

**Executive Master
in EU Studies**

*Fair global access to Covid-19
vaccines: The EU's role in COVAX
and beyond.*

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Abstract

While pandemic restrictions are being lifted in EU Member States, the WHO's mid-2022 goal to vaccinate 70 % of the world's population against COVID-19 had still not been reached by August 2022. To evaluate the success of pandemic containment, not only domestic but also worldwide immunisation efforts must be considered. Following a 'triple-A approach' (analysis – assessment – advice), this paper evaluates the EU's commitment for equitable global access to COVID-19 vaccines: The first chapter (analysis) examines the status quo regarding global accessibility of COVID-19 vaccines. It puts a focus on COVAX, the largest international procurement and distribution mechanism for COVID-19 vaccines, and the EU's role in it. The second chapter (assessment) evaluates the EU's activities within and beyond COVAX. It identifies the initiative's shortcomings and reviews to what extent the EU addresses them otherwise. The final chapter (advice) discusses three alternative deductions the European Commission could draw from this assessment and concludes that equitable global vaccine access is essential to end the pandemic. Access must not only be defined in terms of supply, but also in terms of actual vaccine uptake. The paper therefore identifies three political priorities to improve both, target countries' supply security and absorption capacity: a) durable immunisation infrastructure and regional vaccine manufacturing capacities, b) priority access to COVID-19 vaccines for the most vulnerable population groups and c) stopping vaccine mis- and disinformation. Following an activity framework set up by Anderson et al. (2021), the paper then formulates policy recommendations for the European Commission to improve fair global access to COVID-19 vaccines.

Introduction

After two and a half years of fighting the pandemic and with the World Health Organisation's (WHO) goal¹ to vaccinate 70 % of the world's population against SARS-CoV-2 within reach, it is time to assess the EU's role in the worldwide distribution of COVID-19 vaccines. For the first time since the beginning of the pandemic, COVID-19-related restrictions are being lifted with a longer-term perspective on the European continent. With the Omicron variant of the virus, which often causes milder courses of the disease, becoming dominant, the pandemic seems to have lost some of its horror – at least in widely immunised parts of the world.

But a pandemic is – as the etymological origin of the term indicates – a global problem, which is why, in addition to domestic immunisation campaigns, the efforts to achieve worldwide immunisation against COVID-19 must be included in the success evaluation of pandemic control: Has the EU's commitment within global vaccination initiatives proven to be efficient? What conclusions can be drawn from the current status of global pandemic containment efforts for the Union's further strategy? Is the EU on the right track towards fair global access to COVID-19 vaccines, or does it need to set new priorities for the global immunisation campaign to be successfully completed?

This paper addresses these questions with a particular focus on the EU's role in COVAX, the world's largest international initiative towards the European Union's declared goal of "ensuring that safe vaccines reach all corners of the world"². It follows a 'triple-A approach' (analysis – assessment – advice) to offer an evaluation of the EU's current commitment for equitable global access to COVID-19 vaccines.

The first chapter examines the current situation regarding the global accessibility of COVID-19 vaccines. The analysis puts COVAX, the largest international procurement and distribution mechanism for COVID-19 vaccines, at its centre and investigates the European Union's role within this global initiative.

The second chapter assesses the EU's activities within and beyond COVAX. In a first step, it reviews the effectiveness of the COVAX scheme in providing fair global access to COVID-19 vaccines and identifies shortcomings in the programme's delivery. In a second step, it reviews EU initiatives towards vaccine equity beyond the COVAX framework to

¹ Cf. WHO (2021a), p. 2.

² European Commission (2022g).

assess to what extent the European Union addresses the shortcomings of the mechanism through other channels. Special focus is given to the question of patent waivers on COVID-19 technologies that has been controversially discussed within the World Trade Organisation (WTO).

The third chapter builds on this assessment and discusses three alternative sets of conclusions the European Commission could draw regarding its future policy orientation. It identifies political priorities and formulates policy recommendations for the European Commission to improve fair global access to COVID-19 vaccines.

