RICH COUNTRIES ON TRACK TO STOCKPILE OVER 1 BILLION SURPLUS C19 VACCINES

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Background

The COVID-19 pandemic doesn't end with a vaccine. It ends when everyone can get one. But with over half of current and projected production doses of COVID-19 vaccines monopolized by a small number of wealthy countries, large swaths of the global population will be left unprotected and the virus will be allowed to circulate, unchecked and mutating, for years to come.

Understandably, several countries hedged their bets early in the pandemic by securing contracts for multiple vaccines candidates on the assumption that at least one of those bets would pay off. Now, with at least five vaccines proven safe and effective, these bets are indeed paying off, and these countries stand to receive billions of doses in the first half of 2021.

In addition to contributing to COVAX, the advanced market mechanism that is procuring vaccines for low income countries, the WHO and global health advocates are calling for wealthy countries with surplus vaccines to share excess doses with low- and lower-middle-income countries that have been able to secure limited or no vaccines. A coordinated vaccine sharing initiative could dramatically increase global access, but only if countries act quickly and donate doses even as they roll out their own national vaccine campaigns now. This analysis examines which countries are best positioned to share doses this year and in what amounts.

Which countries have excess doses?

This analysis looks at G20 countries and the EU and uses the following parameters to define what constitutes "excess doses" that should be shared with other countries:

- We count procured doses of the five leading vaccines that have been proven safe and effective in clinical trials, and have obtained regulatory approval or are expected to obtain regulatory approval in the first half of 2021: Pfizer-BioNTech, Moderna, Oxford-AstraZeneca, Janssen (J&J), and Novavax.
- We assume that countries able to donate will maintain sufficient doses to vaccinate 100 percent of their populations and donate only excess supply.

This conservative approach finds that five countries (Australia, Canada, Japan, UK, and US) plus the EU block of 27 countries could share over 1 billion doses of leading COVID-19 vaccines with other countries and still retain enough supply to inoculate their entire populations (see figure 1). This constitutes significant volume; these excess doses alone, for example, are sufficient to vaccinate the entire adult population of Africa.[1]

Taking the impact of vaccine hesitancy into account, a less conservative - albeit more realistic - scenario would result in the availability of even more excess doses. For example, if these five countries and the EU maintained only enough doses to vaccinate 75 percent of their populations, they could collectively share 1.7 billion doses. Studies confirm that it is realistic to assume that only about 75 percent of national populations will choose to get vaccinated; a 2018 Wellcome Trust report found that 72% of people in Northern America, 73% of people in Northern Europe, and 59% of people in Western Europe agree that vaccines are safe.[2]

Further, if other vaccine candidates are found to be safe and effective, like those from Sanofi/GSK or CureVac/GSK, an additional 1 billion excess doses could be shared by these countries.

Figure 1: Number of Excess Doses Available to Share, By Country/Group

Country	Population (total)	Doses Purchased*	100% coverage (2-doses)	Doses available to share
Australia	**25,364,310**	**114,800,000**	**50,728,620**	**64,071,380**
Canada	**37,589,260**	**190,000,000**	**75,178,520**	**114,821,480**
Japan	**126,264,930**	**290,000,000**	**252,529,860**	**37,470,140**
United Kingdom	**66,834,400**	**247,000,000**	**133,668,800**	**113,331,200**
United States	**328,239,520**	**1,110,000,000**	**656,479,040**	**453,520,960**
European Union	**447,512,040**	**1,360,000,000**	**895,024,080**	**464,975,920**
			TOTAL	**1,248,191,080**

* This analysis looks at doses purchased of the five leading vaccines on the market or awaiting regulatory approval" Pfizer, Moderna, Oxford/AZ, Novavax, J&J

When and how should countries share doses?

Due to staggered vaccine production and delivery schedules, it's important to note that at present, countries are not sitting on stockpiles of vaccines. As of February 2021 many of these "doses available to share" exist only on paper. Nonetheless, all doses are promised in legally binding documents and must be accounted for as part of anticipated supply.

Successfully expanding global access through dose sharing will require careful planning to ensure sharing begins before potential donor countries actually start to accumulate excess doses. For example, the WHO recommends that all countries vaccinate at least 20% of their populations – roughly enough to cover the most vulnerable groups including all health care workers and people over the age of 65 – before vaccinating more widely.

