allocation, distribution, and delivery in low-and middle-income countries are becoming more urgent.

Strong, bipartisan, American leadership has been critical to address major global health crises over decades. From the eradication of smallpox, to increasing global access to treatments for HIV and AIDS, to managing recent Ebola outbreaks, such American leader-

ship is needed again to effectively address the COVID–19 pandemic.

The best way to prevent further domestic and global catastrophe is to dramatically decrease cases and slow transmission of the virus through widespread global vaccination, combined with other public health measures.

Thankfully, there is significant progress and U.S. leadership from which to build. The U.S. and G7 allies have taken important but still modest steps to close the global vaccination gap, including accelerating large-scale production and delivery of high-quality vaccines, increasing financial supports to COVAX and other entities, and supporting the share of over 1.6 billion doses.

The U.S. has now donated over 317 million vaccine doses, as you noted, Mr. Chairman, more than every other country combined.

President Biden also hosted a global COVID–19 Summit in September to further galvanize global coordination and response. The recently announced initiative for global vaccine access, or GlobalVax, is also a step in the right direction.

While commendable, these actions still fall far short of the true scale and urgency required. Much more needs to be done to provide high quality vaccines more quickly and to build countries' vaccine distribution and delivery and capacity which is rapidly becoming the key constraint in the race between vaccines and variants.

The $315 million allocated to support global vaccine delivery in GlobalVax is substantially inadequate in the context of the billions of dollars that will be needed to support successful vaccinations around the world.

In fact, we have proposed, with the endorsement by a bipartisan group of experts, a bold U.S. emergency plan for global COVID–19 relief.

Mr. Chairman and members of the subcommittee, the global COVID–19 pandemic is both an international, humanitarian crisis and also a threat to our own Nation's security, health, and economic interests.

We can impose travel restrictions, promote vaccines and boosters, recommend masking and distancing, but those steps will not keep Americans completely safe because we cannot stay isolated from the rest of the world.

Building from significant efforts to date, we must further unleash unparalleled American resources and capabilities and provide bold American leadership to address the global pandemic. Such an effort will reflect both our ideals as a people and our interest as a Nation.

By galvanizing global efforts to vaccinate the populations of the world's poorest, most afflicted countries, we can accelerate the end of the pandemic here and everywhere. Thank you for the opportunity to testify.

Chairman CLYBURN. Thank you very much, Dr. Udayakumar.

The chair will now hear from Dr. Kalemli-Ozcan—or is that Ozcan? Dr. Ozcan, you're recognized for five minutes.

STATEMENT OF DR. SEBNEM KALEMLI-OZCAN, PROFESSOR OF ECONOMICS, UNIVERSITY OF MARYLAND

Dr. KALEMLI-OZCAN. Good afternoon, Chairman Clyburn, Ranking Member Scalise, and other members of the Select Sub-

committee. Thank you for the opportunity to appear before you to discuss the economic case for global vaccinations.

My name is Sebnem Kalemli-Ozcan, a professor of economics and finance at the University of Maryland College Park, with specialty in international macroeconomics, finance, and globalization.

Rolling out a vaccine to stop the spread of a global pandemic doesn't come cheap. Already billions of dollars have been spent developing drugs and putting place in programs to get those drugs into people's arms.

However, given the uneven distribution of vaccine, with poorer countries lagging far behind richer nations, the question is simply, what is the economic cost of not vaccinating everyone?

My work, joint with my colleagues, calculates these economic costs of uneven global vaccinations and how much of these costs will be borne out by which countries such as the United States.

Back in January 2021, with the projected progression of the pandemic at that time, we have estimated $4 trillion global cost at the end of 2021 under the scenario of rich countries vaccinating all of their citizens while poor countries only inoculating half of their populations.

Forty-nine percent of this $4 trillion global cost is going to be borne out by the rich countries composed of United States, Canada, Japan, and Europe. For United States, the cost is three percent of its 2019 gross domestic product, $671 billion.

As of now, the reality of the vaccinations turn out to be much worse than our initial assumption as rich countries were not able to vaccinate all their citizens and poor countries are nowhere near vaccinating half of their population as we just heard.

With the ongoing pandemic, if we do not achieve global vaccination, the economic costs that we have estimated will only grow exponentially in 2022 and 2023.

To arrive at our economic estimates, we analyzed 35 industries, such as services and manufacturing in 65 countries and studied how these sectors linked economically in 2019 before the pandemic.

For example, construction sector in the U.S. relies on steel imported from Brazil, American auto manufacturer need glass and tires that come from countries in Asia and so forth.

Then we used data on COVID infections in each country to demonstrate how coronavirus crisis can disrupt supply chains, curbing and delaying shipments, providing a very early and inevitable possible global supply chain disruption.

In our economic epidemiological model, the more a sector relies on people working in close proximity to produce goods, the more disruptions we're going to be because of high infections. As sectors link globally, domestic supply chain disruptions become global.

With that model, how vaccinations can solve this problem by smoothing the disruptions as healthy and immune work force is able to produce and deliver parts in time, increasing output.

Widespread vaccination in rich countries will certainly help domestic businesses such as restaurant and services, but industries such as auto, construction, wholesale, and retail that depend on other countries for labor, materials, parts and supplies, will continue to suffer if vaccines are not made available worldwide.

In addition, people in other countries, if they remain out of work because of repeated lockdowns required to control the spread of the virus, then they will have less money to spend on the sales of exports in North America and Europe.

Our work estimates the economic costs arising from supply chain disruptions, where a key reason for this disruption is the ongoing pandemic. How can we predict the economic costs of supply chain disruptions that we are living through today 10 months ago before they became evident that they are widespread and now known as the container crisis and the great disruption?

This is because our economic estimates take into full account of the full complexity of the entire global trade and production network data.

Our research shows that vaccinating the other nations is not an act of charity but an act of economic rationality with a high return on investing in global vaccinations. We have calculated a return to such investments 166 times.

The number is calculated by deriving the cost of not vaccinating the rest of the world, on rich countries, by cost of vaccinating as put out by——

If United States alone wants to close this gap, it implies a return to investment to United States of 24 times in investing in global vaccinations.

As Chairman Powell has stated to this committee recently, economic activity remains low pre-pandemic level in United States, according to our model, in the absence of global vaccinations, 2021 United States gross domestic product will be 3.1 percent lower than what could have been, showing the heavy economic toll of not vaccinating the world for the United States.

As shown by the new Omicron variant, we know that no one is safe until everyone is safe, because if we wait longer on global vaccinations, new variants are going to emerge.

Our work is an economic counterpart to this because no economy is an island and rogue economies are interdependent to each other. So, full economic global recovery will come only when every economy recovers from the pandemic. Thank you.

