



EVALUATING INTERNATIONAL HEALTH AND EDUCATION LAW: INEQUALITY DURING COVID-19

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Abstract

The COVID-19 crisis revealed larger gaps between inequalities for the access of essential resources, especially vaccines and education, between developing and developed countries. This research paper hopes to examine whether the current international legal law under organizations such as the WHO (World Health Organization) and UNESCO were enabled to provide fair access to resources during a worldwide pandemic. Using a research and literature-based analysis of international laws, weak frameworks, and scholarly interpretations published before, during, and after the pandemic, the study discusses the effectiveness of legal laws controlling global health and education. While international law does focus the access to healthcare and learning essential, these frameworks mostly depend too much on continuous realization, collaboration, and unenforceable recommendation. Case studies focusing on COVAX vaccines spreading and education systems in Sub-Saharan Africa displays the lack of right for authority to allow richer countries to focus more on national interest within vaccine distribution and stronger digital education architecture frameworks without crossing international law's interests. The paper concludes with the result that pandemic-era disparities were pressured not only by organizations' failure, but also due to the structural constraints of international legal law. It states that without legal techniques, emergency funding, and required burden-sharing, international organizations still stay incapable of correcting global inequalities during emergency crises, undermining the need for legal change in global health and educational systems.

Keywords

International Law; COVID-19; Vaccine Inequality; Education Inequality; WHO; UNESCO

Introduction

The progress of life expectancy has always depended on our ability to discover cures and treatments that could save not only individuals, but entire populations. Behind every medical crisis or disease, there are international efforts to guarantee vaccines globally that can change the trajectory of a health crisis. Throughout history, some of the deadliest epidemics have devastated populations, such as Antonine Plague (165 – 180 AD), the Black Death (1346 – 1353), the seven cholera pandemics (1817 – present), HIV/AIDS (1981 – present), and Severe Acute Respiratory Syndrome (SARS) (2002 – 2003) (Sampath et al. 2021). In each case, the effort to introduce cures to larger populations shows the importance of global health, laying the foundation for modern vaccine distribution. Similarly, the COVID-19 pandemic showed how international legal frameworks influenced the distribution of vaccines. Moreover, as schools closed and education systems shifted to remote learning, education became unevenly distributed, leaving disparities as global issues remained unresolved. However, the disparities between developed and developing states were not entirely addressed during the pandemic. Despite these challenges, the global distribution of education and vaccines is essential in times of health crisis.



Methods

A search for relevant literature was conducted using Google Scholar, with a focus on papers published in the last five years, by searching the keywords vaccine access, WHO, UNESCO, education, equality, and COVID-19. This method yielded relevant papers, mostly perspectives and evaluations of existing legal frameworks by scholars, and the papers were categorized based on chronological order. There were three groups for analysis: before the pandemic, during the pandemic, and after the pandemic. These were research publications freely accessible to the public. In addition, international institutions' websites were also utilized to locate primary sources.

Literature Review

The COVID-19 pandemic showed inequalities in access to essential public goods such as education and pharmaceutical resources between developed and developing countries. According to the UN Trade and Development (UNCTAD) website, countries could be classified into developed and developing countries based on their economies (UNCTAD 2025). This economic classification helps explain why access to education systems and vaccines differed significantly during the pandemic. Since the classification is based on each country's income levels, infrastructure qualities, healthcare capabilities, and organizational empowerments, it becomes a stress test for all international governance systems, divulging long-term structural disparities in both educational and healthcare access. According to the literature review, several inequalities were not recently made by COVID-19 but instead, intensified by the pandemic (Education Monitoring Report 2020) (Lennox et al. 2021).

I. Access to Vaccines

Before COVID-19, international law already recognized the importance of sharing knowledge and health-related resources. Article 15 of the Universal Declaration on Bioethics and Human Rights (2005) established that scientific knowledge should be shared globally, especially with developing countries, supporting access to healthcare and technology like vaccines before the pandemic. Nevertheless, it was not a treaty and did not create legal obligations for the members of UNESCO (UNESCO 2006).

Furthermore, based on existing laws, in Human Rights and Access to COVID-19 Vaccines, the United Nations Human Rights Organization demanded that countries treat vaccines as a global public good immediately following the outbreak of the COVID-19 pandemic. To achieve this, it suggested nations must engage in international cooperation by sharing scientific knowledge and avoid accumulating resources by certain countries. Also, states should be required to use transport protocols to include everyone in vaccine distribution plans and provide accessible health information in various languages to fill the digital gap between countries (United Nations Human Rights Organization 2020).

