

Commentary

Vaccine equity: Past, present, and future

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The term “vaccine equity” primarily points to the enormous imbalance in global COVID-19 vaccine distribution. Vaccine equity should adopt a normative approach toward “health equity,” and various stakeholders across the vaccine life cycle must practice it. The momentum gathered during this pandemic must be used to correct these structural imbalances.

Background

Although two-thirds of the world’s population received at least one of the nearly 10 billion administered COVID-19 vaccines up to January 2022, less than 10% of people living in low-income countries received one.¹ The United Nations Development Programme defines “vaccine equity” as the “[allocation of vaccines] across all countries based on needs and regardless of their economic status.”¹ It has been one of COVID-19’s greatest challenges, and dignitaries from leading global institutions, such as the United Nations, WHO, and UNICEF, have consistently called for more equitable vaccine distribution since the vaccine became available. While these calls for vaccine equity started early in the pandemic and persisted, they failed to achieve an adequate effect. Currently, booster and child vaccination campaigns are well on their way in most high-income countries, but many low- and middle-income countries (LMIC) in sub-Saharan Africa, parts of Asia, Eastern Europe, and Latin America are still unable to ensure optimal protection against severe disease and mortality among their most at-risk populations.

To promote vaccine equity, the COVID-19 Vaccines Global Access Facility (COVAX) was established in April 2020 by an alliance led by WHO (World Health Organization), GAVI (Global Alliance for Vaccines and Immunisation), and CEPI (Collaboration for Epidemic Preparedness Innovations). The hope was that this global

collective would provide countries with more opportunities to secure vaccines and ensure equitable access to and allocation of COVID-19 vaccines.² However, this hope was short-lived: rich nations ignored their pledged obligations toward COVAX by first securing vaccines for their own populations and half-heartedly delivering on their promises. Since its inception, COVAX targets for vaccine coverage have consistently been unfulfilled, and accelerated efforts will be required to achieve the current goal of 70% COVID-19 immunization coverage by mid-2022.³

The term “vaccine equity” is relatively new, and its use exponentially increased when it was turned into a hashtag (#VaccineEquity) for social media in 2021. As a rallying cry, #VaccineEquity called on governments, manufacturers, and other key stakeholders to do what’s fair. However, by primarily focusing on the national or supranational levels, the use of the term “vaccine equity” thus far has moved responsibility away from individual actors in the research and development (R&D) process and their spheres of influence. In this commentary, we will explore what constitutes vaccine equity, building on its philosophical, historical, and sociological underpinnings and propose how to situate vaccine equity in the broader context of health equity.

Vaccine equity reconsidered

The call for vaccine equity currently often translates into the message that high-resource nations must share more

vaccines with less wealthy nations. The enormous gap observed on vaccine dashboards are a driving moral force as they display the persisting disparities between those fully vaccinated and boosted in rich nations and lagging protection in less wealthy nations.¹ The second key recurring theme in the vaccine equity debate focuses on the responsibilities of pharmaceutical companies, the holders of patents and know-how, to ensure feasible prices, availability, and manufacturing capability in low-resources settings.⁴ These two approaches to vaccine equity are essential components in political and governance for global health debates. The inequitable situation we face can be directly tied to intellectual property rules under the Trade-Related Aspects of Intellectual Property Rights (TRIPS), World Trade Organization (WTO)-negotiated waivers, and the functioning of the COVID-19 Technology Access Pool (C-TAP) and its mRNA technology transfer hub in South Africa.⁵ While essential, we also believe it is important to recognize the larger and pre-existing inequitable patterns in the vaccine, medicines, and diagnostics life cycle that resulted in the current inequitable access and allocation of vaccines.

Philosophical, sociological, and historical roots of the equity concept

The call for vaccine equity is only the most recent exponent of a philosophical,



historical, and sociological tradition to analyze structural drivers of health differences. WHO defines health equity as “the absence of unfair and avoidable or remediable differences in health among population groups defined socially, economically, demographically, or geographically.”⁶ Health equity can be presented in the form of a *normative* claim (i.e., a standard that determines *what should be done*) to improve or restore health or health outcomes in situations of global or social injustice, and also in the form of an *empirical* claim on the status of observed inequities. In the latter, one measures equity through quantitative indicators with a predefined cut off to set the bar of acceptable and unacceptable health disparities and differences in health outcomes that do not necessarily address underlying drivers.⁷ A combination of both claims is included in the Sustainable Development Goals’ aspiration to “leave no one behind,” with a commitment for disaggregated data collection to measure impact across relevant inequity dimensions.

Health equity is a widely studied concept in philosophy.⁸ For the purposes of this commentary, we use the broad view of egalitarian interpretations of global and social justice as a starting point. According to this view, we ought to address health inequalities, and it morally matters when these inequalities exist beyond domestic borders. This means we have a normative reason to act that goes beyond mere humanitarian assistance. Social justice scholars take political and socio-economic circumstances that contribute to or reduce health equity into account. Fabienne Peter aptly phases how background injustices influence health inequities when she writes: “social inequalities in health are wrong not simply because actual health outcomes deviate from some pattern of health outcomes that is considered ideal, but rather because, and insofar as, they are the expression and project of unjust economic, social, and political institutions.”⁹ This notion of health equity also means that arbitrarily set empirical cut offs are in and of themselves meaningless if they do not consider strategic targets on a pathway toward progressive realization of health equity—the norm to which we aspire.