Chairman CLYBURN. Thank you, Dr. Ozcan.

Now, I do not see the ranking member at this point. We are to go into questions. I see the ranking member has returned.

Mr. SCALISE. Hey, Mr. Chairman. Yes, I'm voting on this one too, so I'm not sure if you voted on the——

Chairman CLYBURN. I have not. I have not. I'm going to yield to you for five minutes of questions while I go vote, and I'll take my five minutes when I get back.

Mr. SCALISE. OK. Well, thank you, Mr. Chairman. And obviously when you look at what we opened with, the mandates have been thrown out by courts over and over again. We've had three different court cases on mandates.

All three have said that the President doesn't have the legal authority to fire people, whether it's Federal workers, subcontractors, or healthcare workers. Yet it seems like that's the administration's main focus.

I think if you go to Mr. Makary's opening statement, I think you touched on some things that a lot of us would like to see explored

more. I've talked to a lot of medical professionals that have said it seems like the Biden administration is really underplaying the importance of things like natural immunity, of some of the other therapeutics that are out there.

And we've had, you know, obviously we mourn the lives of the hundreds of thousands of Americans who have died, but we also know that we've had millions of Americans who have contracted COVID and then came through it and lived.

Some had really, really tough experiences, some had very mild symptoms. That fact, by the way, is before and after the vaccine. Vaccinated and unvaccinated people have gotten COVID, who have experienced different degrees of difficulty going through it, and again, some that have had no problems, but they've tested positive and now they have immunities.

And it seems like there is a missing gap in the science on what these immunities do, how it protects people going forward. And I think you touched on it with children, but if you could, Dr. Makary, talk about what Congress should be looking at more, what should the scientific community in Washington be doing that it's not doing to study more about what natural immunity really means?

If you could unmute.

Dr. MAKARY. Thank you, Ranking Member Scalise. You raise a really important point because the original sin of this pandemic was that when this virus hit the United States we had a complete paralysis of research at the NIH.

With over $42 billion, they could not pivot any of those dollars quickly to answer the most basic questions that the American people were asking, all of us in healthcare—how does it spread, do masks work, how long do I need to quarantine for, when is the peak day of viral shedding in the course of illness.

We could not answer those questions with any solid evidence because the NIH was unable to pivot their funding. We just did a study of NIH funding last year, the year of the pandemic. They spent five percent of their budget last year on COVID research. They spent twice as much on aging research.

The average time for them to give research dollars to a group of researchers, like my team, was five months in a health emergency.

They had 278 research grants on social determinants of health, an important topic, but about four on how the virus spreads. And so you had this very popular group think, led by our top public health officials that it was surface transmission—wash your hands for 20 seconds, pour a gallon of alcohol gel on your grocery bag.

We had a vacuum of scientific data and what filled that vacuum is political opinions. That is the original sin of this politicalization. It was the inability of the bureaucracy of the NIH to pivot their funding to answer the practical, clinical questions that we needed answered.

And today, we can't do this—we seem unable to do any followup on the therapeutics—fluvoxamine, budesonide, hypertonic saline spray. I mean, none of these things have gotten the research dollars to this day. We've basically been unifocused on vaccines, an important intervention, but it's come at a heavy exclusion.

So, when we talk about helping the world, we are not doing them a service if we're only telling them about one of several important ways to reduce death and mortality.

Mr. SCALISE. Well, I appreciate that, and clearly as we continue to promote the vaccine and its safety and effectiveness—again, the President only talking about mandating vaccines or else somebody is going to get fired. The courts aren't even allowing that. So, at some point you would think the President would move on and come up with other alternatives including natural immunity, which many medical professionals are starting to look into and recognizing that there's a dearth of studies being done to show how that helps keep people safe.

All this focus should be on helping keeping people safe, not only one-size-fits-all approach.

Let me finally ask you about schools. We've seen a lot of studies that have shown kids ought to be in school, and it actually hurts them not to be. Have you seen any research on that as well?

Dr. MAKARY. Brown University has a good study showing that kids who have been in school during the pandemic, compared to kids who have been in school before the pandemic, have more cognitive, motor, and learning deficits. This is a tragedy. It's uncharted territory.

We're going to appreciate the down side of this far into the future. Young women have had a 51 percent increase in emergency room visits for self-inflicted harm, and so the list goes on and on, substance abuse. Opioid deaths are up 300—30,000 this year. So, anyway that is the American tragedy that will be——

Mr. SCALISE. I know I'm out of time, but we'll try to get that Brown study to all the members. I appreciate that feedback. With that, Mr. Chairman, yield back.

Chairman CLYBURN. Thank you very much, Mr. Ranking Member. Dr. Khan, I'm going to ask you, under the Biden administration, the United States has led the global coronavirus vaccination campaign to combat the pandemic with more than $1.6 billion committed, nearly 300 million vaccine doses donated, and more than 800 million additional doses pledged.

Our country leads all others by a significant margin in all of these metrics, and we have called on our international partners to do more to address vaccine inequity.

Dr. Khan, what would you say are the benefit of America's leading contributions to global vaccination efforts?

Dr. KHAN. Mr. Chairman, as we heard very eloquently from our economic speakers also, there's no doubt that in the United States, because of the failure to get this pandemic under control, we still have healthcare rationing going on, we have schools, businesses, et cetera, disrupted supply chain, but that-plays out globally also.

And until—if we want to protect people, we have to protect everyone. Otherwise, we will continue to have new variants emerge and make their ways onto our shores and force us into another cycle of aggressive prevention strategies.

So yes, the U.S. is taking the global role, which is necessary because then that allows us to work with other partners to say other countries need to step up also and continue these efforts to increase

both vaccine supply, vaccine access, and to address the misinformation that's rampant in the United States.

We see it all the time here in the U.S., unfortunately, and it's now made its way worldwide, with increasing vaccine hesitancy.

So, we need to address all three of those issues, and as I said during my testimony, we answered this question with the HIV pandemic when we said profit will not trump lives. And those were the decisions we made then to make sure that HIV treatment was available to everybody worldwide.

It's a simple decision for us to make now. The U.S. owns the Moderna patent, and it can clearly make it available to the global community. The global—WHO has set up an mRNA technology hub that's ready to make this happen. So, it's not a matter as if countries could not scale up if they were not issued these license and assistance with know-how.

They clearly can scale up. We can have national hubs that are producing vaccine, get us closer to getting a global community vaccinated and get to a post-pandemic phase.

Chairman CLYBURN. Thank you very much for that.

I know that we are going to be a bit convoluted as we go through this today.

So, is Mr. Jordan—I don't see him.

I want to go to Ms. Malliotakis. Is she with us?

