Priorities for global access to life-saving interventions during public health emergencies: Crisis nationalism, solidarity or charity?

Running Title: Epidemics: Access to life saving interventions

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Abstract (154 words)

Access to COVID-19-vaccines by the global poor has unveiled the impact of health and scientific inequities on access to life saving interventions during public health emergencies (PHE). Despite calls for solidarity to ensure equitable global access to COVID-19 vaccines, it would seem that rich countries both in the north and southern hemisphere find a charity-based approach more appealing and may use the opportunity to forge neo-colonial cooperation ties with African countries. Solidarity is undoubtedly an ideal equity-based principle of public health emergency of international concern (PHEIC). However, its application may be wanting especially as crisis nationalism is more likely to inform the public health policy of any country during a PHEIC, even when they are strong supporters of global solidarity. African countries, on the other hand, must re-appraise their heavy reliance on international aids during PHE and recognise the importance of boosting their epidemic preparedness including research and translations of its findings to practice.

Main Text (2881 words)

Introduction

Once the prospects of an effective COVID-19 vaccine became imminent, many global health stakeholders anticipated that access to the vaccines by the global poor would be a major challenge (Bollyky *et al.* 2020). These fears became pronounced when wealthier nations pre-ordered hundreds of millions of COVID-19 vaccines, even before they were manufactured or approved for emergency use (So and Woo 2020). Some countries even ordered more than five doses per person (Kirk *et al.* 2021; Mullard 2020). What perhaps is (not) shocking is that Africa, the continent that was initially feared would be worst hit by the pandemic, was left out of the vaccine acquisition race. By the end of May 2021, the African continent had administered just over 2% of total vaccines administered worldwide (Mathieu *et al.* 2021). To minimise the moral harm of vaccine nationalism and hoarding, the World Health Organisation's (WHO) Strategic Advisory Group of Experts on Immunisation (SAGE), guided by global solidarity, recommended six principles for achieving fair allocation of COVID-19 vaccines (WHO 2020), prominent amongst which were global and national equity. However, the implementation of these principles has been a major challenge with a seeming preference for charity and/or donor-based approaches to providing COVID-19 vaccines to sub-Saharan Africa.

Solidarity or Charity: Equitable global access to life saving interventions during PHE

In recent times, calls for vaccine equity during epidemics came to the limelight during the Influenza H5N1 and H1N1 pandemics in 2009 when the Indonesia Government raised concerns about equitable access to an H1N5 vaccine by populations in low-and-middle-income- countries (LMICs) (Fidler 2010). Indonesia had warned that global policies on access to new health innovations and products during epidemics could worsen global health inequities (Sedyaningsih

et al. 2008). More than a decade later, the COVID-19 pandemic re-echoes these fears with the WHO relying on richer nations, on the basis of global solidarity, to facilitate access to COVID-19 vaccines by populations in LMICs. To ensure global equitable access to COVID-19 vaccines, the WHO, in partnership with the Coalition for Epidemic Preparedness Innovations (CEPI) and the Global Alliance for Vaccines and Immunization (GAVI) set up the COVID-19 Vaccines Global Access (COVAX) Facility. COVAX was operated based on global solidarity and equity, and its main objective was to ensure that all persons, irrespective of their geographical location can timeously access COVID-19 vaccines.

Faced with a pandemic, crisis nationalism whether by high income countries (HICs) or LMICs is likely to take centre stage, and each country would seek to care for their taxpayers first. Therefore, a heavy reliance on global solidarity is likely to fail. Perhaps what needs to be called out is the scenario whereby the welfare of the global poor comes only after crisis nationalism by HICs, who subsequently use excesses of hoarded life-saving interventions to forge or cement diplomatic ties with African countries, especially as global health, in many ways, is shaped and informed by neo-colonialism.