Supporting the declaration, scholars claimed that wealthy nations used Advance Purchase Agreement to secure vaccines in advance and implement export controls that prevent vaccine distributions to other countries during COVID-19 in 2020, increasing the health gap between developed and developing countries. Poorer nations generally lacked the financial resources to compete in the high-demand vaccine market and the legal power to challenge wealthy nations. To solve this, the scholars recommended shifting toward multilateral agreements like the COVAX and creating international frameworks that treat vaccines as public goods rather than products for the highest bidder (Phelan et al. 2020).

However, scholars investigated whether this legal framework worked in practice during and after the pandemic and discovered flaws, proposing new solutions. Scholarly evaluations of COVID-19 outcomes include Emory International Law Review during the pandemic, where it claims that wealthy nations use their wealth to accumulate the vaccine supply through private contracts, while some developing nations claimed "ownership" over virus samples to demand a fairer share of the resulting medicine. The article also suggested that a permanent pandemic treaty could fix these issues by creating binding rules that require



all nations to share information and health goods more fairly during a crisis (Halabi and Santos Rutschman 2021).

Benavides claimed that international laws prioritized protecting profits and patents, allowing wealthy countries to buy and hoard vaccine supplies (Benavides et al. 2023). Similarly, Akcali Gur argued that international law failed to guarantee fair access because it lacks binding rules for sharing technology and allows powerful states to prioritize their own economic goals (Berna Akcali Gur and Kulesza 2024). Likewise, Agampodi also claimed that intellectual property laws protect private patents and enabled vaccine nationalism through bilateral legal agreements (Suneth Agampodi et al. 2024). Thus, many scholars agree that international law failed during COVID-19 because it lacked enforceable, binding mechanisms to override national self-interests.

In response to these widely identified legal failures, international organizations attempted to reform the global legal framework by developing COVID-19 specific mechanisms targeted at correcting inequities in vaccine access across countries. During the COVID-19 pandemic the World Health Organization launched COVAX as a historic multilateral effort to ensure vaccine equity though it depended on donations and surplus sharing and concluded on 31 December 2023 (WHO 2020). After the pandemic, in May 2025, the WHO Pandemic Agreement introduced Article 11 to promote technology sharing and lower patent barriers for manufacturers in developing countries ("WHO Pandemic Agreement" 2025). Building on this approach the World Health Assembly adopted a pandemic agreement that established the Pathogen Access and Benefit Sharing system requiring manufacturers to give the WHO 20 percent of vaccines and treatments during emergencies and creating a Global Supply Chain and Logistics Network while still ensuring national sovereignty (WHO 2025). However, these new legal frameworks remain largely non-binding, making it necessary to examine other cases to evaluate whether they are truly effective in correcting global inequities.

II. Access to Education

Existing research on pandemic-era education emphasizes how school closures worldwide disproportionately impacted developing nations. According to the UNESCO management reports and diverse education case studies, low access of support towards internet connectivity levels, different access to devices, and inefficient teacher education led remote learning to become inequitable for large portions of the low-income countries. (Education Monitoring Report 2020) On the other hand, studies directed on the wealthy nations such as the United States, describe that pre-existing infrastructures were stronger and digital learning applications were already in place for a faster shift towards online education, even being inclusive towards all inequalities existing within those communities (Education in a Post-COVID World 2020).

Experts analyzing the international human rights law highlight that the right to education is still being firmly acknowledged throughout instruments such as the ICESCR and UNESCO frameworks. UNESCO's Right to Education Handbook and General Comment Number 13, the right to be educated is generalized through the 4 values: availability, accessibility, acceptability, and adaptability (UNESCO 1999). But, several scholars ground their research that standards aren't met during the crisis because of the weak enforcement techniques, especially in the global standard.

Throughout works of health related scholars, especially the WHO, comments describing vaccine inequalities could be identified. According to public health and international law scholars, techniques such as COVAX were unsuccessful in providing equal access to education due to their reliance too much on necessary voluntary help and overlooking the high payments made by wealthy countries (WHO 2021). These results provide ideas that international organizations were lacking the proper power when it came to compelling with fair expansion, responding to the real weaknesses identified in governing systems.

Different authors compared unsuccessful results of vaccine expansion with failures of education structures. According to several governance analyses, both results were mainly structured around weak laws, policy instructions, and non-regulated frameworks (Burnett 2015). Most scholars define that while these



approaches may create useful standards, it was proven inefficient during an urgent global era that needed harsh obligations and reexpansion of materials, especially vaccines.