Ms. MALLIOTAKIS. I'm here, Mr. Chairman. Would you like me to go next?

Chairman CLYBURN. Yes, please.

Ms. MALLIOTAKIS. OK. Thank you.

I want to thank you all for your testimony and thank you to the chairman for having this hearing today.

I'm actually a member also of the Foreign Affairs Committee and we definitely talk about vaccine diplomacy, the importance of it, particularly as it impacts our supply chains.

So, my first question would be, I guess, be for our economics professors here. Just if you could touch on the impact that vaccine diplomacy has on alleviating the supply chain issues we are experiencing today. Some of it is on vaccine mandates as well right here in the United States, and that's impacting the supply chain.

So, can you just talk a little bit about both of those dynamics?

Dr. RUSS. Sebnem, would you like to go first?

Dr. KALEMLI-OZCAN. Sure. I mean, basically the United States is doing the right thing here because we do have to increase the supply of global vaccines.

I just want to be very clear here. This is not about, you know, allocating. So, this is not about let's just not, you know, give all the available vaccines in my country but, you know, like ration. Beyond that, as we heard from Dr. Khan, to increase the vaccine production and the vaccine supply to other countries, and the United States leadership so far has been very good, and it is definitely helping, but it is not enough.

The supply chain issues are going to be sorted out when we do this globally. If you look at the very complex spider web looking figure of the global supply chains in my written testimony, you will understand that this is not just about some chips or some lumber issue. So, all of these sectors are intrinsically linked to each other

with different countries having different exposures. I mean, without really doing it at the global scale, you wouldn't be able to solve all supply chain issues. But the stimulus, the fiscal stimulus now that skyrocketed the demand is making the supply chains work.

So, in that respect, it is very urgent that we need to do a lot with the vaccine——

Ms. MALLIOTAKIS. Thank you.

Dr. Makary, if you could comment, though, because, on one hand, what the prior individual said is somewhat true, but also the vaccine mandates are having a tremendous impact on our economy.

New York City was—the *New York Times* today has slowest recovery rate than the rest of the Nation. Unemployment is double the national average. I believe a lot of that is due to a lot of the mandates, the vaccine passports, and other restrictions that have been put in place.

If Dr. Makary can please comment on the concerns that you have regarding some of the mandates, I would appreciate that as well.

Dr. MAKARY. Representative Malliotakis, we can't get Abraxane chemotherapy in parts of the United States because of our supply chain prices, bleomycin to treat Hodgkin's lymphoma.

There are downstream effects, not to mention the many careers destroyed and up to one in five people leaving healthcare. The real story in New York that we are not hearing about is that they are having significant staffing issues, and they are asking for a partial halt or a plan to halt elective surgery to so-called get ahead of Omicron. But the real story is they are having significant staffing issues.

Now, all of these problems, our massive chemotherapy supply chain problems, halting elective surgery, they could have all been avoided with a flexible immunity mandate; in other words, recognizing natural immunity, allowing for more medical exemptions, not require immunization for healthcare workers that are not on the frontlines, that is, patient facing, we would have avoided so many of these problems.

Ms. MALLIOTAKIS. One last question to followup. Regarding the mandates, how much should we be focusing on these mandates as opposed to looking for, you know, treatments and therapeutics? You mentioned natural immunity, but what about treatment and therapeutics, making that more of a priority?

Dr. MAKARY. Representative, no one should be dying of COVID right now, with rare exceptions. With best practices of budesonide, Fluvoxamine, the hypertonic saline spray, immunization, two drugs sitting at the FDA, their applications are sitting on someone's desk as we wait for these two drugs that have cut COVID deaths to zero or near zero in both of their phase III trials, no one should be dying of COVID right now. We never hear about therapeutics from our public health leaders, only this intense focus on vaccinations. We can do both.

Ms. MALLIOTAKIS. I appreciate that. I think it's a balance that is required here, and I appreciate all of your testimony today.

And thank you, Mr. Chairman. I yield back.

Dr. KALEMLI-OZCAN. Mr. Chairman, can I clarify a point here? Because I think it's very important in terms of the immunity from getting sick and not——

Chairman CLYBURN. Yes.

Dr. KALEMLI-OZCAN. OK. The economic cost estimates are short term. So, the costs are going to come from every single threat. In our model, we have an economy epidemiological model, nobody dies. But the minute you get sick, there are going to be an economic cost of it. Natural immunity is going to take time.

So, this is very important. And with the price pressure, that cost is going to get bigger. So, in that sense the costs are really becoming from being sick and not able to be productive two weeks, wait until we have this setup out there, as long as you are sick a week or two weeks, you can go back to work force later with your natural immunity. But that two weeks is going to add to the economic cost with the price pressure.

That's all.

Chairman CLYBURN. Thank you very much.

The chair now recognizes Ms. Waters for five minutes.

Ms. WATERS. Thank you very much, Chair Clyburn.

This is a very, very needed hearing that you are doing today because there's so much information out there, a lot of it sometimes conflicting, and so I have a few questions that I really want to ask.

First of all, let me thank Dr. Khan for his caution about CDC accepting information that they get from press releases. I have often wondered why they could adopt certain things so quickly and wondered whether or not the testing and the research had been done before they start to advise about five-year olds, et cetera, et cetera, et cetera. So, I want to learn a lot more about that, but I thank him for opening up that discussion.

Second, I want to get to the global problem that we have, and I want to ask Mr. Udayakumar whether or not we are assisting in any way to help other nations to develop their own vaccines. As I understand it, there is something in terms of international law that may be stopping them from being able to do it. Some of them want to do it.

What do you know about that?

Dr. UDAYAKUMAR. Sure. Representative Waters, thank you for that question.

The U.S. is assisting several organizations around the world in trying to stand up vaccine manufacturing capacity. The format that has been used to date has included U.S. public sector investment from the International Development Finance Corporation, as well as working with U.S. manufacturers.

So, examples of that would include what was announced at the Quad Vaccine Partnership. So, Johnson & Johnson partnered with Biological E. in India with investment from the DFC and others to enable the production of a billion doses of vaccine over the coming year.

We have also seen vaccines, in terms of licensing, especially for fill/finish capacity. We've seen announcements of Pfizer BioNTech enter into such a partnership in South Africa. We have heard that Johnson & Johnson may allow manufacturing in its entirety.

So, the work that's happened to date has included voluntary licensing from our private sector manufacturers in partnership with the public sector being able to help support everything beyond intellectual property, the know-how, the access to supply chains, the

regulatory advice, and oversight access to financial capital. And it's really that type of model that we need to continue to see.

We most definitely need to increase the vaccine manufacturing capacity across low-and middle-income countries. And we have seen significant progress, including through a partnership for African vaccine manufacturing, that's also underway. This is a space that is going to take some time, months to years, to stand up, given the complexity; but there's significant progress that's already being made.

