



Global COVID-19 Vaccine Distribution Strategy Study

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Abstract. COVID-19 has brought untold disaster to human society. Vaccination has drawn wide attention from the international community as an essential method to contain the epidemic. However, how to distribute the limited number of vaccines after the advent of the COVID-19 vaccine? Scholars have proposed many distribution schemes, which can be divided into three categories: vaccine nationalism, vaccine cosmopolitanism, and vaccine eclecticism. Since all countries put their national interests in the top position, as long as countries' positions and interests are not consistent, it is inevitable that what one country considers normal, deserved, and patriotic, while others consider malevolent, unjust, and nationalistic. Therefore, discussing who "should" get priority in COVID-19 vaccine distribution is meaningless, and countries worldwide cannot achieve consensus on this issue.

Keywords: COVID-19 · vaccine nationalism · vaccine cosmopolitanism · vaccine eclecticism

1 Introduction

The outbreak of COVID-19, which began in December 2019, had caused approximately 657.9 million infections and more than 6.7 million deaths globally as of January 2023. [1] Mass vaccination during a pandemic can save lives and alleviate the economic instability and other social costs associated with the pandemic. Countries worldwide with the ability to develop vaccines have entered the race to create and produce a vaccine for COVID-19, which would have taken years to build, now has been reduced to just a few months. It is an extraordinary achievement. [2] The advent of vaccines is an important victory in history's fight against COVID-19. However, it would be almost ingenuous to believe that discovering an effective vaccine against COVID-19 will be enough to mark the end of the pandemic. The discovery of a vaccine is only the beginning of a new chapter; who can get the vaccine first is the most significant concern to all countries. Vaccine-manufacturing countries (VMCs), such as the United States, the United Kingdom, and the European Union countries, believe domestic markets should be given priority, [3] but non-vaccine-manufacturing countries (NVMCs) argue that this would hurt other countries and argue for a fair distribution of the first vaccines around the world. [4] The debate has sparked a global discussion. So far, various vaccine distribution schemes can be divided into three categories: vaccine nationalism, vaccine cosmopolitanism, and vaccine eclecticism.

2 Vaccine Nationalism: The Common Choice of All Countries

Vaccine nationalism is a new concept coined after the COVID-19 outbreak. However, the connotation and extension of this concept are controversial. Many people use “vaccine nationalism” not to objectively express a specific vaccine policy but to use it as scolding language. All the vaccine policies they oppose are often called “vaccine nationalism,” and all problems of vaccine distribution among countries are attributed to “vaccine nationalism,” this abuse almost makes “vaccine nationalism” lose its moral neutrality, objectivity, and definability. In contrast, RAND’s definition of “vaccine nationalism” is more comprehensive and objective. It points out that vaccine nationalism is the policy of countries prioritizing their citizens and insisting on first access to vaccine supplies by entering into direct contracts with manufacturers, accumulating vaccine stocks, and hoarding critical components for its production while discriminating against the population of other countries. [5].

Vaccine nationalism links vaccine distribution to national interests, stressing protecting national interests by first vaccinating fellow citizens. To quote U.S. President Joe Biden, “We are going to start off making sure Americans are taken care of first, but we are then going to try to help the rest of the world.” [6] Critics point out that vaccine nationalism is short-sighted, potentially risky, morally indefensible, and practically inefficient in containing the pandemic, [7] delays the time for humanity to conquer the epidemic, and increases the risk of coronary viruses mutating further, which will have a severe negative impact on countries worldwide, including wealthy countries that have hoarded vaccine supplies. [8].

However, we can not simply attribute vaccine nationalism to high-income countries’ (HICs’) selfishness, greed, and shortsightedness. [9] In a sense, vaccine nationalism is almost inevitable. Because anarchy is a significant feature of the contemporary international relations on an international scale, with sovereign states in a “self-help system.” [10] It determines that countries are self-regarding rather than other-regarding. [11] Therefore, although world public opinion always condemns vaccine nationalism in HICs, no one has genuinely given up on a “country first” policy.

