Vaccine nationalism risks prolonging the global pandemic

While vaccination programmes are well underway in some richer nations, many poorer countries have yet to secure their supply, let alone begin administering jabs. Governments risk failing to contain the pandemic in the coming years unless they guarantee timely global access to COVID-19 vaccines. ***Olivier Wouters (LSE)*** *looks at the growing global inequalities and how they could be addressed.*

Several firms have successfully developed new COVID-19 vaccines in under 12 months, a remarkable achievement. Yet having new COVID-19 vaccines will mean little if people around the world are unable to get vaccinated in a timely manner.

How can we immunise the whole world against COVID-19? Together with colleagues from the LSE, London School of Hygiene & Tropical Medicine, University of Oxford, and Thai Ministry of Public Health, I tried to answer this question in a recent article in The Lancet.

We identified four key challenges that need to be overcome to ensure global access to COVID-19 vaccines. We took deep dives—informed by current data—into each of these challenges around global vaccination. To guide our review, we developed a dashboard to compare 26 leading vaccines on their potential contributions to achieving global vaccine immunity, using a traffic-light system.

Here are some key takeaways.

Challenge 1: Producing COVID-19 vaccines at scale

Production capacity is arguably the key bottleneck at this time: most firms developing COVID-19 vaccines have said they will be able to produce at most 1 billion doses each in 2021—not enough to vaccinate the world population at once. If we had enough doses to go around, the global health community would be less concerned about where countries are in the queue for vaccines.

The recent row between the European Commission and AstraZeneca over the supply of vaccines to EU countries has highlighted the need to ramp up production as fast as possible, and the importance of functioning supply chains and, in some cases, local or regional production capabilities. To its credit, AstraZeneca, which received large amounts of funding from the UK and US governments, has teamed up with manufacturers in other countries to increase capacity, which no other firm has done to the same extent—though coordination within the AstraZeneca network has proven to be complex.

One way of scaling up production would be for pharmaceutical companies to actively share knowledge, technology, and data with governments and manufacturing partners, something that the World Health Organization and its partners have urged vaccine developers to do.

And governments have leverage to make sure companies do this: governments and non-profit groups have given more than $10 billion dollars in public money to leading vaccine developers, including AstraZeneca, Johnson & Johnson, and Moderna, to speed up the development and production of these vaccines. Yet most governments do not seem to be taking advantage of this leverage.

Table 1: Public and non-profit funding for the research, development, and production of leading vaccine candidates

	Technology	Known public and non-profit funding, US$	Funders
Sanofi with GlaxoSmithKline	Protein subunit	$2.1bn	US government

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	Technology	Known public and non-profit funding, US$	Funders
Novavax	Protein subunit	$2.1bn	Bill & Melinda Gates Foundation, CEPI, US government
AstraZeneca with Oxford University	Non-replicating viral vector	$1·5bn	US government
Johnson & Johnson	Non-replicating viral vector	$1.5bn	US government
Moderna	mRNA	$957m	CEPI, Dolly Parton COVID-19 Research Fund, US government
BioNTech with Pfizer	mRNA	$445m	German government
Clover Pharmaceuticals with Dynavax	Protein subunit	$430m	Bill & Melinda Gates Foundation, CEPI
CureVac	mRNA	$348m	CEPI, German government
Sinopharm with Wuhan Institute	Inactivated virus	$142m	Chinese government
Medicago	Virus-like particle	$137m	Canadian government
Inovio	DNA	$107m	Bill & Melinda Gates Foundation, CEPI, US government
Covaxx with Nebraska government	Protein subunit	$15m	Taiwanese government
SK Biosciences	Protein subunit	$14m	Bill & Melinda Gates Foundation, CEPI
Biological E	Protein subunit	$9m	Bill & Melinda Gates Foundation, CEPI, Indian government
University of Hong Kong	Replicating viral vector	$4m	CEPI, Hong Kong government
CAMS with IMB	Inactivated virus	$3m	Chinese government, Jack Ma Foundation
AnGes with Osaka University	DNA	Unknown	Japanese government
Anhui Zhifei with CAMS	Protein subunit	Unknown	Chinese government
Bharat Biotech	Inactivated virus	Unknown	Indian government
CanSino	Non-replicating viral vector	Unknown	Unknown
Gamaleya	Non-replicating viral vector	Unknown	Russian government
RIBSP	Inactivated virus	Unknown	Kazakh government
SII with Max Planck Institute	Live attenuated virus	Unknown	Unknown
Sinopharm with Beijing Institute	Inactivated virus	Unknown	Chinese government
Sinovac	Inactivated virus	Unknown	Unknown
Vector Institute	Protein subunit	Unknown	Russian government

For sources and methodology, refer to The Lancet article.

