



Three for me and none for you? An ethical argument for delaying COVID-19 boosters

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ABSTRACT

This paper argues in support of the WHO's proposal to forego COVID-19 booster shots until 10% of people in every country are fully vaccinated. The Ethical Argument section shows that we save the most lives and ensure the least amount of suffering by allocating doses first to unvaccinated people. It also argues that there is a duty to support decent lives and to promote health equity, which establish that refraining from boosters is a requirement of justice, not charity. The Replies to Objections section answers objections that appeal to pragmatism, nationalism, ownership, scientific advancement, self-interest, semantics and futility. The Conclusion section emphasizes that for now, wealthy nations should not boost vaccinated people's immunity and should instead send doses to poorer nations where they are most urgently needed.

On 4 August 2021, the WHO called for a temporary moratorium on COVID-19 boosters to enable 10% of people in every country to be vaccinated. The WHO Director-General made this appeal amidst mounting concern about slow progress getting COVID-19 vaccines to people in low-income and middle-income countries (LMICs). As of 6 October 2021, 77% of shots in arms have gone to individuals in high-income and upper middle-income countries, while only 2% of people in LMICs had received at least one dose. The Director-General urged wealthier nations to lead, as the biggest producers, consumer, and donors of COVID-19 vaccines.

The call fell on deaf ears. Israel was the first to offer boosters. In July 2021, Israelis aged 60 and over became eligible; a month later, everyone 50 and over lined up. The Israeli prime minister called boosters a 'great service' to humanity, claiming data from Israel would help the world.¹ During the cabinet debate leading up to the policy, the full Israeli cabinet pressed for setting the age lower, at 40, but the Prime Minister demurred, hinting that younger groups would have their turn. On 29 August, Israel began offering boosters to all vaccinated people. Other wealthy nations have followed suit, including UK, France, Germany, the United Arab Emirates Sweden, USA and others.

The scientific basis for boosters is worrying data about waning vaccine protection over time, coupled with growing concerns about breakthrough infections caused mainly by the SARS-CoV-2 Delta variant. However, scientists caution that although the number of antibodies produced by vaccines wanes, this does not necessarily translate into reduced protection against the novel coronavirus; more data are needed to determine what level of

neutralising antibodies is associated with a vaccine's effectiveness. Scientists also point to data showing that even if efficacy is reduced, early evidence shows that protection against severe disease and death remains strong. While the scientific debate is ongoing and new data continuously emerge, significant ethical conclusions can nonetheless be drawn.

We maintain that offering boosters to people in wealthy countries takes humanity down the wrong path. It places everyone, vaccinated or not, at greater risk. The Ethical Argument section shows that we save the most lives and ensure the least amount of suffering by allocating doses first to unvaccinated people. It also argues that there is a duty to support decent lives and to promote health equity, which establish that refraining from boosters is a requirement of justice, not charity. The Replies to Objections section answers objections that appeal to pragmatism, nationalism, ownership, scientific advancement and futility. The Conclusion section emphasizes that for now, wealthy nations should not boost vaccinated people's immunity and should instead send doses to poorer nations where they are most urgently needed.

ETHICAL ARGUMENT

Utility

A principle of utility requires showing equal consideration to the interests of everyone affected by a distributive policy, irrespective of factors such as place of residence and level of wealth or income. In trade-off situations, when resources are scarce, utilitarian reasoning most plausibly supports providing vaccines first to those who are unvaccinated because they derive far greater benefit. Although early evidence indicates that boosters may provide additional protection, this benefit pales in comparison to the far greater benefit of allocating vaccines to those who have not yet received a single shot.

The evidence supporting boosters derives from diverse sources, including real-world data from the UK² and USA³ when the Delta variant was circulating, indicating reduced protection against symptomatic infections with mRNA vaccines compared with the protection afforded against the Alpha variant. Observational data from Israel, the UK and elsewhere suggest that these vaccines remain highly effective at keeping people alive and out of the hospital even though such protection wanes over time.⁴ An ongoing unpublished Pfizer study of over 44 000 participants found that protection from its vaccine declined from a peak of 96.2% to 83.7% after 6 months.⁵

Drawing on these data, we make the plausible assumption that two doses of the Pfizer vaccine



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provide >80% protection for most people against severe disease and death 6 months postvaccination and that booster shots increase protection by 10%. Based on these assumptions, we are better off giving shots to unvaccinated people in LMICs, since they gain >80% protection against severe disease and death (for 6 months minimum), while providing the same shot as boosters to fully vaccinated people results in just 10% increased benefit.