Ms. WATERS. Well, thank you so very much.

And I would like to know—well, at one point the Caribbean was begging the United States to help with the vaccines. Now, that was early on. Do we have that problem anymore? Because they had the money to purchase, but they did not have access, despite the fact that the United States had a memorandum of understanding with both Canada and Mexico.

Now, are we in a position now where we can help others really and not do what—allow to happen what happened with the Caribbean?

Dr. UDAYAKUMAR. Yes. Thank you, ma'am.

We are in a much better position than we have been in the past and the best position we've ever been in. As I mentioned, we see global output of more than a billion doses of high-quality vaccines each month that will allow us in the U.S. to make sure that we are following the science in terms of primary vaccination and boosters. We are not in a position of having to sacrifice any of that.

But, in addition to boosters as warranted, the U.S., as well as primary vaccination, we do have enough. We continue to send tens to hundreds of millions of doses internationally, and we need to continue to do that.

Recent analysis shows that if you look at the G7 and European countries, by the end of this year, in addition to everything that they might need for domestic needs, they will likely have more than 500 million doses of excess vaccines. And those are the ones that absolutely have to reach low-and middle-income countries as soon as possible.

Ms. WATERS. Thank you so much.

We have another problem I want to mention just quickly, and that is in Haiti we got vaccines to them and they could not distribute them. And so we had to make sure that we retrieved them before they expire. And we just need to come up with some ways of helping countries like Haiti.

With that, I have used up all of my time. And I thank you very much.

Chairman CLYBURN. Thank you very much, Ms. Waters.

The chair now recognizes Mr. Jordan if he is with us? I don't see him.

Mr. Jordan?

How about Dr. Miller-Meeks?

The chair now recognizes Ms. Velazquez for five minutes.

Ms. VELAZQUEZ. Thank you, Mr. Chairman. Thank you for the timing of this important hearing.

Dr. Kalemli-Ozcan, you called for a study to model the cost of incomplete global vaccination. What did your study conclude about

the costs of failing to achieve global vaccination to advanced economies like the United States?

Dr. KALEMLI-OZCAN. Yes. So, the study shows that the overall cost to the United States, Canada, Japan, and Europe will be $4 trillion. For the United States, it will be $671 billion, which is two percent of the United States 2019 gross domestic product.

And this is assuming, by the way, that the United States and other rich nations vaccinate everyone in their own country and the rest of the world at least reaches the 40 to 50 percent of vaccination in their countries. So, our estimates are lower than that.

So, since the vaccinations were way worse than what we assume, the cost, the true costs are much higher than that, and it's going to get higher in the next year and year after if we really don't take the global vaccinations seriously.

Ms. VELAZQUEZ. Thank you.

And so, Doctor, what does your research show about the potential economic benefits of donating vaccines to developing and less wealthy nations?

Dr. KALEMLI-OZCAN. Huge. We calculate the return of investment over the Unites States of 24 times. The richest countries overall is going to get a return of investment over a hundred times. The return of investment for countries like France, Germany is going to be 20 times.

So, there's no question of just, you know, sending these vaccines. And now we hear from Dr. Udayakumar and Dr. Khan that, you know, we can easily do this. We are in a position of producing billions, so it is a no-brainer. I mean, this is a rounding error compared to the money we spend in fiscal spending domestically in rich countries.

Thank you.

Ms. VELAZQUEZ. Thank you.

And Dr.—Professor Russ, COVID outbreaks in Malaysia and Vietnam have contributed to supply chain issues, such as the slowing of the production of component parts for American car manufacturers, unfinished goods sold in the U.S.

Dr. Russ, can you tell us about how the outbreaks in Southeast Asia earlier this year affected the U.S. economy?

Dr. RUSS. Sure. So, if we take just the example of the semiconductors causing the auto plant shutdowns, so car prices have been rising the last few months. So, the White House Council of Economic Advisors just stated that about 1.4 percentage points of the 6.8 overall inflation that consumers faced in November compared to the last year was due to auto-related items.

So, those shutdowns helped keep those prices for autos high, and that means that it contributes to the overall increase in prices that consumers are facing.

And it's not just autos. I mean, that's a really visible, you know, big, big shock, but also—and the chair mentioned——

I was muted. Sorry.

So, not just autos, but also clothing, textiles, so many different products.

And if we want to think about active pharmaceutical ingredients, important for diabetes or chemotherapy, many of these come from China. And so China is really quick to move to lockdowns because

their vaccines are not super effective. We saw the port lockdowns that caused major shipping disruptions globally, but including for the United States.

So, the normal time for shipments to get to the United States from China is 40 days by sea, and in the fall it peaked at 73 days. So, that's an extra 33 days that we have to wait for, say, medical supplies to come when we are sourcing those active pharmaceutical ingredients.

So, it's really widespread this impact that it can have on the U.S. economy.

Ms. VELAZQUEZ. So, we can say that vaccinated people around the globe will help mitigate economic disruption in the United States?

Dr. RUSS. Yes, absolutely, including inflation.

Ms. VELAZQUEZ. Thank you.

I yield back, Mr. Chairman.

Chairman CLYBURN. I thank the gentlelady for yielding back.

The chair now recognizes Mr. Jordan for five minutes.

Mr. JORDAN. Thank you, Mr. Chairman.

Dr. Makary, how many—well, let me start with this.

What's the budget at CDC? Do you happen to know that?

Dr. MAKARY. CDC, it's about $9 billion, sir.

Mr. JORDAN. How about at NIAID, what's the budget there?

Dr. MAKARY. $6 billion.

Mr. JORDAN. $6 billion. $9 billion CDC, $6 billion NIAID. What about NIH? What's the budget there?

Dr. MAKARY. Between $42 and $43 billion.

Mr. JORDAN. Forty-two and 43, so if I do the quick math, that's like $57, $58 billion. That's annual, right?

Dr. MAKARY. Annual.

Mr. JORDAN. And do you know how many people work at CDC?

Dr. MAKARY. CDC and NIH together, about 30,000 people.

Mr. JORDAN. Thirty-thousand. What about if you add in NIAID? Do you know how many that is? Or they are part of NIH as well? Right? So 30—what was that number?

Dr. MAKARY. That's right. That's right. Thirty-one people between CDC and NIH.

Mr. JORDAN. Thirty-one thousand people spending $58 billion a year. Why hasn't our government done a study on natural immunity?

Dr. MAKARY. If I can be honest, Representative Jordan, I don't think they want to know the answer. It would undermine the indiscriminate vaccine—vaccination policy for every single human being, including extremely low-risk people.

