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## Global Vaccine Equity

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Increasing access to vaccines worldwide must be an integral component of an effective global infection mitigation strategy. The Omicron variant led to worldwide spikes in COVID-19 infection rates and related deaths. We will likely see similar spikes in the coming years unless disparities in vaccine access, capacity, development, and technology are addressed.

COVID-19 infection rates declined in 2021, mainly in wealthier nations with greater access to vaccines, the infrastructure to diagnose the virus, and facilities to treat it. But pockets of the world with low vaccination rates remain hotbeds for variants like Delta and Omicron, which often prove to be more resilient to base levels of vaccination. Vaccine hesitancy among some groups notwithstanding, the [evidence suggests](#) increased vaccination rates slow the propagation of COVID-19 and reduce the number and frequencies of emergent variants.

### **What are the Hurdles to Global Vaccine Access?**

**Sanctions:** Countries under United States sanctions face an inhumane obstacle in fighting the pandemic. U.S. sanctions make it difficult for countries to import resources, such as masks, ventilators, hand sanitizers, testing kits, and medicine. A Temporary General License (TGL) issued by the Treasury Department would outline certain exemptions to sanctions. In most instances, a TGL is considered or issued to provide humanitarian relief during times of crisis or disasters. In 2003, the George W. Bush Administration issued a TGL to Iran to receive supplies in the wake of a devastating earthquake. Issuing a worldwide TGL would allow COVID-19 related humanitarian aid and the distribution of vaccines to U.S.-sanctioned countries.

Some countries subject to U.S. sanctions, such as Iran, are also under a "secondary sanctions" regime. A "secondary sanctions" regime means that any government, entity, multilateral institution, individual, humanitarian aid organization, etc., that does business with a sanctioned country and imports and exports goods and services would also be hit with U.S. sanctions. Because of the power of the U.S. dollar, other institutions generally don't risk their economic relations with the U.S. and cease activity with countries under secondary sanctions. A TGL would help provide exporters, banks, and humanitarian organizations assurance that they would not be penalized with secondary sanctions for sending critical supplies to fight COVID-19.

In November 2020, 73 Members of Congress and Senators [urged](#) the then Trump Administration to issue a global TGL so that countries could import resources to fight COVID-19. It was not until [June 17, 2021](#), under the Biden Administration, that a TGL was issued. However, it was not global; it only applied to Iran, Syria, and Venezuela.

This TGL is a critical first step in ensuring that some of the most heavily sanctioned countries in the world receive humanitarian aid and COVID-19 resources. However, to ensure that every person is vaccinated against COVID-19 and new potentially more lethal variants don't emerge, the U.S. must issue a global TGL so that all countries can import the vaccine and administer them.

**TRIPS:** Another obstacle in ensuring global vaccine access is the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). TRIPS originates from negotiations in 1989 and 1990 at the end of the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) under the World Trade Organization (WTO). Among other things, TRIPS is notable in that it is the first instance of intellectual property rights coming to bear in organized global trade agreements. Under TRIPS, WTO member nations grant copyright protection across a range of products. Certain products are exempted from intellectual property protection via TRIPS waivers. These waivers are agreements between member nations on copyrights for medical products made eligible for an exemption in the WTO's Doha Declaration, the stated goal of which is "[to promote access to medicines for all.](#)"

**European Opposition to the TRIPS Waiver:** Almost from the onset of the COVID-19 pandemic and as vaccines were developed, numerous experts and activists called for WTO member nations to approve a TRIPS waiver for the COVID-19 vaccine. Initially proposed by India and South Africa, the waiver gained support, and in May 2021, President Biden announced U.S. support for greater access. Despite this, [evidence indicates](#) that the U.S. has not actively pushed the proposal forward. Additionally, some European parties have voiced opposition to granting a waiver.

In May 2021, the German parliament overwhelmingly [rejected](#) a motion that would call on the German government to support the TRIPS waiver. This vote came one day after the Biden Administration announced U.S. support. One reason Germany has remained a strong opponent of the TRIPS waiver is due to its vast and successful biotechnology industry, which generated [€4.87 billion \(\\$5.47 billion\)](#) in 2019. Between April and June 2021, BioNTech alone earned [€5.3 billion \(\\$6.29 billion\)](#), with revenue expected to increase significantly as more countries purchase and administer the Pfizer-BioNTech COVID-19 vaccine. In addition to protecting its biotechnology industry, Germany opposed the TRIPS waiver because it claims the waiver would impede innovation, and quality standards would suffer.