The UNESCO Education 2030 Framework, utilized before COVID-19, is incredibly ambitious but systematically limited (UNESCO 2024). The framework mainly commits countries to SDG 4 targets, including making sure that quality education is inclusive towards everyone, expanding ICT access, and decreasing inequality rates throughout education outcomes by 2030.

However, evaluations published during and post pandemic provide an idea that UNESCO lacked techniques to strengthen these goals when school closings happened. More specifically, the framework did not provide legal requirements or emergency financing to talk about unequal digital infrastructure, making low-income countries suffer with limited resources such as lack of teacher training to meet SDG 4.1 and 4.a targets (Sustainability 2020).

Critical articles going over post-pandemic standards identify that international institutions such as UNESCO have increased attention towards remote learning, its resilience, and preparation for the crisis. On the other hand, according to critical policy analytics, the newer policies still rely highly on voluntary compliance and extra funding, which raises continuous criticism about the court's capability to highlight structural disparity in future crises.

III. Conclusion

Overall, the COVID-19 pandemic demonstrated how UNESCO and WHO failed to provide binding force and implement enforcement mechanisms, preventing developing countries from having equitable access to education and vaccines. Despite ethical considerations and post-pandemic reforms, international laws continued to lack enforcement and let developed countries to perform voluntary cooperation, leaving inequalities unresolved.

Statements of Hypothesis

H1: Existing international legal frameworks failed to ensure equitable access to vaccines and education during the COVID-19 pandemic.

This hypothesis states that international laws may have failed to secure equitable access to COVID-19 vaccines and education between developing and developed states because existing legal frameworks lacked binding authority and effective enforcement. While international organizations promoted equal access to private resources like vaccines and remote education tools, commitments from developed countries remained voluntary. This may have allowed states to prioritize national self-interests through bilateral agreements and patent protections that could have influenced vaccine supply during the pandemic. As a result, a vaccine market shaped by economic self-interest and private patents could have contributed to disparities between developed and developing states. Likewise, in education, the absence of binding obligations under international frameworks may have contributed to unequal access to remote learning, showing disparities in access to educational resources and digital goods during the pandemic.

H2: International legal frameworks under the WHO and UNESCO lack the legal power to compel states to provide vaccines and ensure equitable access to education.

The WHO and UNESCO are represented as coordinating bodies across nations but may have lacked sufficient legal authorities to provide vaccines to developing states or ensure them equitable access to education. Their legal frameworks mostly rely on state consent and voluntarism rather than enforcement mechanisms unlike the Security Council, which may have limited compliance during the COVID-19 pandemic. Without binding powers or severe sanctions on developed countries, these wealthier states could choose whether to share resources or pursue economic benefits. In education, UNESCO also merely "recommended" international laws constructed for equality, which may have allowed states to respond differently to remote learning technology transfers based on interests in their own economy, showing



unequal access to online education and digital resources. This structural limitation may have reduced the effectiveness of global cooperation and efforts, allowing unequal vaccine and education distribution patterns to persist. Consequently, flaws in legal authority under the WHO and UNESCO could have contributed to disparities in vaccine access and educational opportunity between developed and developing states.

H3: International organizations such as WHO and UNESCO lack the financial resources to provide vaccines and equal access to education to the developing world due to pre-existing inequalities.

International law was proven insufficient due to disparities already existing, creating gaps between developed and developing countries, which maximizes the pragmatic influence of global policy frameworks. This hypothesis states that inequalities within status, digital architecture, healthcare capabilities, and educational limitations eventually equaled well-intentioned global obligations that could not be in place fairly. Under this reasoning, international law was not successful not only due to the poor outer layer alone, but also due to it being operated within a global mechanism already characterized by unequal distribution of resources, making continuously equal access towards education devices and vaccines hard to attain during an emergency crises. Hence, even international norms created for a beneficial purpose were applied unequally among states, reflecting continuous structural constraints compared to the equal legal failure. This statement suggests that pandemic-era disparity was portrayed by pre-existing global disparities that international law was incapable of attaining the maximum capacity to overcome in the short term.

H4: UNESCO and the WHO did not fail to provide resources, such as vaccines and access to education, during the COVID-19 pandemic.