Therefore, we recommend that potential donor countries project when national vaccination programs will hit this 20% threshold and put plans in place to start sharing doses simultaneously thereafter. Models exist to help countries make these projections.[3] Once countries have vaccinated the most vulnerable people in their populations, they should share a percentage of doses per quarter. The percentage of doses shared should increase as different national vaccination thresholds are reached - for example, countries could share 5 percent of doses once 20 percent of their national populations have been vaccinated and increase the percentage of shared doses quarterly as a greater portion of their national population is vaccinated. This allows vaccination campaigns to carry on in earnest in countries with bilateral deals, while also helping increase the supply available to low-income countries.

Finally, donor countries should share doses through the COVAX facility to help ensure a coordinated and equitable approach to how they are allocated globally. COVAX already has distribution channels set up in low-income countries, and is well positioned to facilitate donations and redistribution of doses ensuring vaccines get where they are needed most.

Norway has already started to share doses through COVAX while it simultaneously scales up it's national vaccination program. Canada and the EU have also announced that they will share vaccine doses with other countries through COVAX, although with no clear timeline.

Why Global Access to Vaccines Matters

The evidence couldn't be clearer: as long the virus remains unchecked anywhere on the planet, it will continue to mutate, breach borders, and wreak havoc on communities and the global economy:

- There could be twice as many deaths from COVID-19 if rich countries monopolize the first doses of vaccines instead of making sure they are distributed globally.[4]
- Vaccine hoarding could cost the global economy up to $9.2 trillion. Rich countries will bear half those costs because of supply chain disruptions and demand shocks.[5]
- Each new infection is an opportunity for mutation. Already there are over 4000 variants of COVID-19 and some – like the South African and UK variants – are proving more transmissible than other strains. And with each new strain, the higher the risk of the disease evolving to an extent where current vaccines, diagnostics and treatments no longer work. The only way to prevent new and possibly more dangerous variants is to dramatically slow transmission of the virus through widespread vaccination.[6]

Ensuring that people everywhere have access to a vaccine in 2021 is the fastest way to protect the most vulnerable and speed the recovery for everyone.

Recommendations

Australia, Canada, Japan, the UK, the US and the EU should take the following steps to quickly share excess doses to promotes global access:

- ✔ **Adopt and commit to act on the Principles for Sharing COVID-19 Vaccine Doses at the February 19 G7 Leaders Summit;**[7]
- ✔ **Publicly commit to partner with COVAX to ensure equitable redistribution of shared doses at the February 19 G7 Leaders Summit;**
- ✔ **Project when national vaccination programs will hit 20% coverage and put plans in place to start sharing excess doses simultaneously thereafter;**
- ✔ **Refrain from contractual provisions in bilateral deals that prevent donations.**

Endnotes

1 According to World Bank data from 2019, the adult population of Sub-Saharan Africa over the age of 15 is 638,907,267. Inoculating this entire population with a two-dose regime would require 1.2 billion doses total. However, given that Pfizer, Moderna, and AZ are being rolled out first in high-income countries, we are assuming and promoting that a significant number of the doses shared should be the Johnson & Johnson's 1-dose regime which is easier to use in low-resource settings.

2 Wellcome Trust. 2018. Wellcome Global Monitor 2018, Chapter 5. https://wellcome.org/reports/wellcome-global-monitor/2018/chapter-5-attitudes-vaccines

3 ONE. 2021. LIVE: How long until each country vaccinates all its vulnerable people. Accessed 2 Feb 2021. https://public.flourish.studio/story/750468/?utm_campaign=covid19&utm_medium=email&utm_source=email

4 How Many Lives Could Equitable Vaccination Save? Chinazzi, Matteo, Jessica T. Davis, Natalie E. Dean, Kunpeng Mu, Ana Pastore y Piontti, Xinyue Xiong, M. Elizabeth Halloran, Ira M. Longini Jr., Alessandro Vespignani. Estimating the Effect of Cooperative Versus Uncooperative Strategies of COVID-19 Vaccine Allocation: A Modeling Study . Laboratory for the Modeling of Biological and Socio-technical Systems (MOBS LAB), Northeastern University (website), September 2020. https://www.mobs-lab.org/uploads/6/7/8/7/6787877/global_vax.pdf.

5 International Chamber of Commerce, 2019. The Economic Case for Global Vaccination: An Epidemiological Model with International Production Vaccination. https://iccwbo.org/media-wall/news-speeches/study-shows-vaccine-nationalism-could-cost-rich-countries-us4-5-trillion/

6 WHO. 2020. Coronavirus disease (COVID-19): Virus Evolution. https://www.who.int/news-room/q-a-detail/sars-cov-2-evolution

7 COVAX. Principles for Sharing COVID-19 Vaccine Doses with Covax. 4 January, 2021.https://www.gavi.org/sites/default/files/covid/covax/COVAX_Principles-COVID-19-Vaccine-Doses-COVAX.pdf