The historical roots of health inequity date back centuries. They can be traced

to at least the colonial and transatlantic slave trade eras and how these shaped the current world order and divisions of resources and power.¹⁰ The pandemic, but also other social justice movements of the past few years such as Black Lives Matter and an increased attention to diversity, equity, and inclusion (DEI), have put a spotlight on these patterns, arguably amplified them, and converged on issues at the intersection of injustice and power imbalances.¹¹ From more recent history, the vaccine equity debate is colored by large-scale disease outbreaks such as HIV (1990s), Ebola (especially the 2015–2016 West African outbreak), and Zika and the resulting moral distress among global health equity proponents. Similar patterns of inequitable allocation of research and development (R&D) priorities, resources, and patents characterized the global responses to these health crises. In addition, comparable research ethics dilemmas related to post-trial access, patents, and manufacturing know-how sharing were voiced. In the words of political philosopher Thomas Pogge, “By seeing the problem of poverty merely in terms of assistance, we overlook that our enormous economic advantage is deeply tainted by how it was accumulated over the course of *one* historical process that has devastated the societies and cultures of four continents.”¹² If we consider vaccine (in)equity a consequence of past injustices, then according to Pogge, we also have a moral duty to restore these injustices.

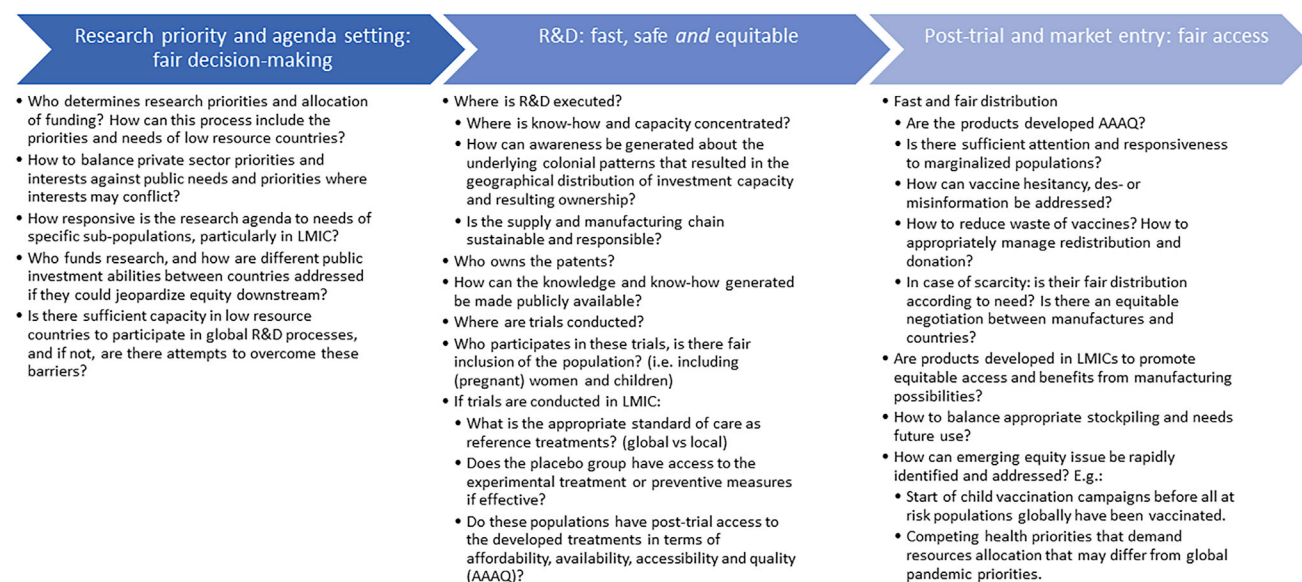
The work of Ilona Kickbusch provides a political-sociological basis to evaluate the global health governance response to the pandemic. She argues with her colleague Anna Hozscheiter that “geopolitics today is not about a new cold war, but about establishing a new technological order, in which claims to power are inseparable from technology, science, ownership of data, and authority in the digital world—bringing with them new dimensions of inequality.”¹³ As a consequence, an efficient pandemic response requires a global governance response that is able to meet the challenge. Pre-covid existing policy instruments, such as the International Health Regulations, but also new approaches WHO developed like COVAX, have so far been inadequate to guarantee an equitable response. This logically

invites the question: What are the bottlenecks that prevent us from achieving vaccine equity?

In sum, we consider vaccine equity primarily as a *normative* concept that should be situated in the context of global and social justice. So interpreted, vaccine equity calls for a concerted international effort to take a broad egalitarian perspective to vaccine equity. Such a movement must pay close attention to the historical and socio-political dimensions that have led to the current vaccine allocation imbalance and should specifically target these background injustices to correct the current imbalance and prevent widening the gap.