UNESCO and the WHO did not give access to important public essentials, such as education and vaccines, during the pandemic. This hypothesis asserts that institutions operate only within the limits of their legal instructions, which do not force legal incentives to straight forwardly provide resources to countries. Under international law, organizations such as UNESCO and the WHO mainly work through direct guidance, cooperation, and voluntary help compared to obligatory power or redistribution. From the perspective of organizations, the non-existence of universal access does not account for organizational failure, as these institutions were not really required to absolutely provide equal outcomes. To add on, both organizations did provide support through different policy instructions, technical help, emergency funding techniques, and initiatives such as COVAX. Therefore, inequalities in access may be assigned to country-level capability and implementation compared to any-or-all shortcomings of international organizations themselves. This assertion treats unequal results as an outcome of structural restriction rather than organizations ignoring or legal failure.

Legal Question

What do international lawful guidelines controlling education and global healthcare make mandatory for states during a crisis, and to what extent did the relocation of authority and strengthening techniques within the educational frameworks restrict institutions such as UNESCO and the WHO's capabilities to minimize impacts of pandemic-era inequality? Specifically, did countries infringe any international laws, including education and health, or did the law restrict its own power?

I. Education: UNESCO, ICESCR, and the Right to Education

The most utilized and useful source when it comes to defining the right to education is the International Covenant on Economic, Social and Cultural Rights (ICESCR), specifically Article 13, which incentivizes countries to voluntarily provide free and accessible quality education and to continuously make sure secondary and eventual college education is also accessible. Article 2 of 1 of the ICESCR mostly requires states to focus more on the process of "maximizing the resources available" towards the acknowledgement of rights, while Article 2 of 2 highlights the non-discrimination.



Moreover, the supplementary reliable translation is provided by the Committee on Economic, Social and Cultural Rights' General Comment No. 13, which further deepens the reasoning on the right to education through the "4a" guidework: accessibility, acceptability, adaptability, and availability. These 4 standards once again discuss how education must be accessible both economically and physically, also inclusive, and adaptable to social shifts.

At the organizational level, UNESCO is characterized by the UNESCO Constitution (Article 1). UNESCO advocates for education through cooperation, standard-creation, and advice, but still does not provide any strength or power. Key policy guidelines involve the Incheon Declaration and Education 2030 Framework for Action, which specifies SDG 4, including several subgoals of SDG 4.1, the goal to provide free, equal primary and secondary education, and SDG 4.a, the goal to make legal, inclusive, and efficient learning environments, including the ICT architecture.

In Article 13 of ICESCR, countries are clearly incentivized to make sure access to education is provided for everyone, even during emergencies. While the Covenant lets there be room for time-consuming acknowledgement, this does not allow for there to be any discrimination within countries' status. On the other hand, the treaties do not specifically state any necessary needs for digital education, emergency cooperation, or teacher training in progress. This invisible silence creates a huge real gap during the pandemic, especially when education is shifted to be 100 percent online.

Through systematic operation, UNESCO's policy guidelines must be read in parallel with the ICESCR. UNESCO lacks the right under its Constitution to mandate that states reassign national wages, invest in broadband internet infrastructure, or require sudden teacher training, as no article of the UNESCO Constitution provides enforcement mechanisms or permits sanctions for non-compliance. For example, Article I limits UNESCO's role to recommendations and coordination, explicitly respecting state jurisdiction over education operations.

The Incheon Declaration clarifies this limitation distinctly. Paragraph 14 of the declaration states to "mobilize resources" and "strengthen international cooperation," but it does not create legal obligations, chronological orders, or punishments for unsuccessfulness for failing to meet SDG 4 targets. Alternatively, compliance depends on voluntary reporting, peer review, and political achievement compared to legal accountability. This design unsupported the framework's efficiency during the emergency, when quick, compulsory action was mandated.

A teleological interpretation recommends that education has to stay available to everyone during a crisis. However, during COVID, several low-income states were unable to meet the goals of SDG 4 due to a lack of internet. According to UNESCO monitoring reports and comparative education case studies, this resulted in eventual huge violations of accessibility and adaptability, especially for rural students, girls, and the most vulnerable groups.

The ICESCR primarily relies on the reports of states and each state's review, but UNESCO does not have the legal right to propose consequences or require emergency funding. Therefore, even when laws are violated, international law cannot provide any effective pathway to eventual success because of the voluntary nature of the agreements.

International education law creates strong standard-based promises but is backed up by weak enforcement structures. During COVID-19, states could comply in business with UNESCO involvement while continuously failing to provide equal access to education, portraying the legal framework channels' behaviors as a persuasion act compared to compulsion.