Nevertheless, as the “victims,” are low-income countries (LICs) opposing vaccine nationalism? No, they oppose other countries’ vaccine nationalism, not their own, but their vaccine nationalism has a disguise of universal values, which conceals their true intentions. Their most common tactic is to describe their interests as global interests and mask their unique aspirations and actions—securing vaccines as quickly, as much, and cheaply as possible, with a high moral purpose. For example, Nancy Jecker and Caesar Atuire have emphasized the so-called “African ethics” and put forward that low- and middle-income countries (LMICs) should prioritize vaccine distribution in the name of “solidarity.” [12] As Hans J. Morgenthau said,

politicians and diplomats are wont to justify their actions and objectives in moral terms, regardless of their actual motives. It would be equally erroneous to take those protestations of selfless and peaceful intentions, humanitarian purposes, and international ideals at their face value. [13].

Therefore, vaccine nationalism is not the work of a few corrupt countries, but a country has to survive in a harsh international environment. Individuals have the right to sacrifice their interests to fulfill others, but the state does not have the right to sacrifice

its people's interests to fulfill the people of other countries because one of the meanings of a country's existence is to safeguard its people's interests.

3 Vaccine Cosmopolitanism: Utopianism in Vaccine Distribution

Vaccine cosmopolitanism is an ideology opposed to vaccine nationalism. It is based on such an assumption: "In the Covid-19 vaccine race, we either win together or lose together" [14], stressing that the emphasis on national interests in the process of responding to the epidemic is a narrow-minded nationalism, a just approach to distribution must have the whole globe in view, requiring ignoring national identity and citizenship [15, 16, 22]. Vulnerable and high-risk groups, such as healthcare workers, populations over 65 years old, and populations with co-morbidities worldwide, should be given priority for the COVID-19 vaccine, no matter where they are. [17].

Vaccine cosmopolitans have demonstrated the dangers of vaccine nationalism from political, economic, and public health perspectives [5, 8, 18] and believe that once people understand the truth, they will naturally accept and implement the concept of vaccine cosmopolitanism. Some scholars, especially bioethicists, have proposed many distribution schemes based on vaccine cosmopolitanism. [19–22] Although the specific content of these schemes is different, the ultimate goal is the same, that is, to propose a "scientific formula" for vaccine distribution. These schemes are invariably labeled as "fair," "just," and "equal" by themselves. Unfortunately, it is nothing but utopianism in vaccine distribution.

From an objective point of view, vaccine cosmopolitanism has no logical distinction between facts and value judgments. The COVID-19 pandemic is indeed taking a toll on countries worldwide, but the situation varies widely from country to country (Fig. 1). Although the epidemic in most countries is severe, there are still a few countries with no reported cases, very few confirmed cases, or chronically low levels of daily new cases, what we might call the COVID-19 "oasis countries." They can maintain the regular production and life order and benefit from the crisis in other countries, such as global industrial chains shift from foreign to domestic, overseas orders soaring, and foreign capital influx. As long as "oasis countries" can effectively control the epidemic, they can always benefit from the crisis. For example, China is a typical "oasis country" (Table 1). Although China was the first country to suffer from COVID-19, it had well-controlled the epidemic, making it the only major world economy to grow in a pandemic-ravaged year. [23] The existence of "oasis country" means that when the "knock-on effect" (negative effect) brought about by globalization interacts with the "oasis country effect" (positive effect), some countries can achieve positive results finally. As a result, the assumption - we either win together or lose together - is just an intuition or value judgment, not facts, and does not stand up to scrutiny.

From a subjective point of view, vaccine cosmopolitanism betrays political reality and cannot get real government support. In the eyes of bioethicists, human beings are undifferentiated organisms, and everyone has equal value. They divided people into vulnerable and high-risk groups and non-vulnerable and high-risk groups. The priority given to the former is a requirement of global health justice because it will result in greater efficacy for the entire population [24] and comply with medical ethics. However,