The European Commission, led by Germany, has opposed the TRIPS waiver, stating that a waiver would not allow poorer countries to manufacture the vaccine in high quantities overnight because of the need to establish production capacity and organize supply chains. The E.U. advocates for an [alternate proposal](#), which critics say effectively maintain the status quo. Despite opposition from the European Commission, the European Parliament voted in [favor](#) of the TRIPS waiver shortly after India and South Africa initially submitted their request. French President, Emmanuel Macron, has also expressed [support](#) for the TRIPS waiver.

European Commission President Ursula von der Leyen has emphasized that I.P. waivers are meaningless without technology transfers. If patents are waived, allowing

countries to manufacture the vaccine -- but without transferring the technological skills, equipment, and resources needed --the vaccine cannot be made, and the patent waiver is rendered meaningless. Germany's Development Minister, [Gerd Müller](#), expressed a similar sentiment. Proponents of the TRIPS waiver also emphasize the need for technology transfers. In July 2021, Pfizer-BioNTech announced a partnership with South African biopharmaceutical company, [Biovac](#), to assist with the production of the final stage of the COVID-19 vaccine. Experts have [argued](#) that this focus on the final manufacturing stage does not include technology transfers and keeps Africa reliant on the international community for vaccine assistance instead of helping it become self-sufficient.

In addition to Germany and the E.U., the United Kingdom has also expressed its opposition to the TRIPS waiver. The U.K.'s protection over Vaccitech and Oxford University, which created the World Health Organization (WHO) approved Oxford-AstraZeneca vaccine, is similar to Germany's protection over BioNTech. Additionally, the U.K. government [claims](#) that an intellectual property waiver would hinder innovation stating there has been no evidence that the lack of a waiver has prevented a country from accessing the vaccine, despite the existence of a [preponderance of just that](#). Continued calls for the TRIPS waiver and pressure by the U.S. and other nations could help sway countries that continue to resist granting the waiver.

**Intellectual Property Rights and Profit Margins:** A major obstacle in global vaccine equity has been the greed of pharmaceutical companies. By insisting on selling vaccines, instead of donating them to emerging countries or sharing the technologies needed to produce them, pharmaceutical companies have hindered access to countries that cannot afford them. This practice perpetuates the pandemic and risks the creation of new and more lethal variants, ones that could render current vaccines useless.

Pfizer, for instance, [pledged](#) to sell 1 billion COVID-19 vaccine doses in 2021 to low- and middle-income countries and an additional 1 billion in 2022. Under the agreement, low-income countries would pay a not-for-profit price, while middle-income countries would be offered the vaccines at roughly half the cost of wealthier countries. Moderna has also [stated](#) that the price for its COVID-19 vaccine for low-income countries is lower than what it charges the U.S. government. Despite the lower rates, many countries [could still not afford it](#) and relied on donations from wealthy nations or COVAX.

Pfizer has [stated](#) that it is working with rich governments to reach agreements to buy not-for-profit vaccines and donate them to low and middle income. These agreements exemplify corporate concerns of losing profit by donating, despite helping end the pandemic and save lives. To ensure pharmaceutical companies still profit, they will sell vaccines at lower rates to wealthy nations for wealthy nations to distribute to poorer ones, instead of pharmaceutical companies donating the vaccines themselves.

The cost of the Pfizer-BioNTech vaccine for wealthy nations is \$39 for two doses, which is an 80% [profit margin](#). Moderna's vaccine costs [\\$32](#) for two doses, Johnson & Johnson's single-dose costs \$10, and the Oxford/AstraZeneca vaccine costs [\\$3](#) per shot. The Biden Administration is paying about [\\$7](#) per shot for vaccines that it is buying to donate to other countries.

The development of the COVID-19 vaccines, and especially the highly effective mRNA technology, has led to record earnings for Pfizer and Moderna. Moderna made [\\$11.3 billion](#) between January-November 2021, and Pfizer closed its third quarter with total revenues of [\\$24.1 billion](#). Profits expectations are high in 2022 as more countries buy more vaccines. Despite record sales in 2021, Pfizer still hiked the prices of [125 drugs](#), showcasing the greed of pharmaceutical companies.