II. Vaccine: WHO, IHR, and ICESCR

The WHO Constitution establishes the foundational principles for global health cooperation. It recognizes unequal development in health promotion and recommends that the states themselves ensure equality. This provision identifies inequality as a shared risk but does not impose a duty on states to redistribute



health resources. No article assigns enforcement authority to the WHO or creates penalties for not complying.

The International Health Regulations provide coordination mechanisms but depend on non-binding language. The IHR defines Standing Recommendations as “non-binding advice issued by WHO for specific ongoing public health risks” and Temporary Recommendations as “non-binding advice issued by WHO on a time-limited risk-specific basis.” The repeated use of the term non-binding confirms that states are not legally required to comply with WHO guidance, including guidance related to vaccine distribution.

The IHR further limits enforcement by defining health measures as actions that “do not include law enforcement or security measures.” This explicit statement removes any coercive capacity from the regulatory framework. The authority granted to the WHO is therefore weak rather than compulsory.

Article 3 of the IHR further weakens binding obligations by affirming that states have the “sovereign right to legislate and to implement legislation in pursuance of their health policies.” This functions as an exception allowing states to prioritize domestic interests while remaining formally compliant. Member state statements reinforce this interpretation. The United States declared that the IHR “do not create judicially enforceable private rights. Brazil similarly declared that recent amendments carry a “recommendatory status.”

The ICESCR recognizes international cooperation but structures it through recommendation rather than compulsion. Article 23 states that international action includes “the adoption of recommendations” alongside technical assistance and consultation. This language places recommendations at the center of enforcement and does not require material transfers.

Article 21 provides that ECOSOC may submit reports containing “recommendations of a general nature.” Article 19 allows state reports to be transmitted for “study and general recommendation.” Article 20 permits states to comment on recommendations rather than comply with them. These provisions collectively establish a supervisory system based on dialogue rather than obligation.

Therefore, no article authorizes sanctions, provides resolutions to disputes, or enforces compliance. This may have led developed states to fulfill reporting duties without altering behavior.

Thesis Statement

The international law was unable to ensure equitable access to essential public goods—such as education and vaccines—between developed and developing states during the COVID-19 pandemic due to weak institutional authority and a lack of binding rules. Although the International Covenant on Economic, Social and Cultural Rights (ICESCR) states that access to both education and healthcare is mandatory, its dependence on continuous realization and reporting-based obedience limited its efficiency during the pandemic, allowing developed countries to dominate the vaccine and digital education materials without violating international law. International instruments such as the WHO Constitution and the IHR formally recognized inequality as global concern, but their recommendatory language and support for state sovereignty limited their effectiveness. Non-binding rules identified by the UNESCO and WHO such as the Education 2030 Framework for Action and COVAX further demonstrated how international institutions depended on voluntary compliance rather than legal obligation. Many scholars also contended that intellectual property protections and national self-interest were legally allowed under established frameworks. Consequently, states could formally comply with current international law without sharing public goods, leaving international institutions unable to hold states accountable as the rules functioned as recommendations.

Case Studies

I. Education in Sub-Saharan Africa



Using Kenya as a primary example, this case study demonstrates why UNESCO's education guidelines were unsuccessful in preventing the deepening of educational inequalities during the COVID-19 pandemic. This study looks over both the long-term traditional vulnerabilities in education mechanisms and the short-term interruptions caused by the pandemic. Instead of aiming for a statistical generalization, this case study provides a deeper context to argue claims in the documents considering the limits of international education administration, specifically UNESCO's dependence on optional instruction, voluntary obedience, and country-led implementation compared to obligatory lawful rights (UNESCO 2021; Burnett 2015). The analysis is based on regional learning-loss data from Science Direct, and Kenyan education materials to grade how worldwide education goals were interpreted into reasonable boundaries during emergency situations (Lazaro, Lorente, and Pulido-Montes 2020).

Pre-existing literature continuously states how education systems in Sub-Saharan Africa faced COVID-19 with obvious structural limits. World Bank and UNESCO documents state that the era before pandemic education operations in the Sub-Saharan region were labelled as persistent, high-level teacher training, limited digital architecture, and unequal access between both cities and suburban populations, which especially restricted emergency responses (World Bank 2020; UNESCO 2020a). Disparities between poor and wealthy countries, especially in the quality of resources, affect the quality of educational results during emergencies (UNESCO 2020b).