Mr. JORDAN. So, how many Americans have got COVID since we've had this virus, do you know?

Dr. MAKARY. North of half of Americans based on the Columbia University study that showed one in three had COVID at the end of last year, a year ago.

Mr. JORDAN. So, there's certainly a sufficient sample size to do a study. And there's $57 to $58 billion somewhere—I mean, you could use some of that money to do a study. And then, of course, you know, you've got 30-some thousand people who could conceivably do a study on a pretty fundamental question.

Now, I think I saw in your opening statement that you are actually doing a study on natural immunity. Is that right?

Dr. MAKARY. That's right. With private funding, Johns Hopkins, my research team, is doing a study.

Mr. JORDAN. OK. So, there's no grant money coming from CDC, NIH, nothing like that?

Dr. MAKARY. No, sir.

Mr. JORDAN. And are any of these 30-some thousand employees helping you with your study?

Dr. MAKARY. No, sir.

Mr. JORDAN. Now, other countries, if I understand—I think this was in your opening statement as well. Other countries have done this study. Is that correct?

Dr. MAKARY. Most of our learning has come from Israel and other countries, yes, sir.

Mr. JORDAN. And what have they found? Let's start with the Israel study, if you could just refresh my memory. What did Israel find?

Dr. MAKARY. The Israel study is the largest study done worldwide, and it found that natural immunity, adjusted for age and comorbidity, is 27 times more effective than vaccinated immunity. And they just put out December 5 another study, a followup study, again, affirming similar results, that natural immunity is stronger than vaccinated immunity.

Mr. JORDAN. But are—the scientists in our government at the CDC and NIH, they don't account for that? They don't talk about that? What do they say about that study, or do they say anything?

Dr. MAKARY. They never talk about it unless asked. But I would say that they are doing worse than being absent on the topic. They are undermining natural immunity through two studies that the CDC did that are so flawed, that are so poorly put together, honestly, they would not qualify for a seventh grade science fair. The results cannot be derived from the data, and it's a disgrace that those two studies were put out because it undermines the larger body of science.

Mr. JORDAN. So, they won't talk about international studies that conclude natural immunity is 27 times better than the vaccine, but they will do some bogus, in your word, some seventh grade science studies using some of those 30,000 employees and using some of that $58 billion of American taxpayer money, they will do that? Is that fair?

Dr. MAKARY. That's fair. I will say that the intention is noble, but just very paternalistic. That is, they believe in private conversations that if they acknowledge natural immunity, some people may avoid vaccination and think I'll just get the infection. We don't want people to do that, but we can be honest with the data and encourage vaccination at the same time.

Mr. JORDAN. Well, I think the American people, particularly the ones paying—this is their money, they expect honesty and transparency from our government. They don't expect to be deceived.

So, I mean, this is what gets me. We can spend money, some of that $58 billion, and some of the resources at NIH and CDC can be used to fund gain of function research and give a grant to EcoHealth, who then sends some of that money to a lab in Wuhan

China, that's just fine. But we can't find any resources to deal with a fundamental question about natural immunity, and so much so that you have to go out and get private funding to do it yourself?

Dr. MAKARY. That's right. The NIH spent twice as much money on aging research last year, the year of COVID, more than they spent on COVID researcher.

Mr. JORDAN. This would be laughable if it wasn't so serious. And the implications, when you think about these mandates and everything else that's happening, what it's doing to our economy, not to mention just being honest with the American people who, after all, it's their money. But we have the head guy, Mr. Fauci, Dr. Fauci saying, I represent science, but he is afraid to actually do the science and do the studies that need to be done to answer this question. And we have to rely on international studies and your private study to get the truth to the American people.

Dr. MAKARY. We've subjected 72 million children to intense restrictions for two years, yet we don't have the most basic research. We've never had an NIH-funded study on masks on kids, and we've never had any information revealed by the CDC on whether or not any healthy child has died of COVID.

Mr. JORDAN. So, doctor, it's either they know the answer and don't want the American people—they know the answer and don't want the American people to know, or they do know the answer and are trying to hide it. I mean, it's like they know the answer or they are not sure of the answer—Mr. Clyburn. The gentleman's time is——

Mr. JORDAN [continuing]. I should say, or they know the answer and are trying to hide it from the American people. It's one of those two.

Chairman CLYBURN. Thank you. Your time has expired.

Mr. JORDAN. Thank you, Mr. Chairman.

Chairman CLYBURN. Thank you.

The chair now recognizes Mrs. Maloney for five minutes or Mr. Foster.

Mrs. MALONEY. I'm here.

Chairman CLYBURN. Mrs. Maloney is there.

Mrs. MALONEY. Thank you.

Well, thank you, Mr. Chairman, on this important hearing.

Even as we are working to keep and increase vaccination rates in the United States, we don't have to—we have to really focus also on the fact that we need to vaccinate the rest of the world, and helping vaccinate people in lower income countries is not only the right thing to do, from a humanitarian and diplomatic standpoint, but it also helps protect the health and safety of Americans.

And as long as the coronavirus continues to circulate widely across the globe, new variants will arise and Americans are going to be at risk. We are already on another new variant.

So, I would like to ask, Dr. Udayakumar, how does a failure to bring the coronavirus under control around the world put Americans at risk?

Dr. UDAYAKUMAR. Thank you, Representative Maloney.

I think we continue to put Americans at significant risk so long as we don't have a global plan of attack against the pandemic that leads to a global recovery. First and foremost, we put the health

and lives of Americans at risk as we saw with the Delta variant, as we are seeing with the Omicron variant that have both emerged in other parts of the world where infections were raging and vaccine were underutilized and underavailable.

We can't isolate ourselves from the rest of the world, so we are prone to anything that happens elsewhere. So, fundamentally, to protect Americans, we need to make sure there's a global response.

Second, our economy, as we've heard from colleagues today, is intertwined with the rest of the world. We will not see as strong a global economic growth and recovery or global trade or global travel so long as the pandemic continues.

Third, as you started off rightly by saying, it's also the right thing to do. It is a way for the American people to express our values as a people to the rest of the world and lead in a way that brings strong American values in helping those that are most in need. And, of course, it's also the ability to influence the future decades of diplomatic relations in the world.

So, I think we have every incentive that could be possibly aligned to do the right thing and do it quickly.

Mrs. MALONEY. Thank you.

The new variants have been devastating. We've seen the problems brought on by the Delta variant now which happens to be even more contagious. It's really going through New York very—infecting a lot of people. It's very, very contagious, twice as likely to result in hospitalization in our city than other strands.

And so I would like to ask, Dr. Khan, what does our experience with the Delta variant tell us about the potential threat posed by not only Delta but other new variants that seem to be arriving?

Dr. Khan?