Vaccinating the world is ethical and cheaper than responding to the pandemic. The U.S. government has spent [\\$3.6 trillion](#) responding to the COVID-19 pandemic. While it is difficult to gauge the total global cost of the pandemic, experts have estimated that it will cost [\\$10.3 trillion](#) in 2020 and 2021. By contrast, a campaign to vaccinate the entire world would cost between [\\$50-\\$70 billion](#).

The revolutionary mRNA technology in the Moderna and Pfizer-BioNTech vaccines allowed a rapid medical response that curbed the spread of the virus. However, by refusing to share the technology with other companies and nations — particularly southern and non-wealthy economies — to increase profits, Moderna and other vaccine makers are limiting the total global supply of vaccines. Limiting supply leads to more infections and more variants and exemplifies a significant concern with prescription drug patents and manufacturing. The easing of intellectual property rights under a TRIPS waiver is crucial.

The U.S. government often contributes to the development of prescription drugs ostensibly for the common good but rarely can significantly impact pricing or distribution. Moderna alone has received almost [\\$10 billion from the U.S. government](#) to develop their vaccine in this particular case. Despite the U.S. commitment to the TRIPS waiver for the vaccine, Moderna and other vaccine makers have indicated no plans to share the technology.

Many pharmaceutical companies [claim](#) that the current voluntary licensing agreements and technology transfers are sufficient to provide vaccines globally. Yet proponents of the TRIPS waiver state that [voluntary licenses](#) are costly and inefficient. Most importantly, patent holders have been unwilling to license their intellectual property to vaccine manufacturers and share technology. In addition to intellectual property waivers, the U.S. and wealthy nations must compel pharmaceutical companies to share their knowledge and technology on COVID-19 vaccines through the WHO's [COVID-19 Technology Access Pool](#) (C-TAP). The WHO describes C-TAP as a "global one-stop-shop for developers of COVID-19 therapeutics, diagnostics, vaccines, and other health products." Forty-two members of Congress, led by Rep. Pramila Jayapal, voiced [support](#) for C-TAP. On March 3, 2022, the Biden Administration [announced](#) that it planned to share some COVID-19 technology with C-TAP.

Research and development funding to create the COVID-19 vaccines were funded mainly through [public money and taxpayer dollars](#), as with the [development of most prescription drugs](#). Yet now that the vaccine has been developed and administered worldwide, private pharmaceutical companies are reaping the profits for a product the [public paid](#) to develop. Pharmaceutical companies must be required to donate vaccines to emerging countries and share the technology for their production, and not just focus on profits to ensure global vaccine equity.

**Hoarding by Rich Countries:** Low-and-middle-income countries have been unable to vaccinate their populations because rich countries keep buying vaccines and hoarding them. In most wealthy countries, between [one-third to one-half](#) of vaccines purchased are unused. This number is expected to increase significantly because rich countries buy more and more vaccines every month, which leads to excess accumulation. The chart below shows the percentage of people vaccinated around the world and the number of doses administered.

<b>Income Cohort</b>	<b>Percentage of Population Fully Vaccinated</b>	<b>Number of Vaccine Doses Administered</b>
Low-Income Countries	7%	113.1 Million
Lower-Middle-Income Countries	45.7%	3.6 Billion
Upper-Middle-Income Countries	73.5%	4.7 Billion
High-Income Countries	73%	2.3 Billion
<b>Total Global Population</b>	<b>55.5%</b>	<b>10.7 Billion</b>

Source: One Campaign: [Data dive: The astoundingly unequal vaccine rollout](#)