A second utilitarian argument appeals to the fact that conditions in poorer regions represent potent pathways for infectious pathogens to spread. First, access to soap, water and sanitation is often lacking, which increases disease transmission. For example, across sub-Saharan Africa, 63% of people in urban areas lack access to handwashing.⁶ Second, people living in poverty have less ability to self-isolate if they fall ill, due to crowded living conditions and the need to work daily to make ends meet. Third, insufficient access to personal protective equipment for healthcare workers in LMICs places them at heightened risk of becoming infected and transmitting disease.

It might be objected that people in LMICs will be spared high rates of severe disease and death because their populations are younger. Yet multiple factors impact morbidity and mortality. First, reduced access to critical care in LMICs means that people who fall ill are more likely to die. For example, 10 African nations have no ventilators; another 41 share 2000 among hundreds of millions of people (for comparison, the USA has >170 000 ventilators for a population of roughly 328 million).⁷ Second, lessons learnt from prior pandemics show that caring for infected patients during a pandemic strains healthcare systems in poorer nations in ways that jeopardise people's health and lives. During the COVID-19 pandemic, experts predict dramatic increases in morbidity and mortality from unrelated diseases, such as malaria⁸ and measles,⁹ in sub-Saharan Africa. Already, Uganda's Ministry of Health declared a public health emergency following a polio outbreak and attributed it to diverting essential services, like immunisations, to address COVID-19.¹⁰

An objection to our analysis is that it gives a narrow rendering of 'utility' by focusing only on morbidity and mortality. A broader rendering would consider 'returning to normal' as a utility gain, because it allows opening economies and creating conditions in which citizens can fare well. Does a broader interpretation of 'utility' tip the balance in favour of boosters? Do boosters allow people in wealthy countries to 'return to normal' whereas without them, they would be unable to do so?

In reply, we agree that multiple factors other than morbidity and mortality affect utility. However, fully vaccinated people can already safely return to normal without risking severe disease or death, especially if masked and practising good hygiene. We ought to bring everyone to this level of safety and 'normality' before securing further protection above this level for fully vaccinated people.

Decent life

An ethical principle of distributive justice holds that every person, no matter where he or she lives, deserves a decent life. It requires allocating resources in ways that make leading decent lives possible. Hassoun argues that a 'decent life' can be usefully described by considering what a reasonable, caring person free from coercion and constraint would list if asked in conversation, and argues that it would probably include such things as 'an adequate range of the fundamental conditions that are necessary and perhaps important for securing ... meaningful pursuits, relationships, pleasures, knowledge, appreciation, and worthwhile activities'.¹¹ In other words, these conditions represent

the minimum needed to enable people to pursue their justifiable aspirations.

A principle of distributive justice that centres enabling decent lives imposes a duty to make reasonable efforts to enable decent lives. One way to interpret this during a global pandemic would be to say that people everywhere deserve a chance to have access to life-saving vaccines so that they can be minimally healthy, move freely from place to place, affiliate with others and 'have a life'. This implies not only donating vaccines to poorer countries without vaccine access but also taking other steps to build capacity for vaccine manufacturing, storage and distribution. For example, temporarily waiving patent protections for vaccines during a global pandemic emergency is one way to increase supply and jumpstart investment in vaccine manufacturing in poorer nations. Doing so, in tandem with other measures, brings the world closer to the standard of protecting the conditions necessary for justifiable aspirations.

Health equity

A principle of health equity requires distributing vaccines in fair and equitable ways. Pandemics rarely affect people in uniform ways, preying on the least advantaged populations. Thus, efforts to promote health equity require prioritising health disparity groups. Globally, LMICs qualify as health disparity populations during the COVID-19 pandemic because they have the least access to life-saving vaccines.

