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COVID-19 vaccine equity and booster doses

The debate on COVID-19 vaccine equity has been long-running, and we have previously weighed in on the topic. However, the facts that (1) by Aug 9, only 12.6 million of the 4.46 billion doses administered globally were in low-income countries, (2) 3.65 billion have been administered in high-income (HICs) and upper-middle-income countries, and (3) WHO Director-General Tedros Adhanom Ghebreyesus actually had to issue a plea for a moratorium on third-dose boosters in HICs on Aug 4, mean that we, again, need to add our voice to the demand for equitable access to vaccines.

“No one is safe until everyone is safe” has become the mantra of the COVID-19 pandemic, with good reason. Unmitigated transmission means rampant viral replication, which in turn means infinite opportunities for the emergence of new, more transmissible variants that could escape natural or vaccine-induced immunity. A perverse social experiment would be to allow the virus to continue ripping through low-income and lower-middle-income countries (LMICs), where people tend to live in close proximity and infection prevention strategies are difficult to implement because much of the populations rely on hand-to-mouth income (India being a case-in-point), while seeing how quickly HICs can redesign vaccines to counter yet another variant that has emerged from LMICs. Beyond the moral argument, this approach would make no economic sense: if many final goods in HICs rely on raw materials and intermediate goods from LMICs, and if LMICs cannot provide these materials because their populations are dying from COVID-19 or are prevented from working because of lockdowns, how long do HICs think that they can keep their own economies running? The RAND corporation estimates that HICs would see a return of US\$4.8 for every \$1 spent on supplying vaccines to LMICs, and the Global Dashboard for Vaccine Equity shows that if vaccine distribution were uniform, HICs still stand to gain the most. Additionally, while HICs hoard their precious vaccines, China and Russia, two ambitious political entities, have been only too happy to offer their vaccines and strengthen their spheres of influence in Africa, South America, southeast Asia, the Middle East, and eastern Europe.

The administration of a third dose is motivated by fear of the B.1.617.2 (delta) variant but the intensity of this fear is unfounded, as there is now evidence that

vaccines licensed in HICs are effective enough against it. Conversely, there is no definitive evidence if, and when, a third dose is necessary, and much-needed trials—the only context in which third-dose administration should be acceptable—are eagerly awaited. There is some evidence of waning antibody titres, which is an axiom of any vaccine administration that does not equal waning cellular immunity. Although the world has ubiquitously grappled with the plague of vaccine hesitancy, the level of coverage in HICs and the rates of administration of new doses should now be sufficient to allow the redirection of surplus doses to those who have none via the COVAX initiative. It is deeply ironic that COVID-19 vaccine acceptance might actually be much higher in LMICs than in HICs. A point must also be made about increasingly risky behaviour—it is irresponsible to encourage relaxation of basic physical distancing measures such as mask wearing in public or confined spaces even for vaccinated individuals, which may well be contributing to a large proportion of breakthrough infections.

A crucial problem for getting vaccines to LMICs is an interrupted cold chain. This is the case in Africa, where many communities live without continuous power supplies, and freezers that cost up to \$20 000 are unaffordable. While capacity building is ongoing, countries could focus on donating and administering vector vaccines that are easier to store than mRNA vaccines and are sufficiently safe and effective, particularly in older individuals. Preliminary evidence from the Com-COV trial shows that heterologous vaccination is safe and induces robust immune responses, a viable option for countries that cannot rely on a steady stream of vaccines. There have been calls, reasonable in a time of global catastrophe, to waive intellectual property rights to facilitate local vaccine manufacturing, which should currently focus on LMICs with sufficiently robust regulatory capacities to ensure the quality of local production, as argued by the Center for Global Development. Vaccine donors and corporations can think about how to help with these issues in the short and long terms.

Vulnerable people in HICs have already been prioritised; vulnerable people in LMICs cannot wait until 2023 for their turn, and this wait is in the best interest of no one.

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