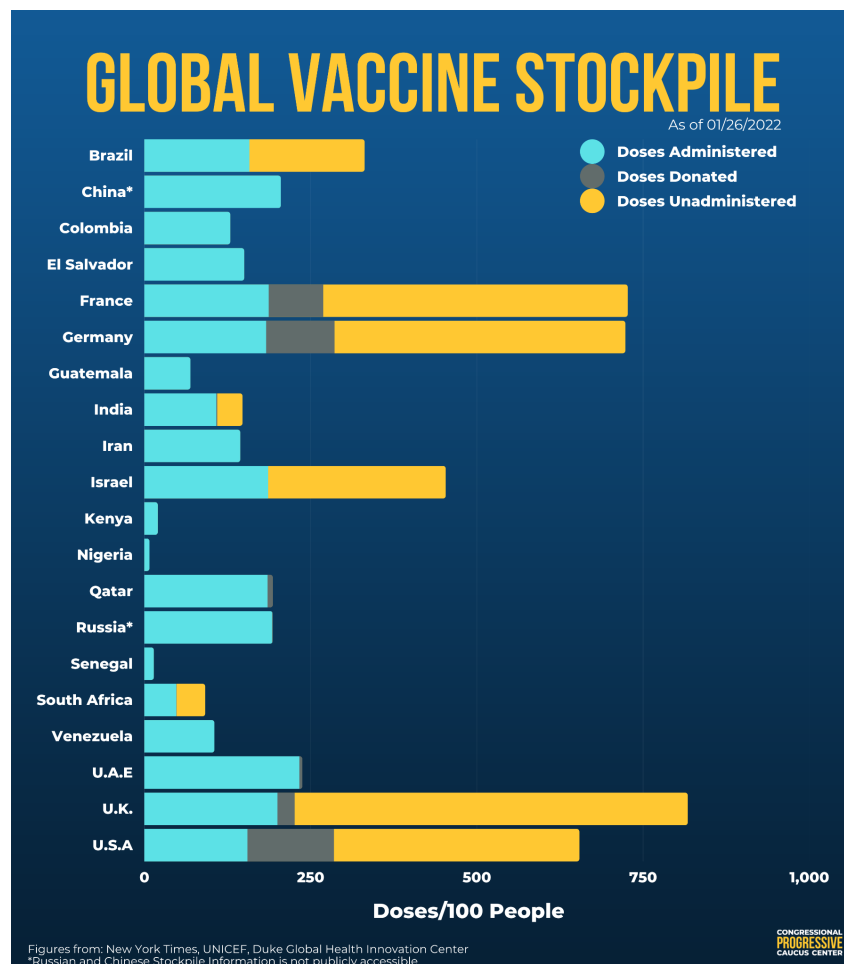
The WHO and leading medical experts state that to end the pandemic and ensure that more lethal variants do not emerge, at least 70% of the world's population needs to be vaccinated. Right now, that number is 55.5%, with most vaccines administered in wealthy countries. According to the WHO, high-income countries have administered [14 times](#) the number of doses as low-income countries. Fewer than 10% of the people in low-income countries have received at least [one dose](#), compared to 80% in high-income countries. Roughly [11 billion](#) shots are needed to vaccinate 70% of the world's population, but that target remains aspirational. For instance, the nations of Africa administered [403.4 million](#) doses, but that only translates to a full-vaccination rate of 12.4% across the continent.

The U.S. has donated a little over [400 million](#) doses to other countries, more than any

other nation. In recognition of the scale of the crisis, Democrats in Congress have called on the Biden Administration to provide an additional [\\$17 billion](#) in funding to help low-income countries fight the virus. The Biden Administration has requested [\\$4.25 billion](#) to help with global vaccine access through a new [Global VAX](#) program at USAID in a potential COVID-19 supplemental bill as well as donating more doses of the vaccine to other countries.

**Fiscal and Monetary Restraints:** Countries around the world have disproportionate capacities to respond to large-scale emergencies, and this pandemic has served to highlight these inequities. Without additional financial support to ramp up medical responses and social programs to address the pandemic, lower- and middle-income nations will continue to struggle to meet the scale and scope of the COVID-19 crisis.

To help countries meet the demands of the COVID-19 public health emergency, the International Monetary Fund (IMF) allocated an additional \$650 billion in special drawing rights - an international reserve asset - to over 80 nations to increase liquidity and aid in-country responses to the pandemic. Government bodies across the globe — including members of the U.S. House of Representatives who called for an additional [\\$1.5 trillion in special drawing rights](#) — have backed other allocations, in some cases on an annual basis until the pandemic ends. To further mitigate monetary constraints in emerging nations, the IMF could also re-channel funds from wealthier countries that do not need them to those that do.



## Vaccinations Around the World

The chart to the left breaks down the number of doses administered, the number of doses donated, and the number of doses unadministered in various countries worldwide.