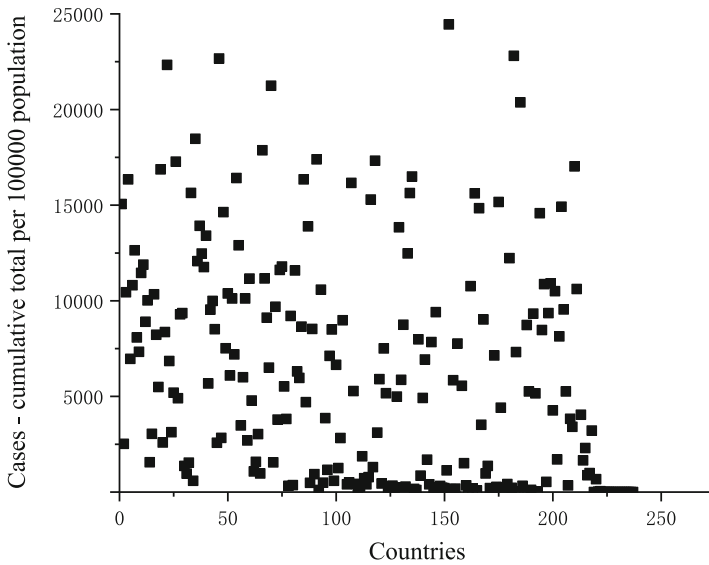


Fig. 1. Epidemic in various countries around the world Source: Data on cases - cumulative total per 100,000 population is from WHO coronavirus (COVID-19) dashboard; <https://covid19.who.int/table>, accessed January 27, 2022.

it is hard to convince politicians that use this simple, rational, and mechanical method to deal with the complex, irrational, and incalculable global vaccine distribution problem.

In representative countries, politicians also divide people into voters and non-voters. They are only responsible for the health of the former because there is a principal-agent relationship between politicians and voters. Voters can suspend or dissolve the relationship if politicians fail to perform their duties. Riding the risk of being fired to cater to vaccine cosmopolitanism—even if doing so might earn some hollow international reputation—is not a rational choice for mature politicians. In non-representative countries, although there is no principal-agent relationship between politicians and the people, they are also bound by professional ethics like other politicians. For all politicians, it is immoral to support vaccine cosmopolitanism without considering the political consequences, thus putting entire countries and people at risk of survival.

Vaccine cosmopolitans see the need for a global response to the epidemic but do not see the tension between the political division of the civilized world into regional sovereign states. They are eager to explain the dangers of vaccine nationalism to others and firmly believe that once people, including politicians, understand their "scientific" vaccine distribution schemes, they will be widely supported and accepted. To show the appearance of a "scientific" solution, they deliberately ignore the realities of political life and essentially negate countries' critical role in global cooperation against the epidemic. As a result, vaccine cosmopolitans can only make recommendations on distributing vaccines but cannot answer how such distribution can be achieved.

Actually, Politicians are not ignorant of the dangers of vaccine nationalism and the importance of global solidarity against the pandemic but cannot eliminate the shackles

Table 1. Economy and epidemic situation in selected countries in 2020

Country	GDP growth rate compared to 2019 (percent)	The value of exports (in billion U.S. dollars)	Changes in FDI inflows for 2019 (percent)	Total COVID-19 cases to 2020 (percentage of population)
Canada	-5.4	390.67	-34	565,506 (1.5)
China	2.3	2591.12	4	96,673 (0.007)
France	-8.1	488.35	-39	2,564,972 (3.8)
Germany	-4.9	1380	-61	1,719,737 (2)
Italy	-8.9	496.11	> -100	2,083,689 (3.5)
Japan	-4.8	641.38	-	230,304 (0.2)
Russian Federation	-3.0	331.75	-96	3,159,297 (2.2)
United Kingdom	-9.8	403.32	> -100	2,532,601 (3.8)
United States	-3.5	1431.64	-49	19,513,331 (5.9)

Source: Data on GDP growth rate in 2020 compared to 2019 is from The World Bank; <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG>. Data on the value of exports in 2020 is from Statista; <https://www.statista.com/statistics/264623/leading-export-countries-worldwide/>. Data on Changes in 2020 FDI inflows for 2019 is from UNCTAD; https://unctad.org/system/files/official-document/diaeciainf2021d1_en.pdf. Data on total COVID-19 cases to December 31, 2020, is from WHO; <https://covid19.who.int/region/euro/country/it>; Data on the country's population is from The World Bank; <https://data.worldbank.org/indicator/SP.POP.TOTL>; Data on the proportion of COVID-19 cases in the population of each country is calculated by the author

of national and ethnic interests because their power builds on safeguarding them. At the same time, since the governments of VMCs hold the ultimate power of vaccine distribution, all vaccine nationalistic distribution schemes are just utopian without their support.