Dr. KHAN. Thank you for that question, Representative Maloney.

Correct. Our 1,300 deaths a day and 65,000 hospitalizations are due to the failure to adequately respond to this pandemic with vaccinations. And each of these variants have arrived overseas, and until we have a global response—a global vaccination campaign, layered with other public health measures—you know, there's masks, there's testing, quarantining, isolation, treatment—you layer them altogether, we need to do this globally, otherwise we will be at risk for yet another variant. It may not be Omicron. Obviously, between Delta and Omicron, there were a lot of numbers that went through there that didn't turn out to be a big issue for us, but it could be whatever the next variant is.

So, we must make sure that we have a global response to this pandemic if we want to protect Americans and go into this post-pandemic phase.

Mrs. MALONEY. Dr. Khan, how would temporarily waiving patent rights on certain vaccines help accelerate global vaccination efforts, given the fact that we have to be as concerned about other countries as our own?

Dr. KHAN. It would allow many of these hubs that are being stood up to use those patents immediately, including, as I said, the U.S. owns the Moderna, critical Moderna patent on the spike protein formulation. So, having—and the WHO has already set up a facility that's ready to do that work. The companies don't want to work with them, unfortunately, because profit for them outweighs

lives. But the U.S. has the ability to be paid for these vaccines. The American people paid for these vaccines, and they can demand that these companies work with these other countries and make sure that we get everybody vaccinated.

That's the solution. We need to get more sites that are vaccinating, in addition to, as I said, access issues, the logistics issues and to address the vaccine hesitancy that we also seem to be exporting.

Mrs. MALONEY. You mentioned the Moderna vaccine. Scientists at the National Institute of Health played a critical role in developing these vaccines, and the Federal Government, I believe, should have a say in how it's licensed this vaccine abroad.

Dr. Khan, can you put this into the context of the global vaccination effort? Why is it important for the Federal Government to be involved in making these decisions abroad?

Chairman CLYBURN. The gentlelady's time has expired.

Mrs. MALONEY. My time has expired.

Dr. KHAN. Can I answer? No?

Chairman CLYBURN. Quickly.

Dr. KHAN. We need to get everybody vaccinated as fast as possible, and everything we do to increase that speed will increase our transition to post-pandemic and move us back to a better new normal and take care of these trade issues and all of these social and political and economic disruptions, and healthcare disruptions.

Chairman CLYBURN. Thank you, Dr. Khan.

The chair now recognizes Mrs. Miller-Meeks for five minutes.

Mrs. Miller-Meeks. Thank you, Mr. Chair.

And, you know, it's interesting listening to the panel, and I agree that this is a global pandemic. So, all of our panelists would agree this is a global pandemic? They can just voice yes.

All of them agree that we need to have immunity, and we know that we can acquire immunity through two different sources; one through vaccination, and the second way that they can acquire immunity is through infection-acquired immunity, which we have heard discussed already.

It's frustrating to me to hear that the response from some of our panelists is that if the United States forces U.S. companies to give up intellectual property rights and patent protections to allow more dosages to be developed, one is that, are there facilities that can develop vaccines immediately and with the safety requirements? And then, two, is there a public health infrastructure in order to deliver vaccines? And, three, while we are waiting for this, individuals are developing COVID–19 and developing immunity. So, perhaps talking about immunity would be extraordinarily helpful.

And one of the greatest problems today that we see and I see, I have been told for over a year to listen to the science, and I listened to the science, but I see that there's a lack of evidence-based decisionmaking from the Biden administration.

And one example of this is what's happening in schools. President Biden promised to support a return to the safe learning as quickly as possible. Yet, even as the teachers were prioritized for vaccines, they refused to turn to in-person instruction. Students' learning loss due to remote or hybrid learning is astronomical, and we just had another publication about that this week. Failing

grades are rising, and child suicide rates are surging, and yet some schools remain remote or hybrid despite no scientific basis for this decision. And we heard again this week that schools in certain states are going back to hybrid learning because of the Omicron variant, which to this point has had very little fatalities.

In addition to which, when I was touring in some areas of my district yesterday, I learned that one of the school systems in a rural area closed down for a week for mental health reasons for the faculty, not for the students. And that put a burden then on those individual childcare providers and parents who were in that school system.

So, for even those schools that are in person, many are forcing children to wear masks, even though there is no study that shows masks on their own provide any additional protection for children.

Dr. Makary, do you have any studies which show the efficacy of masking children in school?

Dr. MAKARY. No. The topic of masking children has not been studied with any formal randomized control trial. The data that we are relying on are really from adults, and that's—the largest custom randomized control trial was conducted by researchers at Stanford University, and they found that basically a cloth mask had almost a negligible benefit. A surgical mask had a roughly 11 percent reduction in transmission, and higher quality masks were higher.

Now, I don't love that study design, but it's all we have to work on. And basically we've imposed the covering of faces of 52 million school aged children with very weak data.

Mrs. Miller-Meeks. And are there some evidence-based consequences of masking children in schools?

Dr. MAKARY. Certainly if you talk to those who are speech pathologists, guidance counselors, if you look at mental health disorders in kids, it's got to play a factor.

And the Brown University study that showed that developmental aspects of childhood are being significantlly hindered in those who have gone to school during the era of masks being worn in school. That was very validating to many frontline people who have had concerns.

Some kids do great with masks. Some kids struggle. A quarter of kids wear glasses, and it fogs up the glasses many times. So, it's easy to say my kid does well with the mask and, therefore, everyone should wear it. Come to inner city Baltimore and take a look at the kids who are not in school or in school wearing a mask and trying to learn on an iPad with glasses on. It's an entirely different situation than somebody who has got private tutors for their kids in the Hamptons with a $10,000 Zoom suite.

Mrs. Miller-Meeks. And, you know, Dr. Makary, like you and like our other panelists, I'm fully vaccinated. I've given vaccines in all 24 of the counties in my congressional district. But I think we've brought up a very important point in this hearing is that I have asked Dr. Fauci and Dr. Walensky on hearings of this subcommittee, we had five public health experts just recently in this hearing ask them about infection-acquired immunity, asked them about the Israeli study, and all of them were less than supportive of evidence-based data that has come out about infection-acquired immunity.

I put forward a bill to mandate all insurance, both private and Federal, cover for serology testing for human antibodies and also T-cell antibodies because we know the T-cell immunity is stronger and lasts longer. But, yet, as you are indicating, when we are talking about trying to globally vaccinating countries, we are vaccinating now children 16 to 17 and recommending boosters for individuals who may already have immunity rather than recommending testing for that.