A number of African countries have since accessed limited doses of COVID-19 vaccines either through the COVAX Facility, the African Vaccination Acquisition Task Team (AVATT), donations from China and Russia (outside of COVAX) or as part of participation in vaccine trials. To boost global access to COVID-19 vaccines, some HICs have pledged to donate their surplus vaccines to LMICs (Turner 2021; Aljazeera News 2021) either through COVAX or as directly, as aid, to poor countries. The USA, for example, has promised to donate 500 million vaccine doses to LMICs some of which are African countries such as South Africa. This promise is coming after the USA has administered more than 300 million vaccine doses, reported a

noticeable national decrease in COVID-19 vaccine demands, and anticipates that 70% of their adult population will be fully vaccinated by July 2021 (Aljazeera News 2021). China and Russia has also donated COVID-19 vaccines directly to some poor countries (Associated Press 2021). However, just like with some HICs the donations were, arguably, made only after they had vaccinated a significant proportion of their population, and in some instances COVID-19 vaccine donations are used to cementing bi-lateral alliances with some LMICs (Cullinan and Nakkazi 2021; Westcott 2021). In the same light, some HICs will also be donating some of their surplus vaccines as direct aid, to yet unnamed poor countries, in what can also be considered vaccine diplomacy.

Crisis nationalism and charitable approaches to global health especially during PHE is not new. The global roll out of COVID-19 vaccines in many ways mimics access to life saving interventions that happened during the Ebola and HIV epidemics. Before the 2014-2016 Ebola epidemics, there was little global interest in developing vaccines or therapies for the Ebola virus disease (EVD, probably because of low financial incentives, because for over 40 years outbreaks of EVD were localised to East and Central Africa. The 2014-2016 outbreaks however, threatened to spread to high-income countries (HICs) prompting a global response that by far surpassed previous global reactions to EVD. Sensing a global health security threat, some HICs and pharmaceutical companies fast tracked the development of vaccines and novel therapies for EVD and in 2019, the USA approved the first Ebola vaccine (US FDA 2019). A global Ebola vaccine stockpile, described by the WHO as an excellent example of global solidarity, was also created (Amanor 2021). Yet, during the 2018-2020 EVD outbreak in the Democratic Republic of the Congo (DRC), access to the Ebola vaccine was made possible only after unrelenting activism from various stakeholders, especially by the humanitarian agency, Médecins Sans

Frontiers (MSF 2019). Similarly, in the early years of the HIV epidemic, equitable global access to antiretroviral therapy (ARTs) was a major challenge for many LMICs, partly because many pharmaceutical companies opposed calls to circumvent intellectual property rights and patent protections (Ford *et al.* 2007; Ford *et al.* 2004) that were preventing the production and/or sourcing of generic versions of ARTs (Klug 2012; Barnard 2002; Vella *et al.* 2012). Wide access to ARTs in LMICs only came against a backdrop of global activism from academics and patient/civil society groups (Ford *et al.* 2011). Lessons were not learned and just like EVD and HIV, it has taken endless advocacy campaigns to draw attention to the inequitable access to COVID-19 vaccines including a call for patent waiver that was strongly opposed by some HICs under the guise that it will discourage innovations.

COVID-19 Vaccine (in)equity across African Countries

Besides the global inequities in COVID-19 vaccine access, there is also glaring inequities between African countries. In early June 2021, only about 16 of 54 African countries (Fig 1) had vaccinated more than 2% of their population (Mathieu et al. 2021) with Morocco, Seychelles (25.36%); Equatorial Guinea (10.59%); Algeria (5.7%); Tunisia (7.61%), Botswana (6.38%), Zimbabwe (4.65%); Libya (4.63%), Togo (3.27%); Namibia (3.26%) Eswatini (3.04%); Senegal (2.83%) and Egypt (2.76%). Other countries like Burkina Faso, Cameroon, Chad, the DRC, South Sudan are yet to record 0.5% vaccination rate and there was no data for Burundi, Eritrea and Tanzania. This shows that relatively wealthy African countries had secured more doses of COVID-19 vaccines compared to poorer countries. The exception being South Africa, but the reasons are more related to the circulating variants SARS-COV-2 virus in the country which prompted the government to suspend the use of already acquired AstraZeneca vaccine due to efficacy related concerns (Madhi *et al.* 2021; Fontanet *et al.* 2021). Other countries such as

Seychelles, Morocco, Zimbabwe, Equatorial Guinea benefited from vaccines acquired either as donations or at a "reduced cost" from China or Russia, or as part of Sinopharm vaccine trials (Isilow 2021; Huaxia 2021; Ndlovu 2021) to boost their vaccination numbers.

