

The economic benefits of equitable global access to COVID-19 vaccines

Tens of millions of people worldwide have been infected with COVID-19 and so far, more than a million lives have been lost because of the pandemic.

A huge global research effort is taking place to bring fast-tracked vaccines to the market, and in some countries, inoculations with approved vaccines have already started. At the expense of a more globally coordinated effort, many governments – mostly in wealthier countries – have signed direct bilateral purchase agreements with vaccine producers to first secure a stock of doses for their own populations. This situation, in which countries prioritise their own domestic needs at the expense of others, is often referred to as ‘vaccine nationalism’.

Limited global manufacturing capacity and the profusion of bilateral purchase agreements could mean insufficient vaccines available to cover the

world population until the year 2024, resulting in less wealthy countries in particular missing out on sufficient supplies of early doses.¹ This could have negative consequences for COVID-19-related deaths, as a low-risk individual in a high-income country could potentially be treated sooner than a high-risk individual in a lower income country.²

RAND Europe examined the economic effects that could arise as a result of inequitable access to vaccines. While the COVID-19 outbreak is foremost a public health crisis, it has also caused substantial damage to the global economy. National governments are spending trillions of dollars to fight the negative economic impact in their own countries, but until vaccines are widely available in every country, the economic burden will continue to be felt worldwide.



Study approach

RAND Europe researchers used a global macroeconomic simulation model to determine the impact on the economic output of high-income countries (HICs) if low and low-middle income countries (LLMICs) were unable to sufficiently immunise their populations.

The model assumed that until a sufficient proportion of a country's population is immunised against the virus, there is a need for prolonged physical distancing measures (voluntary and involuntary), which have a negative impact on highly contact-intensive service sectors. It analysed how reduced activity in five of these sectors – hospitality; recreation; retail and wholesale; transportation; and health and social care – would affect a country's GDP as a result of physical distancing and changes in consumer behaviour.

Researchers ran different scenarios in the model to examine how the impact on HICs' economies changes if LLMICs have no access to vaccines initially, compared to a hypothetical baseline scenario in which every country in the world has access to vaccines and can immunise their populations sufficiently. The difference in GDP between the former and the latter scenario shows the economic cost for wealthier countries of poorer countries missing out on COVID-19 vaccines, or in other words, the potential benefits of providing equal access to vaccines globally.

The economic analysis takes into account the negative effects on the domestic economies of

LLMICs due to reduced activity in the five contact-intensive sectors. Since countries in the model are interlinked through trade and investment with each other, reduced domestic economic demand in LLMICs also has negative repercussions on the economies of HICs (e.g. through lower export revenues).



Tackling vaccine nationalism

International efforts to tackle the challenge of vaccine nationalism are ongoing, such as the Access to COVID-19 Tools (ACT) Accelerator. This project aims to help developing countries by providing equitable access to COVID-19 tests, treatments and vaccines, as well as through its COVAX programme, which gives eligible LLMICs access to finance in order to procure vaccines.³



Key finding

The total cumulative economic cost for 30 HICs due to LLMICs being unable to immunise their populations sufficiently is estimated to be \$82bn in 2020–2021; \$156bn in 2021–2022; \$216bn in 2022–2023; and \$258bn in 2023–2024.⁴

In absolute terms, the United States is estimated to incur the largest relative cost: \$15.7bn in 2020–2021, rising to \$49.3bn in 2023–2024. The second largest would be Germany, at nearly \$10 billion in 2020–2021. More country costs can be found in the table on the facing page.

Table 1: Change in real cumulative GDP in \$bn for HICs if LLMICS are unable to immunise their populations sufficiently, relative to a scenario in which they can.

	2020–2021	2021–2022	2022–2023	2023–2024
 Australia	-2.6	-5.0	-6.9	-8.2
 Austria	-1.2	-2.3	-3.2	-3.8
 Belgium	-1.4	-2.7	-3.7	-4.4
 Canada	-3.2	-6.1	-8.4	-10.0
 Denmark	-0.9	-1.7	-2.4	-2.8
 Finland	-0.7	-1.3	-1.8	-2.2
 France	-7.0	-13.3	-18.4	-22.0
 Germany	-9.9	-18.9	-26.1	-31.1
 Greece	-0.5	-1.0	-1.3	-1.6
 Hungary	-0.4	-0.8	-1.1	-1.3
 Ireland	-1.0	-1.9	-2.6	-3.1
 Israel	-0.7	-1.3	-1.8	-2.2
 Italy	-5.2	-9.9	-13.7	-16.3
 Japan	-9.5	-18.1	-25.0	-29.8
 Korea, Rep.	-3.1	-5.9	-8.2	-9.7
 Kuwait	-0.3	-0.6	-0.8	-0.9
 Luxembourg	-0.2	-0.4	-0.5	-0.6
 Netherlands	-2.4	-4.6	-6.3	-7.5
 New Zealand	-0.4	-0.8	-1.1	-1.3
 Norway	-0.8	-1.5	-2.1	-2.5
 Oman	-0.1	-0.2	-0.3	-0.3
 Poland	-1.5	-2.9	-4.0	-4.7
 Portugal	-0.6	-1.1	-1.6	-1.9
 Qatar	-0.3	-0.6	-0.8	-0.9
 Saudi Arabia	-1.5	-2.9	-4.0	-4.7
 Spain	-3.6	-6.9	-9.5	-11.3
 Sweden	-1.4	-2.7	-3.7	-4.4
 UK	-5.2	-10.0	-13.8	-16.4
 United Arab Emirates	-0.8	-1.5	-2.1	-2.5
 USA	-15.7	-29.9	-41.3	-49.3
Total	-82.1	-156.4	-216.4	-257.8

In sum, investing in equitable access would be economically beneficial for wealthier countries. The findings suggest that for 30 HICs, the benefits of immunising the populations of LLMICs would most likely outweigh the funding needs for the entire Access to COVID-19 Tools (ACT) Accelerator, which seeks total funding of \$38bn. Timing of access to vaccines is an important factor, as the potential economic costs of not providing poorer countries with vaccines will increase over time.



Endnotes

- 1 Launch & Scale Speedometer. 2020. 'Mapping Covid-19 Vaccine Pre-Purchases Across the Globe.' As of 15 December: <https://launchandscalefaster.org/covid-19>
- 2 Arnsten, E. 2020. 'If rich countries monopolize COVID-19 Vaccines, it could cause twice as many deaths as distributing them equally.' News@Northeastern, 14 September. As of 15 December: <https://news.northeastern.edu/2020/09/14/if-rich-countries-monopolize-covid-19-vaccines-it-could-cause-twice-as-many-deaths-as-distributing-them-equally/>
- 3 World Health Organisation. 2020. 'The Access to COVID-19 Tools (ACT) Accelerator.' As of 15 December: <https://www.who.int/initiatives/act-accelerator>
- 4 All figures are in US dollars, correct as of 16 December 2020.

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