“Vaccines AND...”: Equitable access to essential medicines, diagnostics, and vaccines

The pandemic has been referred to as a magnifier of existing health inequities, an observation often found during crisis. Similarly, the call for vaccine equity is illustrative of the broader inequities in availability, accessibility, acceptability, and quality (AAAQ) of medicines, diagnostics, and vaccines. These inequities do not suddenly arise during the procurement process, but are present across the research and development continuum, from research priority setting and funding, to human and technical capacity, models of intellectual property and patents, and local manufacturing capabilities at market entry. [Figure 1](#) summarizes how vaccine equity results from addressing both upstream and downstream inequities resulting from historical, socio-economic, and political background injustices along the continuum of vaccine, medicine, and diagnostics life cycle. We conceptualize vaccine equity in the form of questions along the spectrum, allowing for reflection checkpoints by actors in the process to identify possible emergence of inequities. Importantly, equitable conduct does not only occur at the “macro” level of health systems in society. Instead, as a normative principle, vaccine equity should guide behavior of every actor from the micro level (e.g., a scientists involved in the design of a phase II trial who can make a deliberate effort to include a diverse population), to the meso level (e.g., organizing community campaigns to dispel mis- and disinformation), to the macro



This representation has been simplified for communication purposes. Within the life cycle of vaccines, medicines and diagnostics, vaccine equity can be simultaneously addressed in the different stages.

Figure 1. Vaccine equity is the process and result of the incorporation of historical, sociological, political, and economical considerations in the continuum of vaccine, medicine, and diagnostics life cycle

level involving national, regional, and international governing bodies. In addition, health equity thinking can be expanded to other commodities for an effective pandemic response that is adaptive to local contexts and possibilities. Examples include: making basic water, sanitation, and hygiene measures available for all, ensuring community consultation to address needs or concerns to reduce vaccine hesitancy, and making relevant data easily shareable across countries and settings.

Donation and solidarity

Analyzing vaccine equity from its roots and within its life cycle and health systems context also illustrates why attempts to reduce vaccine equity to conversations about donation and solidarity are problematic from an ethical perspective. In philosophy, ideas about donation are strongly related to the Lockean idea of property rights. According to John Locke (1632–1704), people own property when they themselves put labor into a resource. In a legal sense, it might be correct that pharmaceutical companies and the countries that have invested to develop and produce the vaccines “own” them and may decide whether and when the vaccines should be given away. However,

one might also consider the derived patents and products to be a “public good” when there has been a public investment in R&D in terms of resources, public pre-clinical development efforts, and publicly funded mitigation of risk by industry. More importantly, in a moral and historical sense, equating donation with diminishing vaccine inequity denies the privileged position of rich nations to be able to make deals with industry. Therefore, from a global justice perspective, we could also take a principled approach in which buyers and producers of vaccines do not own and donate them—this model is similar to the COVID-19 Technology Access Pool (CTAP). Sending vaccines to less wealthy countries would not then be a form of charity. Rather, global justice requires a united effort to equally share access to vaccines from the start *with a view to avoid facing the inequitable situations that result from downstream donation*.

Similarly, vaccine equity is sometimes simplified to a call for solidarity. Although solidarity is an essential prerequisite for vaccine equity, it should be clear what is meant by this term. According to Barbara Prainsack and Alena Buyx, solidarity is “an enacted commitment to accept costs to assist others with whom a person or

persons recognize similarity in a relevant respect.”¹⁴ If rich nations share vaccines with less wealthy ones from a genuine solidarity intention, they “recognize similarity” in that we are all in this pandemic together because “no one is safe, until we are all safe.”¹⁵ At the same time, the frequency with which vaccines were shared at the moment they were about to expire or after having first been hoarded, calls into question the notion that rich countries were willing to perform acts of genuine solidarity at much cost.¹⁶ And if we were to interpret a commitment to solidarity comprehensively, for rich nations, this would start high upstream in the vaccine life cycle and not merely at the moment where the cost to these nations became virtually absent.

Vaccine equity: From the past to the future

We think there is momentum to turn vaccine equity into a more holistic concept that does justice to its philosophical, socio-economic, and historical dimensions. Doing so would incorporate the full vaccine life cycle and take the health systems context in which vaccines are provided into account. Instead of one-size-fits-all or one-actor-does-it-all approaches to vaccine equity, we hope our model

appeals to more actors in the vaccine life cycle, from those in the lab to those who put needles in arms, to consider what they can do to prevent or diminish vaccine equity, to discuss it with their colleagues and peers, and to inspire their students. As we enter the third year of the COVID pandemic, it is time to learn from the past, acknowledge the consequence of vaccine inequity and how it represents health inequity in the present, and consider what various actors across the spectrum can do to diminish vaccine inequity in the future.

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DECLARATION OF INTERESTS

R.v.d.G., J.L.B., and A.Y.B. declare no competing interests.

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