1. Global access to COVID-19 vaccines: Where are we at?

Fair and equitable access to vaccines in all parts of the world is a key element to achieving global immunity and permanently contain the COVID-19 pandemic. The WHO's goal to vaccinate 70 % of the world's population against COVID-19, aimed for by mid-2022³, had not yet been reached in August 2022. As of 22 August 2022, the world-wide share of people fully vaccinated was at 62 %. 67.5 % of the world population had received at least one vaccination dose.⁴

While these numbers might not seem too far off the set goal, looking at the data in terms of global distribution, another picture becomes apparent: While 73.3 % of the European Union's population have fully completed their initial COVID-19 vaccination protocol⁵, only 26.7 % of people on the African continent have received at least one dose of the vaccine (see figures 1 and 2).

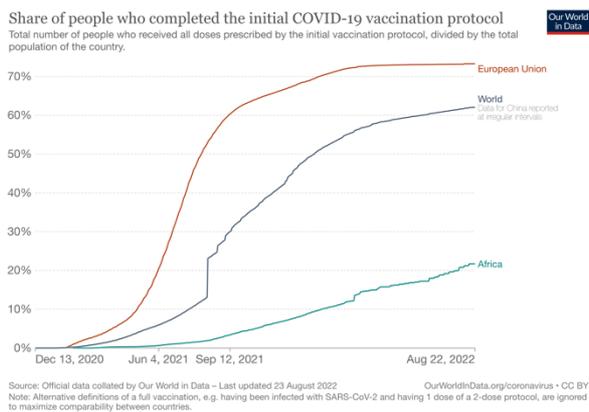


Figure 1

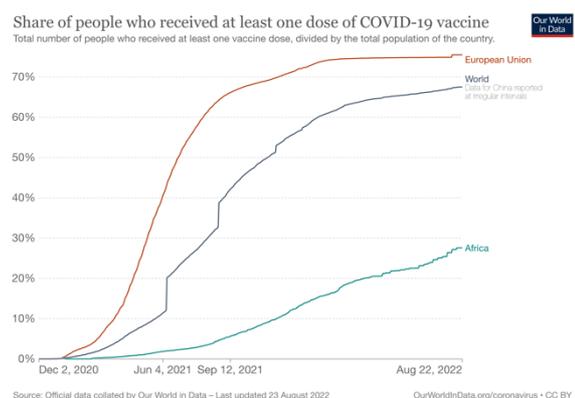


Figure 2

³ Cf. WHO (2021a), p. 2.

⁴ Cf. Our World in Data (2022a) and (2022b).

⁵ Two vaccination doses are considered as initial vaccination protocol for most of the currently available vaccines.

These numbers show a clear divide between the global North and the global South, or between high-income countries (HICs) and low- or medium-income countries (LMICs) in terms of immunisation status. To permanently contain the pandemic and prevent the emergence of new virus variants⁶, however, it is necessary to reach the 70 % immunisation mark across all parts of the world.

A critical evaluation of the effectiveness of the COVAX scheme as the largest international instrument for the fair global allocation of COVID-19 vaccines as well as the EU's role in it will help to identify hindering factors to reaching global immunity and allow to formulate recommendations for future EU action to faster reach this objective.

1.1 What is COVAX?

COVAX, the *COVID-19 Global Vaccine Access* initiative, is the largest internationally coordinated vaccine allocation instrument and the facility through which the European Union directs a large part of its contributions in the global fight against COVID-19. It is part of the larger *Access to COVID-19 Tools Accelerator* (ACT-Accelerator), a partnership launched by the WHO, the European Commission, France and the Bill and Melinda Gates Foundation (BMGF) on 24 April 2020 as a multilateral initiative uniting various stakeholders including governments, global health organisations, scientists, businesses, civil society, and philanthropist foundations. Its aim is to raise financial support for the accelerated development, production and equitable distribution of COVID-19 diagnostics, therapeutics, and vaccines. The ACT-Accelerator consists of a workstream and three thematic pillars that are each managed by several coordinating agencies:

1. The *Access and Allocation workstream*, coordinated by the Global Fund against Epidemics, the World Bank and the WHO, guarantees that the programme's results generate the largest possible output for the countries that are most in need.
2. The *Diagnostics Pillar*, managed by the Global Alliance for Diagnostics and the Global Fund, supports the development and delivery of COVID-19 tests in LMICs.
3. The *Therapeutics Pillar*, managed by the Wellcome Foundation and the Unitaidd health agency, supports research and clinical care in LMICs through the provision of medical assets and treatments.

⁶ Virus mutations often occur in patients with reduced immune protection. To prevent such mutations and contain the pandemic, it is therefore necessary to reach a high global immunisation rate, especially among vulnerable populations.

4. The *Vaccines Pillar*, COVAX, is coordinated by the WHO, the Coalition for Epidemic Preparedness (CEPI) and Gavi, the Vaccine Alliance, and was created as a global facility for equitable access to COVID-19 vaccines. The United Nations International Children's Emergency Fund (UNICEF) is a key actor in the delivery of vaccines in the framework of the programme.

COVAX' overarching goal is to create a fair distribution mechanism to identify needs, organise the roll-out and grant access to COVID-19 vaccines to all participating countries, including those that cannot not afford to purchase them at market prices. Its objective is granting access to vaccines for all people and preventing the emergence of further virus variants through swift and global immunisation. COVAX therefore acts as a platform that supports research and development as well as the production of various vaccine candidates. It also negotiates vaccine prices. All participating countries are given access to successfully developed vaccines, regardless of their income. 92 LMICs and 78 HICs take part in the scheme, representing 90 % of the world's population.⁷

The COVAX scheme consists of two major strands: the *COVAX Facility* and the *COVAX Advance Market Commitment (AMC)*. The participating HICs are self-financing economies: they pool their resources through the COVAX Facility which serves as funding mechanism on the one hand and as central purchasing office on the other. In its funding function, the COVAX Facility supports the investment of vaccine manufacturers to speed up the development and production of COVID-19 vaccines. Contributing to the COVAX Facility guarantees HICs access to sufficient doses to vaccinate up to 50 % of their populations. Vaccine doses are allocated in proportion to the pace of their production. To ensure the fair allocation of available vaccines, however, no country will receive more resources than needed to vaccinate 20 % of its population before all other participating countries have been offered enough doses to reach the same percentage. HICs can access vaccine doses by paying off a share of their cost in advance. This mechanism is supposed to secure the production of enough doses for all participating countries. HICs can choose between a *committed purchase* and an *optional purchase* option:

- a) The *committed purchase* option means an advance payment of 15 % of the estimated final cost per dose and includes the possibility to opt out in case the vaccine's final price is more than double compared to the expected price.

⁷ Cf. Gavi (2020) and European Parliament (2022), p. 3 ff. and Schäfer (2021).

- b) The *optional purchase* option ensures access to a fair share of vaccine doses without the obligation to buy them. The advance payment per dose, however, is twice as high as in the committed purchase option.

The optional purchase option gives HICs greater flexibility and was created to convince a higher number of them to participate in the COVAX Facility. It has, however, also created lesser predictability concerning the numbers of vaccine doses available for LMICs. Even though the COVAX Facility offers HICs the opportunity to obtain vaccine doses through COVAX, EU Member States did not use this supply channel.