4 Vaccine Eclecticism: Unattractive Multilateralism

Compared with vaccine nationalism and cosmopolitanism, some institutions and individuals propose to walk a middle path — they emphasize interests guide but oppose extreme egoism; they advocate caring for LICs but differ from philanthropy. This ideology can be called “vaccine eclecticism.” The most influential practice of vaccine eclecticism was COVAX,[25] which was designed to balance national responsibilities for health and international commitments to global justice. [26] By design, COVAX buys vaccines in bulk and then distributes two billion doses equitably worldwide. This approach would provide enough doses for 20 percent of the people in the developing world by the end of 2021, including all the front-line healthcare workers and the most vulnerable. [27] As of February 2021, 190 countries have joined the COVAX, including most HICs. [28].

The expected advantages of COVAX are as follows: first, it concentrates funds on large-scale procurement to reduce procurement costs; second, it invests in multiple vaccines to avoid betting on the failure of individual vaccines; third, it provides vaccines free of charge to LICs through advance market commitment (AMC), with funds for the purchase mainly donated by developed countries. David Fidler, an adjunct senior fellow for global health at the Council on Foreign Relations, says COVAX is a clever way to try to hold together the interests of different countries. "Even from the point of view of raw self-interest that governments often have, you can see why this would." However, COVAX did not work as intended. On March 5, 2021, Tedros Adhnom Ghebreyesus recognized that despite efforts, COVAX has failed to shift any of the realities within the global allocation and distribution of vaccines in the short term. [29] Why does COVAX get stuck? There are three reasons:

First, COVAX is unattractive to HICs. Among all the preset goals, only one considers the needs of HICs: to invest in multiple vaccines under development simultaneously to avoid failure of vaccines developed by themselves. However, HICs can solve this problem by simultaneously betting on multiple domestic vaccines. For instance, China has been researching and developing 71 vaccines against COVID-19 since July 2021, of which nine have been used. [30] The United States, The United Kingdom, and the European Union have adopted similar measures.

Second, COVAX cannot truly meet the vaccine needs of LICs. COVAX is essentially a multilateral cooperation agreement designed to achieve equitable distribution of vaccines by meeting the diverse interests of participating countries. However, since HICs do not benefit from joining COVAX, they have little incentive to participate and implement the agreement. The motivation for joining COVAX may be to relieve international pressure rather than voluntary. As a result, LICs waiting for vaccines have mostly received empty promises and rhetoric rather than vaccines. [31] As of July 2021, Of the 80 low-income countries involved in COVAX, at least half do not have sufficient vaccines to sustain their programs. Some countries have to pay above market value for vaccines to end shortages. [32].

Third, COVAX has changed its original intention. Although some HICs have provided a certain amount of funds to COVAX, it is contrary to the original design of COVAX, reducing it from a mutually beneficial multilateral scheme to a purely charitable one. In this way, COVAX may have a role to play in meeting short-term needs, but a scheme based on philanthropy and charity will not build sustainable medium- or long-term solutions. [33] Because SARS-CoV-2 is prone to mutation, and the immune protection period for vaccinees of the vaccine is also limited, people may need to be injected with different types of COVID-19 vaccine several times in their life. Without sustainable medium- or long-term solutions, it is difficult to completely solve the vaccine distribution problem.

The above analysis reveals that the first is the root cause, and the other two are triggered or derived from the first. So, what is attractive to HICs and other VMCs? The answer is a variety. Every country has its interests. For example, the United States needs support on the Iranian and North Korean nuclear issues; China needs support on the Xinjiang, Tibet, and Taiwan issues; and Russia needs support on the Crimea issue. Of course, these issues are beyond the scope of any vaccine distribution scheme. Therefore,

we need to consider vaccine distribution from a broader perspective than just the vaccine itself.

5 Conclusion

Safeguarding national interest is the aim of governments to formulate vaccine distribution strategies. Since all countries put their national interests in the top position and have the tendency to strengthen their interests continuously, as long as countries' positions and interests are not consistent with each other, it is inevitable that what one country considers normal, deserved, patriotic. Others consider it malevolent, unjust, and nationalistic. Therefore, discussing who "should" get priority in COVID-19 vaccine distribution is meaningless, and countries worldwide cannot achieve consensus on this issue.

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