According to the Kenyan Ministry of Education and National Education, the expansion of free, quality education since 2003 increased enrollment in high-level colleges, but failed to acknowledge the country's slow pace in providing efficient provisions, mentors, and resources (Government of Kenya 2019). Therefore, inefficient teacher recruitment, and limited technological capability continued long before the pandemic itself. These unintentional incapacities reduced the system's ability to modify when schools closed.

These unfortunate lacking issues prove that access to education in Kenya was already unequal before the pandemic. While international frameworks such as UNESCO's Education 2030 Framework for Action, the Incheon Declaration, and Sustainable Development Goal 4 outlined plans for equal access, domestic execution relies on the country's capacity and political willingness (UNESCO 2015). Therefore, the education operating system was already weak and vulnerable to external shocks, particularly one as powerful as a global pandemic.

Literature widely calls COVID-19 a "stress test" for global governance operations, meaning that the emergency revealed vulnerabilities in pre-existing organizational arrays by placing extraordinary pressure on them compared to simply creating new problems (Burnett 2015; UNESCO 2020a). In Sub-Saharan Africa, continued school closures negatively affected students who lacked access to electricity, digital infrastructures, or the internet itself. Learning activities already declined at a sharp rate during the crisis, with low-income homes incredibly less likely to attract children in any type of online learning.

Evidence from Malawi demonstrates the more vague regional base. Long-term data state that students went through learning losses almost to nearly two or less years of school, with more than half of the loss being after schools reopened due to a decreased speed of learning (ScienceDirect 2021). This part shows that education mechanisms not only failed to give efficient online education in times of schools closing, but also didn't have enough capacity to regain losses afterward. These results strengthen the argument that international education goals did not equal crisis-strong national systems.

Kenya, specifically, provides a special exemplifying micro-case of how pandemic-era inequality unfolded. Public facilities, like schools, already overloaded before the pandemic, were incapable of shifting perfectly to remote education. Lack of numbers of teachers, overpopulated classrooms, and underdeveloped digital infrastructure all contributed to the inaccessible education for most children (UNESCO 2020a). On the other hand, private schools, which serve more rich families, were able to quickly change to digital applications, continuing the education students deserve.



According to socioeconomic data provided in Science Direct, two-thirds of the population lives on less than two dollars per day, making entrance to private school almost impossible economically (ScienceDirect 2021). This harsh reality worsened educational qualities during the pandemic, because only a slight segment of children could receive uninterrupted learning. Therefore, the pandemic increased educational gaps between socioeconomic lines compared to simply showing them, enforcing pre-existing disparities.

At the end of the day, this case study shows that UNESCO's education framework was unsuccessful not mainly because of weak political commitment, but due to the fact that the legal standards controlling education during crises lacked enforceability. Under Article 13 of the ICESCR and its translation in General Comment Number 13, Sub-Saharan Africa countries were mandated to provide the accessibility, and non-discrimination of education, even during crises.

However, widespread school closings without efficient alternatives ignored the standards of accessibility, especially for rural and low-income children. While UNESCO, on the other hand, using the Education 2030 framework and the Incheon Declaration, was required with tasks to support states with coordination, technical help, and international collaboration, its goal remained advisory compared to compulsory.

The invisibility of binding emergency education laws, enforceable mechanisms, and mandated international help meant that states could legally comply with duties under the international law while failing to provide equal access in practice. The Kenyan and Sub-Saharan African experience hence provides the structural limits of soft-law governance in attaining legally recognized education obligations during crises.

