

Enhancing the WHO's Proposed Framework for Distributing COVID-19 Vaccines Among Countries

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As the global death toll of COVID-19 exceeds 2 million the distribution of a vaccine continues to be an urgent global priority. A key question in regard to this is which countries should get the vaccine first? The framework for distributing the COVID-19 vaccine among countries will have both ethical and life or death consequences. One of the most prominent frameworks is the one adopted by COVAX (COVID-19 Vaccines Global Access Facility), which is co-led by Gavi (the Vaccine Alliance), the Coalition for Epidemic Preparedness Innovations, and the World Health Organization (WHO) and aims to guarantee fair and equitable access to every country in the world. As of January 2021, 190 countries are engaged with COVAX. Although the United States is not at present a party to COVAX, the Biden administration is likely

to reconsider entering COVAX. COVAX is taking the lead in ensuring an equitable distribution of vaccine among countries. Its allocation formula will affect billions of people throughout the world.

COVAX has adopted the WHO's recently proposed "fair allocation mechanism," which is based on the principle of equal proportional share per country. After 20% of each countries' population is vaccinated, allocation becomes based on health need.¹ This framework is motivated by concerns about international fairness, and it attempts to provide a check against vaccine nationalism in which richer countries would hoard vaccines to the detriment of poorer countries.² Although equal proportion may seem like an appealing starting point, it has significant ethical limitations even by the WHO and COVAX's own

standards. If the WHO and COVAX framework is to serve as the global standard for fair vaccine distribution, it requires supplementation by other principles. The fair priority model (FPM) can bring the WHO and COVAX approach more in line with their own ethical framework.^{3,4}

WHO'S PROPORTIONAL ALLOCATION SCHEME

The WHO and COVAX "proportional allocation scheme" (PAS) is motivated by the need to counteract vaccine nationalism and to realize equal concern. The WHO and COVAX system is a two-phase approach. Phase 1 calls for equal proportional distribution to all COVAX countries, proceeding in tiers. Initially, all countries will receive enough doses to cover 3% of their population, and by gradual and staged increases in allocation they will reach 20% of the population. Once countries receive enough vaccine to cover 20% of their population, phase 2 will begin and proportional allocation will be replaced by a weighted allocation based on country risk assessments that take into account a wider array of population threats and vulnerabilities.¹

The PAS lays out the general principles of allocation. Further pragmatic questions remain to be addressed, such as how to address differential capacity to distribute vaccines in relation to dose and cold chain requirements. Although pragmatics are important, in this editorial we focus on the principles of allocation.

THE WHO'S PROPORTIONAL ALLOCATION SCHEME

The WHO and COVAX framework is intended to be fair, dynamic, and responsive to changing conditions of

urgency. But proportional allocation in phase 1 neither fulfills fairness nor can it be responsive to dynamic changes in the pandemic. Equal proportional distribution among countries is fair only in the abstract. In reality, it fails to account for the varying impact of COVID-19 on different countries. Hence, at a fundamental level, proportional allocation does not reflect equal concern, which requires sensitivity to different country situations. By analogy, equal concern for patients is not shown by giving every patient the same medical attention and resources. Instead, different allotments of time and resources are needed depending on the nature and urgency of people's particular health needs.

In times of urgency and incomplete information, equal proportional distribution can be a useful heuristic for fairness, and the PAS can serve as the default standard for distributive fairness. But a default standard is only a starting point: real fairness must allow deviations as more information becomes available.

The WHO and COVAX scheme explicitly accepts that there are required and justifiable departures from its baseline of equal proportional distribution, but it does not provide details or elaborate an ethical framework that can be applied. The framework says, "A special consideration will be given to countries that may suddenly face major outbreaks or national disasters throughout the allocation process."^{1(p27)} But how do we know which cases are exceptional and when exceptions are to be made? What are the criteria the PAS proposes? Hospital bed occupancy is proposed as a possible measure, for example, but nothing is said about how it is to be taken into account.¹

THE FAIR PRIORITY MODEL

The FPM can appropriately supplement the WHO and COVAX's PAS. The FPM is guided by three basic values: (1) benefiting individuals and limiting harm, (2) prioritizing the disadvantaged, and (3) global equal concern.³ Like the PAS of the WHO and COVAX, the FPM proceeds in phases. In phase 1, the primary goal is to reduce premature deaths; in phase 2, distribution is aimed at reducing economic hardships in addition to controlling morbidity; in phase 3, the objective is to reduce community transmission and to restore normalcy.