Therefore, it is clear that every epidemic will continue to highlight and exacerbate global health inequities both within and between nations and continents (ref). The limited requests by African countries for COVID-19 vaccines is largely financial-related. The World bank estimates that close to 12 billion USD will be required to source vaccines for priority populations in Africa (Asala 2021), with countries like Nigeria having to pay about 283 million USD to access its allocation of 42 million doses that will cover just over one-fifth of its teeming population while Zambia would need about 25 million USD for its allocation of less than 4 million doses (Lewis and Winning 2021). Given that paying for COVID-19 vaccines will make many African nations poorer and despite the efforts of the AU- African Export-Import Bank (Afreximbank) partnership to secure COVID-19 vaccines at heavily discounted prices (Lewis and Winning 2021), chances are high that with the economic meltdown caused by COVID-19, many African countries may still be unable to afford, within realistic timelines, the required vaccines doses to achieve herd immunity, without incurring more debts.

Relatively wealthier African states such as South Africa, Nigeria, Botswana, Kenya have set aside contingency funds for vaccine acquisitions, while poor countries have described plans to secure funding for vaccines either through international donations or multilateral agencies (CABRI 2021) and poorer countries are largely depending on donor aids. Although coalitions such as COVAX Facility and the African Union- Afreximbank partnerships seek to ensure fair and equitable distributions of COVID-19 vaccines among African countries, it still remains unclear how they would ensure equitable distribution of vaccines within the continent. Equally,

there is a lack of clarity on how HICs that have pledged to donate vaccines directly to poor countries would ensure that their "donation" or "aid" is equitably distributed to the different countries.

Fig 1: COVID-19 Vaccine Distribution Across Africa (https://ourworldindata.org/COVID-vaccinations Accessed 11 June 2021).

Equity at the national level: Vaccine allocation plan for Africa

What perhaps will be a bigger, and complex battle for COVID-19 vaccine access in Africa is ensuring national equity in vaccine access, including making decisions on which population groups, within a country, should be prioritised for vaccine access and at what stage. Many African countries are yet to successfully navigate issues of vaccine prioritisation, or at best provide convincing equity-based reasons on which population groups will receive the COVID-19 vaccine first. The WHO's recommendation is to prioritise groups who are at the highest risk of COVID-19 starting from frontline healthcare workers, followed by the elderly and people with co-morbidities (WHO SAGE 2021). To this effect, many African countries, have prioritised essential healthcare workers for the first phase of COVID-19 vaccinations. This strategy has, however, been met with resistance in some countries. In South Africa, for example, teachers requested to be considered a priority group given the high risk of exposure during their commute to work. (Mlamla 2021; Qukula 2021) Similarly, other workers who provide essential services such as those in retails, public transport and care services, also have a significant risk of getting COVID-19 due to working or transport condition for the benefit of their populations and as such can make a claim to be vaccinated alongside healthcare workers (Shazi 2021; Rose 2021). Similar arguments were advanced for Ebola vaccines in the DRC. (Mednick 2018).

In Guinea, the limited available doses of vaccines were reserved for some top government officials (Africanews 2021) and other countries such as Senegal, Nigeria and Ghana countries saw political leaders and other top officials being prioritised at the first phase alongside frontline healthcare workers (Xinhua 2021; Radio Univers 2021) on the questionable basis that vaccination of public leaders may build public trust in COVID-19 vaccination. Some African health ministries, partly due to hesitancy or mistrust for COVID-19 vaccines or fear of having to destroy existing stock due to expiry dates (Odhiambo 2021), have opened up vaccinations to all persons above 18 years old willing to get vaccinated. This has mainly happened in urban cities, meaning that those in rural areas do not have access, irrespective of the countries' prioritisation plan. The vaccination priority groups for many African countries after frontline healthcare workers have been vaccinated are not entirely clear. Also, how the decision was reached remains opaque. Clearly, some African countries may have adopted the WHO SAGE recommendations on priority groups. However, this may not be an effective approach in all African countries given the complex diversity in demographic profiles and health systems capacity. African countries, depending on their population demographics and COVID-19 burden, will have to define what 'equity' would mean for vaccine access at the national level and should make this information publicly available to allow for public engagements on the process, in ways that reflect reasonableness, accountability, andprinciple of fostering global health justice (Daniels 2007).