Challenge 2: Pricing vaccines affordably

Some vaccine developers are charging prices for their COVID-19 vaccines that are among the highest ever for vaccines, with prices ranging from around $5 per course to over $60. By comparison, seasonal flu vaccines costs less than $7 per jab in most rich countries, and less than $4 in most low- and middle-income countries.

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Even at low prices per course, COVID-19 vaccines may be unaffordable to many governments aiming to vaccinate nearly their entire adult populations—which might become a recurring expense if annual injections are needed.

Here too, the extensive involvement of public funders in the development and production of COVID-19 vaccines provides them with opportunities to make these vaccines globally affordable.

Challenge 3: Making sure vaccines are available globally

High-income countries, representing 16% of the global population, have reserved most of the vaccine supply available in 2021 for themselves, including at least 70% of doses available in 2021 of the vaccines developed by BioNTech (with Pfizer) and Moderna, based on known deals.

As countries like the US, UK, United Arab Emirates, and Israel forge ahead with their vaccination programmes, it is important to remember that many poorer countries have yet to secure their supply, let alone begun administering jabs.

President Joe Biden visits the NIH Vaccine Research Centre in Maryland. Photo: NIH Image Gallery. Public domain

In an effort to avoid a repeat of the mistakes made during the swine flu pandemic in 2009, the World Health Organization, together with Gavi (a major buyer of vaccines for low-income countries) and the Coalition for Epidemic Preparedness Innovations (CEPI), set up the COVAX Facility in the early days of the present pandemic to accelerate global access to COVID-19 vaccines. Despite these efforts, it is looking increasingly likely that many poorer countries will only receive limited supply of vaccines in 2021.

The COVAX Facility arguably remains the best vehicle to achieve global equitable distribution at this stage in the pandemic. More funding and political support the COVAX Facility is urgently needed. Once richer countries have vaccinated their highest risk groups, including front-line health workers and older adults, these governments can share doses with COVAX to promote global access.

Challenge 4: Ensuring smooth deployment of vaccines and tackling vaccine hesitancy

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We should take advantage of the many vaccines now available, as not all will be suitable for deployment universally. While many rich countries have robust data systems and delivery infrastructure to recall individuals at the right time for their second dose, this is logistically and organisationally complex in resource-constrained settings. Many low- and middle-income countries lack registries for adult immunisation programmes. Moreover, several of the leading candidates must be kept deep-frozen, which even in high-income countries is very difficult, let alone in resource-poor ones. One-dose vaccines which can be kept refrigerated, some of which are expected to be authorised soon, may prove to be game changers in the global fight against COVID-19.

We also need to increase public confidence and trust to improve uptake. In the Lancet paper we present original data from a 32-country survey—involving almost 27,000 people—on potential acceptance of COVID-19 vaccines, conducted from October to December 2020.

Vietnam had the highest rates of vaccine acceptance among the countries surveyed, with 98 per cent of people saying they would ‘definitely’ or ‘probably’ get vaccinated. India and China were next, with 91 per cent of people in both countries saying they were likely to get vaccinated, followed by Denmark and South Korea with 87 per cent for both. The United Kingdom came in at 81 per cent.

The country with the lowest percentage of people who would ‘definitely’ or ‘probably’ get vaccinated was Serbia (38 per cent) followed by Croatia (41 per cent), France and Lebanon (both 44 per cent) and Paraguay (51 per cent).

The low level of vaccine acceptance in numerous countries is concerning and calls into question whether there will be high enough uptake in some settings to control the spread of the virus.

Conclusions

Vaccine nationalism is short-sighted. The scramble by wealthy countries to secure vaccines for their populations risks leaving poorer countries unable to secure enough doses of vaccines. As well as being inequitable, the widespread disregard for a global approach to vaccine allocation shown by national governments threatens to prolong the pandemic and increase the risk of new variants of the virus arising—against which existing vaccines may be less effective. This may force countries to close their borders for longer, further damaging their own economies.

The distinct characteristics of leading COVID-19 vaccines across the four dimensions of the global vaccination challenge generate trade-offs. Globally and nationally, the availability of diversified sets of vaccines is likely needed to bring the global pandemic under control.

This post represents the views of the author and not those of the COVID-19 blog, nor LSE. It is based on Olivier Wouter’s contribution to How to Make COVID-19 Vaccination a Success, an event hosted by the LSE in January 2021.

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