It might be countered that LMICs face practical hurdles that merely sending vaccines do not address. On 14 May, the WHO reported that while COVID-19 vaccine rollouts were exemplary in some African countries, just 1% of the 1.3 billion COVID-19 vaccines given globally had been administered in Africa so far.¹² The WHO considered major obstacles to be lack of funds, trained personnel, vaccine hesitancy, insufficient planning to reach priority groups and remote populations.

In response, rather than justifying abandonment, these obstacles show the urgency of doubling down on global efforts to address disparities in health infrastructures for this and future pandemics. In Africa, barriers to effective vaccination campaigns point to the need for logistical support from high-income countries, international philanthropic organisations, civil society groups and multinational corporations to share knowledge, build capacity and give immediate operational support. Tools like the WHO's readiness assessment exercise have helped governments like Rwanda's evaluate their preparedness and take steps to prepare for COVID-19 vaccine rollouts.¹³ Addressing both universal and country-specific challenges through data-driven planning will be key, as will learning from historical successes, such as MenAfriVac campaigns to provide meningococcal vaccines in Africa's meningitis belt.¹⁴

REPLIES TO OBJECTIONS

Pragmatism

An objection to our proposal holds that it takes years to build capacity for mass vaccinations, and low-income countries lack this capacity. For example, Israel's extraordinary capacity to rapidly distribute vaccines to large numbers of people was years in the making and nothing close to that level of capacity exists in low-income countries. Bolstering the objection are persisting reports of African countries where COVID-19 vaccines are at risk of spoiling due to an inability to get shots from airport tarmacs to people's arms.¹⁵

In response, wealthy nations should strengthen support for on-the-ground operations to get shots in arms. Building public

health capacity in Africa prepares not just Africa but also the world, to stop future pandemics in their tracks.

Nationalism

Another counterargument to our proposal is that a government's first duty is to keep its own people safe. By offering boosters to citizens, wealthier nations are doing just that. Some bioethicists defend this, saying that countries can ethically prioritise their own until the lethality of COVID-19 resembles the influenza, proposing an influenza standard: 'when COVID-19 becomes more like a bad influenza season in terms of mortality, other health effects, and public health restrictions—then there is no longer an ethical justification for retaining vaccine doses for country residents.'¹⁶

We disagree. Even if nationalism is warranted for initial vaccination, the kind of unfettered nationalism that booster shots represent is self-defeating. If governments do not help their neighbours during a pandemic emergency, this will prolong the pandemic, harming everyone, including their own citizens. Rather than thinking of distributing vaccines to people in LMICs as charity that benefits only them, we should instead regard it as acting to protect all people. In the microbial world we share, a threat to one individual is a systemic threat to the whole interconnected group.

Our analysis supports a *fair-minded influenza standard*: until COVID-19 resembles a bad influenza season, governments should work cooperatively, sharing vaccines. During the 1918 pandemic, the H1N1 virus that causes influenza led to the loss of 50 million lives; today, when influenza returns each year, 650 000 lives worldwide are lost.¹⁷ According to a fair-minded influenza standard, if the SARS-CoV-2 virus becomes a background feature of our lives, as many scientists predict, with global deaths approaching 650 000, then (and only then) the duty to help poorer nations obtain vaccines diminishes, no longer representing a requirement of justice. For now, we are nowhere near that level.

Ownership

A further reason to object to our argument is that nations own what they have bought and paid for. Wealthy nations have secured their current COVID-19 vaccine stockpiles fair and square. It is unfortunate, not unfair, that some countries cannot afford to do that.

In response, vaccines are in fact the final, translational part of product development that is years in the making and involves many people's labours and large public sector investments.¹⁸ Simply put, science is a social product. Invention does not occur in a vacuum but depends on the thoughts and ideas of those who came before.

In further reply, regarding vaccines as drug companies' private property perpetuates global health disparities, resulting in what some term, 'vaccine apartheid.'¹⁹ Eerily reminiscent of the situation during the HIV/AIDS epidemic of the 1990s and 2000s, this system divides the world into haves and have-nots, with wealthy countries, mostly in the Global North, owning and producing most of the world's vaccines, and poorer countries, mostly in the Global South, beholden to them.