In countries with high levels of social and economic inequalities, there may be a case for prioritising populations who, by virtue of their living conditions, are unable to implement basic public health measures such as quarantine/isolation, physical distancing, hand washing due to, for example, limited access to clean water or overcrowding. This is arguably the case in many

townships, slums, and low-income residential areas in African countries. On the other hand, many African countries used an internet-based strategy for vaccination registration (ref). This implies that many people who would have loved to be vaccinated but did not have access to the internet where unable to get their COVID-19 vaccines. In African settings, this is largely true for the elderly, poor and those in rural areas. Vaccine prioritisation is not straightforward, but what is obvious is that a 'copy and paste' strategy is problematic. Each country, or countries with similar population demographics and COVID-19 dynamics, would need to define what COVID-19 vaccine equity means for them. Whatever approach or indicators of equity are prioritised, national governments would need to be transparent about the process and the reasons for the decisions.

COVID-19 Vaccine: Trials, Patents, Intellectual Property, and benefit sharing

A number of African countries participated in COVID-19 vaccine trials (Makoni 2020). One would therefore expect, in line with the principle of post-trial access and benefit sharing, the pharmaceutical companies involved would ensure that participating communities are able to access these vaccines, should they be effective. This has not necessarily been the case for COVID-19 vaccines, as countries such as South Africa that participated in the AstraZeneca/Oxford vaccine trials had to pay more than double the price paid by HICs (Sullivan 2021). This sustains the history of exploitation of African populations in health research, further reducing public trust in research and institutions involved in these trials. Although, Johnson and Johnson promised to make their vaccine reasonably affordable (McConaghie 2020), it is still not known if this would translate to affordable vaccines for many countries across the continent.

Given the advanced procurement of COVID-19 vaccines by a few, mainly rich countries, and that many African countries will not be able to pay for vaccines due to the high costs, South

Africa and India led a call for a temporary waiver on Intellectual property (IP) rights on COVID-19 vaccines. The call was strongly opposed by many pharmaceutical companies in wealthy countries, some philanthropic organisations and some HIC governments (Venkatapuram and Zielinska 2021) with a claim that intellectual properties are the least of barriers to equitable vaccine access and that a ban on patent would stifle future innovations (Usher 2020). Hence, it can be argued that the current global approach to COVID-19 vaccines distribution is profit-driven and not in line with calls for global solidarity and equitable vaccine access.

While some companies, for example AstraZeneca, have made a no-profit-pledge for COVID-19 vaccines (Porteous 2021), it is limited to the pandemic period, indicating that post-pandemic, the cost of COVID-19 vaccines will increase. Currently, HICs have administered about 70 times more vaccines than many LMICs, suggesting that many HICs are likely to have COVID-19 under control by the end of the year. On the other hand, the COVID-19 cases and mortality are again on the rise in many African countries. If the current trend in global vaccine distribution is maintained, then many LMICs will end up paying more for COVID-19 vaccines.

Conclusion

Global inequities in access to COVID-19 vaccines is not due to lack of equity-based models for access to life saving interventions during PHEICs. The WHO's COVID-19 Technology Access pool, for example, provides a good approach to ensuring equitable access to scientific technology and innovation especially during public health emergencies of international concern (PHEIC). However, it seems that the social solidarity model on which it is based is less appealing to leading pharmaceuticals and some wealthy countries where the vaccines are manufactured or does not put them under obligations to share resources, and that there is a

seeming preference for charitable-based approaches. Global solidarity is undoubtedly a pathway to achieving equity in resource allocation during PHEIC, however, the actualisation of global solidarity during PHEIC can be quite nuanced in a pandemic, especially in a situation where states seek benefits for their populations ahead of others. Therefore, Africa's heavy reliance on global solidarity for access to life-saving interventions during PHEICs or disease outbreaks is not sustainable.

A sure way of mitigating health inequities, both globally and nationally, is for African countries (and other LMICs) to ramp up their pandemic preparedness, research, and development programs, and articulate their national resource allocation plans for disease outbreaks. Preparing for the next epidemic will mean strengthening the diagnostic, vaccine and drug development pathways in Africa, especially in relation to research, manufacturing, distribution and regulatory approval mechanisms. At the national level, African countries will need to define equity-oriented frameworks for resource allocation during disease outbreaks, especially in cases where life-saving interventions are limited. At the global level, emphasis should be on technology transfer and endorsing IP/patent models that support innovation without restricting access.

Declaration of Interest

The authors declare no conflict of interest.

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