Unlike the PAS, the FPM immediately allocates vaccines based on risk of premature deaths directly and indirectly from COVID-19. Another important ethical difference is that fairness in the FPM is among individuals across state boundaries. The FPM allocates vaccines to countries based on the relative needs of the individuals in those countries, promoting more equitable allocation of vaccines to populations that are in more dire straits as a result of COVID-19. Conversely, the PAS treats global fairness in terms of fairness among countries. This is politically understandable given the structure of the WHO, a member organization. But in ethics, the unit of concern for justice is individuals, not countries.

It might appear that the FPM, unlike the PAS, rewards countries that had suboptimal COVID-19 management and prevention strategies. A fair distribution of vaccine among countries must evaluate the effective minimization of health, economic, and other harms spawned by COVID-19, not past performance. The aim of vaccine allocation schemes is to promote the interests of global citizenry, rather than reward or penalize governments for their responses. Failing to equitably prioritize vaccines to countries

whose people need them most would be failing to address the disadvantages they face. Furthermore, typically the individuals whose lives are at stake because of COVID-19 have had little influence on their government's response. They should not be penalized.

Notwithstanding these substantial conceptual differences between the FPM and the PAS, the two approaches can work side by side. The PAS is a reasonable default standard. But a default standard is defeasible and, as acknowledged by the WHO and COVAX, must allow exceptions. Giving countries equal amounts of vaccine is ethically sound if those countries are in similar circumstances. Thus giving vaccine in proportion to population makes sense between Brazil and the United States or the United Kingdom and France when their rates of cases and deaths are similar. But it is not defensible when the countries' circumstances differ greatly, such as between South Africa and South Korea.

APPLYING THE FAIR PRIORITY MODEL

Even if the 20% target of proportional allocation is accepted, the WHO and COVAX acknowledge that it might have to be preempted if some countries face particularly severe outbreaks, natural disasters, or other types of emergencies, such as a refugee crisis.¹

As vaccines are distributed even below the WHO and COVAX's 20% threshold, countries that become hotspots and are in evidently greater need should receive priority access. This is consistent with COVAX's existing commitments.¹ More importantly, it follows the ethical principles of the FPM framework of reducing harm and primarily trying to minimize premature deaths. It also fulfills the WHO's Strategic

Advisory Group of Experts principles, particularly human well-being and global equity, which aim to “reduce deaths and disease burden from COVID-19 pandemic” and “ensure that vaccine allocation takes into account the special epidemic risks and needs of all countries.”⁴ Providing a country that has very low community transmission the same proportion of vaccine to its population as a country that is extremely hard hit and facing devastation surely fails to fulfill the ethical principles of human well-being and global equity.

Prioritizing one country by definition means deprioritizing another, a cost that must be acknowledged. In line with the value of global equity, it may be justifiable to deprioritize countries that are in much less urgent need of the vaccine compared with the rest of the world.

The WHO and COVAX make the important point that there is great uncertainty in adjudicating precise differences in impact between countries.¹ But these concerns dissipate when the differences in impact are very large, as measured by relatively straightforward indicators of urgency such as magnitude of the outbreak and lives lost.

Indeed, there are very stark differences between many countries in terms of COVID-19 cases and deaths, differences that can be used immediately and can justify significant deviations from the WHO and COVAX proportional allocation of vaccine. For example, by mid-January Peru (population 33 million) had had about 1 million COVID-19 cases and 38 399 deaths, whereas Malaysia (population 32 million) had had about 147 855 cases and 578 deaths. The PAS allocates Malaysia about the same number of doses as Peru even though Peru has 7 times more cases and more than 66 times more deaths. Our proposed amendment to the PAS would provide more vaccine to Peru than Malaysia. Similarly, South Africa

(population 60 million) has had about 1.3 million cases and 35 852 deaths, whereas South Korea (population 51 million) has had only 71 241 cases and 1217 deaths.⁵ The PAS would allocate a similar number of doses although South Africa has more than 18 times the number of cases and more than 29 times the number of deaths as South Korea.

Depending on the circumstances at the time the vaccine is ready for distribution, prioritizing countries that are severely affected as Peru and South Africa have been will save many more lives, and in places that are worse off, than pure proportional distribution. Thus, the PAS as proposed by WHO and COVAX should incorporate the FPM to address the special cases.

CONCLUSIONS

Within the confines of proportional allocation, some countries can and should receive a degree of priority access, that is, more vaccines than would be warranted based on population size alone. There need be no attempt to fine-tune the distribution of vaccine to every small detail in every country. Instead, those countries that clearly have much greater need based on cases and premature deaths would receive priority fine-tuned access to vaccines on the basis of the ethical principles set out in the FPM and the WHO’s Strategic Advisory Group of Experts framework. The FPM provides the details on how to deal with difficult cases that are both special and common. It will improve both the equity and the effects of vaccine distribution in accordance with the goals the WHO and COVAX have affirmed, without giving up the political advantages of a default that distributes vaccines to countries to cover up to 20% of their population. **AJPH**

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