II. COVAX

The COVAX initiative was designed as a global coordination mechanism to ensure fair distribution of COVID-19 vaccines regardless of income level through systems such as the COVAX Facility, the COVAX Advance Market Commitment (AMC), and the humanitarian buffer. The Gavi COVAX AMC presents the AMC as a financial mechanism intended to ensure production capacity and supply for lower-income countries by leveraging participation and receiving payments from higher-income economies within the COVAX Facility. This source shows the perspective of a global health organization involved in coordination and focuses on manufacturing scale, advance purchase agreements, and readiness support for AMC-eligible countries ("The Gavi COVAX AMC Explained" 2021). The COVAX AMC functioned as the primary system for distributing vaccines to 92 low and middle-income economies through donor-funded support. The European Parliament briefing explains that the COVAX Facility served as a central purchasing office for self-financing economies, including the EU and its Member States. This document reflects a developed nation's perspective by emphasizing EU policies, European institutions' budgetary contributions, and the role of Team Europe as a major donor and exporter within COVAX. ("Understanding COVAX: The EU's Role in Vaccinating the World against Covid-19 | Think Tank | European Parliament" 2022) The NIH Globalization and Health article also describes the COVAX Facility and AMC focus on allocation systems such as the fair allocation mechanism, dose sharing principles, and participation across 177 countries, divided between self-financing and AMC-eligible economies. (de Bengy Puyvallée and Storeng 2022) Although the authors are affiliated with institutions in developed nations, the document adopts a global health perspective by examining how procurement allocation and donation practices shaped vaccine distribution across developed and developing countries. The WHO G20 Indonesia report establishes COVAX within broader multilateral efforts involving WHO UNICEF Gavi and the Access to COVID-19 Tools (ACT) Accelerator. It also describes policies such as the AMC, the humanitarian buffer fair allocation targets and delivery partnerships aimed at increasing coverage in low income and low coverage countries. This report reflects a multilateral and G20 perspective by addressing self-financing donor nations and lower-income recipient countries while framing vaccine distribution as part of global health security and economic recovery (World 2025).

The NIH sources describe COVAX as failing to guarantee equal vaccine access because distribution outcomes continued to follow national wealth rather than universal need across developed and developing countries. It lacked legal power to force developed nations to distribute vaccines to developing nations, as



supplies depended largely on donations and wealthier states engaged in vaccine nationalism. In this case, national self-interest represents the strongest limiting factor, as wealthy nations were legally allowed to prioritize domestic vaccination through advance purchase agreements. Cioffi states that rich industrialized nations such as Canada, the USA, the UK, Australia, the EU, and Japan pre-ordered the majority of available doses, which allowed early access for these countries (Cioffi and Cioffi 2021). In contrast, COVAX and low-income countries faced delayed coverage with widespread vaccination in some regions projected after 2023. The second article characterizes COVAX as a vaccine charity operating within the pharmaceutical market and notes that wealthy countries led by the United States participated through charitable contributions while prioritizing bilateral vaccine diplomacy (Sparke and Levy 2022). By June 2021, only 89 million doses had been distributed, which was less than 5 percent of the 2 billion dose target. At this time, vaccination rates in many African countries still remained below 2 percent. This shows that organizations managing vaccine supply did not fully adopt effective measures and lacked sufficient resources to deliver adequate amounts of vaccines to developing countries. Similarly, the third source argues that COVAX relied on voluntary donations and redistribution rather than scaling up manufacturing which allowed high income countries to tie up global supply through bilateral deals while 67 low income countries depended on COVAX and in the first year high income countries reached vaccination rates of 75 to 80 percent compared to less than 10 percent in low income countries with African countries receiving only 18.2 million of the 66 million doses expected. (Pilkington, Keestra, and Hill 2022) Financially, COVAX was disadvantaged by its dependence on donation and delayed fundings, while high-income countries secured supply early in the stage. The fourth source identifies vaccine nationalism as the primary challenge and explains that COVAX allowed self financing countries to procure doses for up to 50 percent of their populations while AMC countries were limited to 20 percent and by December 2021 COVAX delivered less than 50 percent of its 2 billion dose target with only 819 million doses reaching AMC countries out of 9.25 billion doses administered globally and this review reflects a global perspective with authors from India and Canada (Pushkaran, Chattu, and Narayanan 2023). Thus, the statistics during the COVID-19 pandemic demonstrate that measures adopted by COVAX failed to provide equal vaccine access across nations, mainly due to national self-interest and bilateral agreements caused by weak institutional authority.

Recommendations

I. Introduce regulations for emergency education situations

UNESCO should collaborate with UN states to focus only on consulting frameworks and create obligatory minimum norms for education consistency during worldwide crises, especially in low-income countries. The UNESCO case studies from the Sub-Saharan African region during the crisis shows that the invisibility of legal duties made states available to stop education for longer periods of time with no need to give reasonable options. While UNESCO's Education 2030 Framework and the Incheon Declaration highlight inclusivity and fairness, both documents do not need countries to continue the at-most access to education during emergencies. Implementing emergency education laws through a new Optional Protocol to the ICESCR, utilized by the UN Committee on Economic, Social and Cultural Rights and adopted by UN member states, would eventually decrease dependence on voluntary compliance by creating new binding obligations for education being prolonged during crises and improve accessibility, especially in developing nations.