Scientific advancement

Wealthy countries, such as Israel, might respond to our argument for delaying boosters by saying that they are doing the world a great service by advancing science. Leshem and Wilder-Smith argue that Israel is helping other countries by modelling data-driven immunisation policies.²⁰ Just as Israel was the first

in the world to achieve high rates of vaccination coverage and among the first to report about the efficacy of mRNA vaccines against the Delta variant,²¹ it now leads the world in administering boosters, which will provide further data to guide immunisation policy.

In reply, while the approach of rich countries like Israel giving boosters no doubt offers data, its central purpose is not to help others but to give Israelis an edge against SARS-CoV-2 and its mutant strains. This is done at the expense of unvaccinated people in LMICs, who could be given vaccines instead.

In further reply, the conduct of scientific research is subject to ethical constraints. Foremost among these is the responsibility to respect the rights and well-being of human research participants. If we think of the entire world as research subjects, people living in LMICs are the 'placebo group'. If the government of Israel were to ask the governments of LMICs if they would agree to forego vaccines for their citizens in order to advance the science of providing boosters, what would they say?

Self-interest

Individuals might counter our proposal by saying it is in their self-interest to get boosters, since a 10% boost makes them individually better off. Perhaps such a belief is what led over a million Americans to cheat, grabbing boosters before they were eligible.²²

Such reasoning is flawed. If the SARS-CoV-2 virus mutates, the 10% boost might quickly become useless. Each individual is better protected by reducing the virus's chance to replicate in unprotected regions.

Semantics

Can our arguments for delaying boosters be brushed aside by just calling 'boosters' something else—for example, 'a third dose in the primary series of shots'? Stanley Plotkin, the legendary virologist who developed the rubella vaccine, said that the name 'booster' carries the wrong connotation: 'Calling the third dose a booster is immunologically incorrect and also gives the wrong impression that somehow the vaccines failed...'²³

In reply, our argument does not turn on names, but numbers. It holds that the protection a third shot gives is far less than what a first shot offers. Call the first dose Sam and the third dose Silly. The conclusion would still be that 10% of the people in every nation should get Sam before anyone gets Silly.

Futility

Finally, it could be argued that the COVID-19 pandemic demonstrated once again that it is 'every nation for itself'. From the initial hoarding of vaccines by means of advance purchase agreements to the most recent efforts to give booster shots in rich nations, the lesson is that efforts to act and think ethically on a global scale are futile. We are wasting our time.

In reply, Scheidel, a social historian, makes a compelling case that throughout world history, periods of great destabilisation, such as war, revolution, state collapse and plague, have ushered in transformative change that would have been previously unthinkable.²⁴ They represent 'society's great levellers', disrupting entrenched systems of privilege and creating openings to reduce gaps between haves and have-nots.

Building on Scheidel's analysis, we propose that periods of crises also create openings for new values to emerge and take hold. The values governing bioethics today trace to the aftermath of the Second World War, when egregious violations of individuals' rights in the name of 'Nazi science' led to the Nuremberg Code, which emphasised respect for individual autonomy. While

respect for autonomy remains at the heart of bioethics, other values are urgently needed to face the moment we are now in.

A fitting response to an age of emerging infectious diseases is an ethic of global solidarity.²⁵ Such an ethic requires reckoning with the implications of our interconnected world. Just as pollutants in the sky and degradation of the earth endanger people everywhere, the SARS-CoV-2 virus anywhere threatens people everywhere. In today's world, the ethic that ought to be front and centre is solidarity with human beings everywhere.

CONCLUSION

We began by describing the WHO's call for a temporary moratorium on COVID-19 boosters to enable 10% of people in every country to be vaccinated. We urge the world to follow the WHO's plea because doing so will produce the greatest good, enable people to lead decent lives and promote global health equity. We showed the error of objections that invoke pragmatism, nationalism, ownership, science, self-interest, name changing and futility.

Stepping back from the current crisis, we urge viewing the COVID-19 pandemic as training ground for emerging infectious diseases yet to come. Ultimately, putting one's own nation first requires helping people everywhere.

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