We don't know in children because the CDC—and I've asked this of Dr. Walensky, you know, for those children who have died of COVID 19, what were their risk factors? What were their vulnerabilities? That's information we should know before recommending that every child be vaccinated from the ages of 5 to 12 or 5 to 11 and then recommending boosters. Because, as I think you indicated, would you agree those boosters could be doses that could go overseas to other countries in order to increase the rates of immunization?

Chairman CLYBURN. The gentlelady's time has expired.

The chair now recognizes Mr. Foster for five minutes.

Mr. FOSTER. Thank you.

Am I audible and visible here, Mr. Chair?

Chairman CLYBURN. Yes.

Mr. FOSTER. Thank you.

So, Dr. Khan, we've heard a lot of speculations about how maybe we would be better off with a national response that focused on natural immunity rather than vaccination.

And so if we had adopted that sort of approach, which is pretty much what Third World countries are forced to do because they don't have access to vaccine, if we had adopted that approach, what would it have meant in terms of patient overflow in emergency rooms and ICUs? What would it have meant in terms of the burnout of medical personnel?

Dr. KHAN. Thank you, Representative Foster.

We did adopt this strategy. This is the Great Barrington Death Declaration, Scott Atlas Strategy of Natural Immunity.

There's a reason in the English language we say, "Avoid it like the plague," because in no other plague have we ever said, Let's go out and get infected. Yes. So, the trouble with natural immunity is you have to get infected to get natural immunity, which makes you either dead or have long COVID or other complications, causing orphans causes often, et cetera, overwhelms healthcare systems.

But let me step back, Representative. I'm big fan of immunity, innate immunity, natural immunity, acquired immunity. Love all of them; love B cells, T cells, probably have some love for dendritic cells too. But what really beats all of those is hybrid immunity, and the data is unequivocal with hybrid immunity. Right? Nice. CDC study in Kentucky, May and June of last—of this year. Two-point-three percent less likely to get infected if you were previously infected and vaccinated versus just previously infected.

And even Israel that we like to talk about, I think they only give you 3 to 6 months before they say, sorry, you have to get vaccinated. With the Omicron variant, we are seeing the data has clearly coming out with the Omicron variant. Natural immunity is

not as good with the Omicron variant and overcomes very easily. So, that 3 to 6 months will probably go away also.

So, what's better is hybrid immunity. So if you have been naturally infected, get infected. I may also add—and I want to thank Dr. Makary for the data. So, over half of Americans have already probably been infected in some way, shape, or form. You add in 200 million people who have at least been fully vaccinated, so essentially everybody in America has some version of fully vaccinated or natural immunity, In which case why do we have any cases anymore? We should have zero disease in America if you have combination of vaccinated and natural immunity.

So, this continued misinformation and false god of natural immunity is one of the reasons why we have the military deployed to hospitals across America to say, Please help us. It's why we have healthcare burnout. And institutions are in trouble not because of the interventions of vaccination, masking, social distancing, isolation, and quarantine. Institutions are in trouble because of the disease which we respond to with good better public health measures.

Mr. FOSTER. Yes. Thank you. And——

Dr. KHAN. So, we need to get people vaccinated.

Mr. FOSTER. Thank you.

Now, we've also heard that masking may be as small as 11 percent effective. OK. Now, that sounds like maybe a small number, but that means that this virus, first off, has to find a new victim or die every week or two. OK.

So, now that means if it's 11 percent effective, then you have only 89 percent of the virus that will be transmitted in the next generation. One generation it will be 89 percent squared, the next one cubed, and on and on and on. After ten generations, 10 weeks afterwards, you will find that 70 percent of the virus has been wiped out by masking, which is why you see at the country comparison level masking is so effective and as a general public health precaution.

So, 11 percent, even if the number is that low, is nothing to be sneezed at in terms of the public health impact.

Now, also we've heard the claim made that somehow the administration is not interested in natural immunity, and I can tell you they are very focused on it, particularly in terms of the Omicron and what that will mean.

Now, the multiplication factor seems to be about every three days, the doubling time, every three days. That means that if it's every three days, after one month, it's a factor of a thousand. So, one case will turn into a thousand cases; after two months, a million cases; after three months, a billion cases. The likelihood is that within the next three months, most of humanity will be expected by this. And it is a matter of crucial concern that I can tell you from the very—from the top of the administration and understanding why whether that will provide some level of cost immunity to the Delta variant, which is apparently the lethal version of it.

And so I just want to put that out there, that there is no shortage of interest in the implications of cross-immunity to the Omicron virus in the administration. It is going to be a crucial issue and officials at the highest level are working on it.

I guess my time is up at this point, and I yield back.

Chairman CLYBURN. Thank you.

Mr. FOSTER. OK.

Chairman CLYBURN. Thank you for yielding back.

The chair now recognizes Mr. Krishnamoorthi for five minutes.

Mr. KRISHNAMOORTHI. Can you hear me now?

Chairman CLYBURN. Yes, I hear you now.

Mr. KRISHNAMOORTHI. OK. Great. Thank you, Mr. Chair.

I'm the cochair of the Global Vaccination Caucus in Congress, so this is a very important hearing.

Let me first ask Professor Russ, Dr. Russ, it's correct that vaccinations abroad could relieve supply chain disruptions? Correct?

Dr. RUSS. Yes; in two ways.

Mr. KRISHNAMOORTHI. Let me—I want to just build on this question.

And reducing supply side disruptions will in part tamp down price inflation? Correct?

Dr. RUSS. Yes.

Mr. KRISHNAMOORTHI. And, therefore, global vaccinations would help fight inflation? Right?

Dr. RUSS. Yes.

Mr. KRISHNAMOORTHI. Do you have an estimate of how much inflation would go down because of global vaccinations?

Dr. RUSS. No.

Mr. KRISHNAMOORTHI. Would it be a substantial portion of the inflation that we see?

Dr. RUSS. It's hard to tell. The relationship between the price of imports and the impact on our domestic inflation is not linear. So, if you think about the contribution of the shortage in semiconductors, it generated these shutdowns in U.S. auto production that contributed to keeping prices high on autos in the United States.

Right now autos contribute to one-fifth of the inflation that we are seeing. That's not all because of the vaccine-related supply disruptions.

Mr. KRISHNAMOORTHI. I understand, I understand.

Dr. Udayakumar, a new study came out from South Africa today suggesting that the Omicron variant may cause less severe disease, and they found a 29 percent lower risk of hospitalization. However, they also found that in the U.K. members of the same household were three times more likely to pass on Omicron than Delta.

So, if we have 29 percent fewer hospitalizations but three times more people infected, that would produce more hospitalizations overall and would potentially overwhelm hospitals in this country, would it not?

Dr. UDAYAKUMAR. Yes, Representative Krishnamoorthi, it's exactly right. We like to think about transmissibility, immune evasion, and severity as different variables that impact, and certainly the significant increase in transmissibility is quite worrisome.