II. Create an Emergency Education Funding Mechanism Linked to UNESCO and Multilateral Banks

A major vulnerability seen during the pandemic was the inability to provide emergency funding to discuss digital device gaps, teacher trainings, and remote learning access in poorer states. UNESCO should support for a legally defined sudden education funding mechanism created through a combined agreement between UNESCO, the World Bank, and regional development banks, funded by required crisis-time involvements from high-income states and pre-existing worldwide education funds. This technique would suddenly start financing during global emergencies to advocate for internet access, device expansion, remote-based learning, and teacher-filled building in dismantled environments. According to UNESCO's



Sub-Saharan education frameworks, slowdowns in emergency funding continue school closures and learning loss, therefore strengthening pre-existing educational disparities compared to alleviating them.

III. Enforcing monitoring and reporting requirements under the goal of quality education

UNESCO should strengthen the reporting techniques correlated with SDG 4 by mandating countries to collect not only registration and graduation rates, but also digital availability, crisis readiness, and education identifiers. During COVID-19, several governments officially acknowledged their goal to education while failing to reveal the scale of education failure and exclusion. Enforced, standardized reporting, based on agreed SDG 4 crisis indicators such as digital access, instructional time lost, and student involvement, needs to be achieved by states, independently certified by UNESCO and partner agencies, and disaggregated by wealth, gender, region, and ethnicity to stop data manipulation and provide accountability. This approach correlates with the findings from the World Bank and UNESCO frameworks emphasizing the absence of verified data as an essential safety barrier to a more welcoming education.

IV. Burdens on developed countries

The WHO should impose binding burdens on developed countries during global health crises such as the COVID-19 pandemic. There should be an international law determining mandatory vaccine dose-sharing quotas to maximize numbers of vaccine secured and donations from developed countries based on their economies. Furthermore, financial penalties or contribution requirements for hoarding vaccines and creating bilateral arguments for economic interests could prevent the countries from overpurchasing vaccines. Separate regulatory obligations limiting advance purchase agreements beyond domestic needs could also help wealthy nations to comply. Amendments to existing international legal frameworks such as the IHR would address the legal gap. A treaty-based obligation that requires developed countries to transfer a fixed percentage of vaccine output by the WHO could enhance compliance. However, the system should also incorporate conditional exceptions after carefully assessing each country's financial status and economy. Politically, this would require reframing vaccine equity as a matter of global security rather than charity. This would reduce vaccine nationalism and ensure that mechanisms like COVAX function as an equal distribution system.

V. Regional negotiations rather than International-level negotiations

Rather than relying on universal participation through international institutions such as the WHO, international vaccine governance should include regional agreements that impose stronger compliance. Since international institutions such as WHO emphasize the importance of equality among countries, it is hard for these institutions to impose mandatory rules that could face backlashes. Regional agreements would impose stronger compliance expectations among smaller groups of states. They would allow peer pressure and reciprocal enforcement, especially effective in a time where disease spread quickly. For example, the African Union's African Vaccine Acquisition Trust coordinated vaccine distribution among African states, accelerating vaccine access for low-income states that otherwise would have been delayed. Thus, it is important to group states into regional agreements within neighboring states.

VI. Use other legal authority to pressure developed countries (G20)

Especially during the time of emergency, it is important to ensure binding and clear rules strengthened by a central authority. Vaccine inequity is tied to global supply chains and these are areas where institutions like the G20 exert influence. The G20 could condition economic cooperation or trade facilitation on participation in equitable vaccine distribution and coordinate collective limits on advance purchase agreements. They could also advocate legally binding obligations for each country and later incorporate into the WHO. This recognizes that legal power already exists outside traditional health law frameworks. Using economic pressure would help developed states respond to legal obligations and recognize global health crises as widespread challenges that could affect everyone. This would address the weak institutional power backed by other powerful nation leagues or organizations.



Conclusion

The COVID-19 pandemic showed limitations in international legal frameworks managing access to vaccines and education. Although institutions such as the WHO and UNESCO recognize these resources as public goods, their legal framework based on voluntary cooperation and non-binding rules discouraged equitable outcomes during the COVID-19 pandemic. Developed countries were able to prioritize national self-interests through hoarding vaccines and stronger digital education infrastructures without violating international law. The literature review and case studies show that these disparities were increased by pre-existing structural inequalities between developed and developing states. Initiatives such as COVAX and the Education 2030 Framework lacked enforcement mechanisms and emergency financing to address resource scarcity. Consequently, international institutions were unable to enforce compliance and prompt equitable access. This research shows that international law was unable to ensure equitable access to education and vaccines during the pandemic.

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