LMICs can receive vaccines through COVAX with financial support from the COVAX AMC. The COVAX AMC is separated from the COVAX Facility and receives funding through voluntary contributions in the shape of official development assistance (ODA) from HICs or through private donors. Contributions can either be monetary or in-kind vaccine doses. LMICs or ‘AMC economies’ may be able to obtain additional vaccine doses through a cost-sharing mechanism. Paid contributions can be financed by loans from multilateral development banks under favourable conditions negotiated by the COVAX Facility Office.⁸

Global immunisation against COVID-19 requires the fast development, production and roll-out of effective vaccines. COVAX has therefore invested more than 1 billion euros in vaccine research and development⁹ and has also set up a marketplace to help overcome delays in the production of the required vaccine components¹⁰. It has also used its resources to address issues surrounding vaccine distribution, such as logistics or vaccination hesitancy, that Hayley Anderson et al. describe as *absorption capacity*.¹¹ This capacity can be optimised by investing in a framework consisting of four parts:

1. *Setting up supply chains*: This element addresses all necessary steps to make vaccines available to people starting from import issues, storage and transport possibilities (especially cold-chain requirements) up to the organisation of decentralised mobile vaccination units.
2. *Staffing & equipment*: This element focusses on the recruitment and training of medical staff needed for fast and efficient vaccination campaigns.
3. *Systemisation*: This element deals with data collection and monitoring.

⁸ Cf. European Parliament (2022), p. 4.

⁹ Cf. CEPI (2022a).

¹⁰ Cf. CEPI (2022b).

¹¹ Cf. Andersen et al. (2021).

4. *Strategic communication & community engagement*: This element aims to prevent vaccine reluctance and to tackle the challenge of disinformation regarding vaccines.¹²

The COVAX scheme supports LMICs to build capacities in these four areas to facilitate their vaccination campaigns. Targeted elements include regulation, recruitment and training, logistics, identifying priority target groups, coverage monitoring, awareness-raising and confidence-building.¹³

1.2 The EU's role in COVAX

Team Europe – that is the European Institutions, the EU's Member States and the EU's financial institutions – is one of the main contributors to the COVAX scheme. Contributions took place through funding of the COVAX AMC on the one hand and vaccine donations on the other. In successive pledges, the European Commission and the European Investment Bank (EIB) have committed to contribute the following funds to COVAX:

- 400 million euros in grants to the COVAX AMC: 100 million euros from the 11th *European Development Fund* (EDF), pledged on 12 November 2020¹⁴, and additionally 300 million euros from the new *Global Europe* instrument¹⁵, pledged at the virtual G7 leaders' meeting on 16 February 2021¹⁶;
- 600 million euros in guarantees: 400 million euros from the EIB, pledged on 31 August 2020¹⁷, and 200 million euros from the *European Fund for Sustainable Development plus* (EFSD+) that guarantee an EIB loan, pledged on 16 February 2021¹⁸;
- 300 million euros reoriented to COVAX so that the EIB can support third countries in the cost-sharing mechanism, announced by Ursula von der Leyen, President of the European Commission, at the COVAX AMC summit on 3 June 2021¹⁹.

As of 26 February 2022, Team Europe's pledges to COVAX in grants, not including loans and guarantees, amounted to a total of 3 283 million euros out of 11 035 million euros that were pledged to COVAX worldwide. The amendment to the 2021 EU budget of

¹² Cf. *ibid.*, p.15f.

¹³ Cf. European Parliament, p. 5.

¹⁴ Cf. European Commission (2020a).

¹⁵ Cf. Consilium (2020).

¹⁶ Cf. European Commission (2021b).

¹⁷ Cf. EURAXESS (2020).

¹⁸ Cf. European Commission (2021b).

¹⁹ Cf. European Investment Bank (2021).

22 December 2021 saw an increase of the resources planned for the global COVID-19 vaccination campaign: the initially foreseen 850 million euros were topped up with another 450 million euros. This sum was taken from the budget's flexibility instrument, meaning that the total budget for 2021 remained the same. The budgetary agreement for 2022 foresees an additional 190 million euros for the Global Europe instrument dedicated to the global pandemic response, including vaccinations.²⁰