Mr. KRISHNAMOORTHI. So, since the Delta variant became the dominant variant in the U.S. in July, almost 200,000 people have died from COVID–19 in this country. Given that the two-dose vaccine regimen is less effective against Omicron and natural immunity is less protective against reinfection with Omicron and it's significantly more transmissible—yes or no question—are we likely to

see tens of thousands of deaths in the U.S. alone because of Omicron?

Dr. UDAYAKUMAR. I would say it's probably too early to tell because we don't really know the questions around severity, but it is likely that we will see that level of deaths in the U.S. over the coming months.

Mr. KRISHNAMOORTHI. So, one of the things that I'm pushing, along with my co chairs of the Global Vaccination Caucus, is $17 billion more in Fiscal Year 2022 appropriations for the scaling up of manufacturing capacity of vaccines.

And what I wanted to ask you is, would you agree that this additional $17 billion for the purchase of vaccines, as well as the scaling up of vaccine capacity, is needed right now to combat the lack of vaccinations globally?

Dr. UDAYAKUMAR. Yes, Representative Krishnamoorthi, we are still tens of billions of dollars short in the global response.

I would just note, in addition to vaccine manufacturing and purchases, the additional bottleneck going into 2022 is really going to be on the delivery side. So, country level readiness is also something we need to invest significantly in, in the billions of dollars.

Mr. KRISHNAMOORTHI. I'm glad you brought that up. So, I have introduced legislation called NOVID. It's a play on words; no more COVID. One-hundred of my colleagues and I urge that this be adopted as part of our legislative process going forward to help make sure that we combat the problem of a lack of vaccines abroad.

Let me—Dr. Ali Khan, you know, I read in a recent piece by Dr. Makary that back in the spring of last year natural immunity apparently had reached a very high level. And he said, quote, I expect COVID will be mostly gone by April 2021.

That wasn't the case, was it?

Dr. KHAN. No, it wasn't. And anybody who was a field epidemiologist, public health expert would have known that.

Mr. KRISHNAMOORTHI. Thank you.

I yield back.

Chairman CLYBURN. I thank the gentleman for yielding back.

I do not see any others here. Am I missing somebody?

It is now time for me to yield to the ranking member for whatever closing statement he may want to make. Is the ranking member available for his closing statement?

Mr. SCALISE. Like on queue, Mr. Chairman. I appreciate that.

Between votes we were able to pull this hearing off too. So, I appreciate all of the witnesses for bearing with us and for bringing your different viewpoints to mind; you as well, Mr. Chairman.

And, obviously, when we look at where we are on COVID with yet another variant that's come, we've seen different approaches by different states, and I think some states have shown the way for how you can confront the virus while also maintaining people's own rights and freedoms and the ability for people to live their lives, to keep their businesses open, to keep their jobs.

And, unfortunately, I think one of the things that we've been very frustrated by is that it seems, coming out of the Biden administration, it has been more of a one-size-fits-all approach and more

of a top down kind of bullying, shaming approach just on vaccine mandates.

And, again, to show the President, has tried and been blocked by courts all across this country on these mandates. The courts have said you can't fire people in the healthcare industry, for example, if they don't get a vaccine. You can't fire people that work for a company with over 100 employees if they don't get the vaccine

You can't fire someone who's a government contractor.

But it's just alarming that President Biden's main focus seems to be trying to get people fired from their jobs as opposed to putting more time and effort into some of these alternatives. And I'm glad we've started to discuss them. You know, what do immunities really provide you? For how long do those immunities really last? And for someone who says they don't want to get a vaccine, I'm vaccinated. I think most of our members are vaccinated and have encouraged other people to get vaccinated.

But we also see that there are segments of our country that don't want to get vaccinated, and it's not all Trump supporters. It's people in every community, in African-American communities, in Hispanic communities, across the political spectrum. It's not a political issue. It's a personal choice. And people are making that personal choice with the facts.

You know, let's first get them the facts and let's trust the science. But it seems like science is getting thrown out the window when it doesn't meet a narrative. And we really should be putting more time into looking into those questions. You know, what are alternative therapies that aren't being researched right now that could help protect and keep people safer while also maintaining their freedoms, the ability for people to go about their lives again?

You know, this idea that some states just want to shut everything down is not—it's not realistic, and it ignores where many people are in their lives. Like, let's look at the models of places where it's worked well. Many states have done it much better than other states.

Those are the kind of discussions we ought to be having. Bring in scientists that have different viewpoints so that we can hear how we can put more ideas on the table. I don't see enough of that happening. And, once again, I will say we ought to have a hearing to investigate the origin of COVID–19 to see what really happened, why the world wasn't told the truth, how many lives could have been saved, and how we can prevent something like this from happening again.

So, I appreciate the testimony we've had.

Mr. Chairman, I'll see you on the floor in a little while.

With that, I yield back the balance of my time.

Chairman CLYBURN. I thank the ranking member for yielding back. Thank you so much.

Let me thank all of you for being with us today, all of the witnesses today. In closing, I want to say that we appreciate your insight, your expertise, and your advice on the urgent need to accelerate vaccinations around the world.

I often quote Dr. Martin Luther King, Jr.'s letter from the Birmingham City Jail for various reasons. Today I wish to quote his statement that "Injustice anywhere is a threat to justice every-

where. We are caught in an inescapable network of neutrality, tied in a single garment of destiny. Whatever affects one directly, affects all indirectly."

On no subject is that statement more clearly true than the subject of vaccinating the world against the coronavirus. The injustice facing those who still lack access to a vaccine is a threat to justice everywhere in the world, including here in the United States. It's a threat to health justice, and it's a threat to economic justice.

As we have heard from today's witnesses, the only way to end this crisis once and for all, for all everywhere, is to make sure that the United States continues to support global vaccination efforts so the virus cannot spread unchecked anywhere.

We have the tools to end this pandemic. Vaccines and boosters are highly effective at preventing hospitalization and death and curbing the spread of the virus. But it will only work if people can have access to them. As we continue urging fellow Americans to take advantage of these lifesaving vaccines, we must dedicate the necessary resources to allow everybody in the world to access them. Their lives and livelihoods depend on our efforts. The American lives and livelihoods depend on our efforts.

To protect the lives and livelihoods of all of us caught in the escapable network of neutrality, tied in a single garment of desolate, we must achieve a global solution to this global problem by accelerating vaccinations across the world.

With that, without, objection, all members will have five legislative days within which to submit additional written questions for the witnesses to the chair, which will be forwarded to the witnesses for their response.

This hearing is adjourned.

[Whereupon, at 4:04 p.m., the committee was adjourned.]

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