### Vaccine hesitancy:

Vaccine hesitancy has played a significant role in the low number of doses administered in some countries. Many factors influence vaccine hesitancy, including political climate. Current and former heads of state, including the United States' Donald

Trump and Brazil's [Jair Bolsonaro](#), tacitly or whole-heartedly endorsed the anti-vaccination movement. Although vaccination rates in the U.S. and Brazil have been reasonably high, these countries still have vaccination rates [hovering around 60%](#) despite the number of doses available. Public health programs in Brazil have been able to [overcome Bolsonaro's anti-vaccine rhetoric](#) to an extent and vaccinate large populations, including 90% of the people of São Paulo. However, many groups are still skeptical of the vaccine despite readily available doses.

In addition to the political climate, several countries have suffered from misinformation in traditional and social media. Misinformation around COVID-19 and the vaccine led platforms like [YouTube](#) and [Twitter](#) to ban content creators for misleading information relating to COVID-19.

A general mistrust of public health systems has dissuaded people from taking the vaccine in some communities. In an August 2021 [survey](#) of residents of India, roughly 50% of the respondents said they were hesitant to or definitely not getting the vaccine due to rumors and misinformation about side effects. The CIA has previously operated [sham vaccination programs](#) in other countries that have contributed to vaccine hesitancy, most notably [Pakistan](#). And here in the U.S., historical atrocities that victimized Black people, such as the Tuskegee experiments or the [experiments on enslaved people that gave rise to modern gynecology](#), serve as an example of mistrust in public health programs among some in the African American community.

### **Multilateral Organizations and Vaccine Equity**

The leading multilateral organization working to ensure global vaccine equity is COVAX, which is an initiative led by [Gavi](#) (the Vaccine Alliance), the [Coalition for Epidemic Preparedness Innovations](#) (CEPI), the [World Health Organization](#) (WHO), and [UNICEF](#). COVAX's objective is to secure COVID-19 vaccines for developing countries by having rich countries subsidize the costs. To date, 170 countries have agreed to support COVAX, and it has [secured 2.8 billion doses](#) and shipped over [1 billion COVID-19 vaccines](#) to 144 countries.

Because COVAX relies on donations from rich countries, it has not been entirely successful in getting vaccines to emerging countries because rich countries keep hoarding vaccines. Additionally, wealthy countries continue to cut [supply deals](#) directly with pharmaceutical companies, limiting the supply of vaccines for poorer countries. Another problem COVAX runs into is that many of the donations it receives come in [small quantities](#), typically on the verge of expiration, hindering the ability to get the vaccines to the people who need them in time.

Pharmaceutical companies' greed also impacted donations to COVAX. [Moderna](#) and other pharmaceutical companies did not deliver according to their [contractual obligations](#) with COVAX. Pfizer sold, rather than donated, [40 million](#) doses to COVAX, which is just [1%](#) of its supplies, to ensure that it would not lose any profit. Moderna has only provided [one million](#) doses to low-income countries.

Another multilateral effort to address vaccine equity is the [African Vaccine Acquisition Trust](#) (AVAT), established by the African Union. AVAT's objective is to complement initiatives such as COVAX and ensure widespread access to the COVID-19 vaccine in Africa, which currently has about 12.4% of its population fully vaccinated. It aims to administer the vaccine to 60% of Africa's population. UNICEF works with AVAT to secure and distribute COVID-19 vaccines and provides logistical support for countries that request it. However, as with COVAX, many donations have been given with [little notice](#) and short shelf-life, making it difficult for African countries to mobilize domestic resources to administer vaccines. Donations on short notice have also contributed to [vaccine hesitancy](#).

### **Conclusion**

The vaccines developed to fight the COVID-19 outbreak successfully prevented a horrible worldwide crisis from becoming even worse. However, the world's wealthy nations were the first to benefit from the vaccines and continue to enjoy the greatest access to second doses and boosters. Low-and-middle-income nations did not have the same level of access as [wealthier countries](#). The lack of vaccine access is a critical factor in the emergence of new waves of COVID-19 infections variants. To lower infections and deaths at the national level, we must engage in global cooperation to ensure that at least 70% of the global population is fully vaccinated. The recent [letter](#) from Congressional Democrats calling for \$17 billion in support of global vaccination access is a good step in the right direction. But the world's nations must agree to compel pharmaceutical companies to share the technologies behind these and future vaccines and medicines. Otherwise, we will continue to find ourselves grappling with new variants, suffering economic shock after economic shock, and struggling to live in a world in which COVID-19 outbreaks don't run rampant.

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