Next to these financial contributions, the EU also supports COVAX through direct vaccine donations. Having secured more COVID-19 vaccine doses than needed for its own population²¹, the EU and its Member States have committed to share excess doses with LMICs. The main channel used for these donations is COVAX, but the EU has also established its own tools to organise this process. It has created a vaccine-sharing mechanism that helps to match donation proposals from its Member States with requests from third countries. This tool mainly addresses health workers and humanitarian needs and primarily focusses the EU's Eastern and Southern neighbourhood. Member States can assign their vaccine donations to specific recipient countries, and they are donated through either COVAX or another appropriate channel.²²

The EU had initially pledged to share 700 million doses directly or through COVAX by mid-2022 but has later corrected the date by which this number will be reached to the end of the year.²³ As of 4 July 2022, Team Europe had shared 409 million doses through COVAX, 337 million of which had already been delivered. This sum amounts to more than half of the total doses donated to AMC economies through COVAX.²⁴ In addition, EU Member States had delivered 70 million vaccine doses through bilateral donations by June 2022.²⁵

²⁰ Cf. European Parliament (2022), p. 6.

²¹ Cf. Launch & Scale Speedometer (2022).

²² Cf. European Commission (2021a), European Commission (2022a) and European Parliament (2022), p.7.

²³ Cf. Consilium (2022), European Commission (2021c) and European Commission (2022a).

²⁴ Cf. Gavi (2022).

²⁵ Cf. European Commission (2022a).

2. COVAX and beyond: EU action assessed

2.1 Has COVAX been efficient?

As demonstrated by the figures above, COVAX as cooperative international mechanism has contributed to the quick development, production and distribution of COVID-19 vaccines.²⁶ Critics, however, claim that it has not lived up to its goal of reducing global vaccination inequity.

COVAX' original objective of vaccinating at least 30 % of every country's population

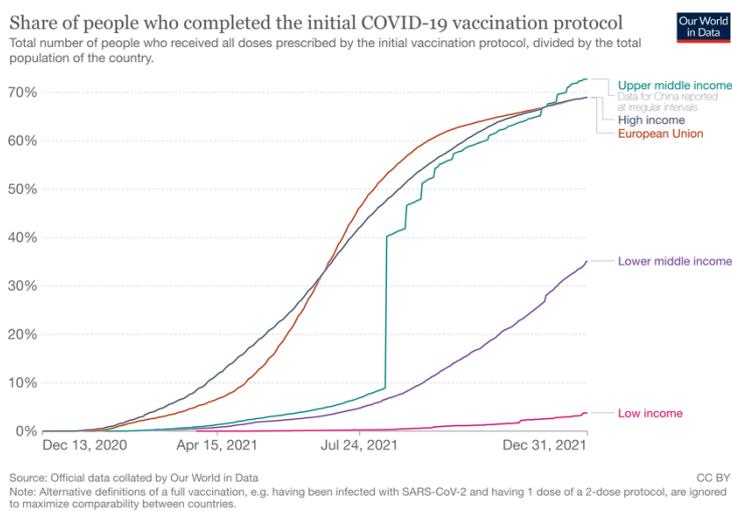


Figure 3

worldwide by the end of 2021 was not achieved (see figure 3). In 2021, global vaccine production and distribution was slowed down by the different approval processes for vaccine candidates, difficulties in the upscaling of production processes and export restrictions in important COVAX supplier countries.

Consequently, in the first three quarters of 2021, donor countries were slower than expected to deliver on their pledges and COVAX adapted its September 2021 supply forecast for AMC economies to just enough doses to vaccinate 20 % of their populations. However, in the last months of 2021 and the first part of 2022, vaccine deliveries to AMC countries have increased considerably.²⁷

As of 31 December 2021, 68.98 % of people in HICs had been fully vaccinated (not including booster doses) as compared to only 35.22 % in lower-middle-income countries and a mere 3.78 % in low-income countries.²⁸ The vaccination rate in AMC economies has considerably improved since the first vaccine delivery through COVAX on 24 February 2021.

²⁶ Cf. Klobucista (2022) and European Parliament (2022), p. 8.

²⁷ Cf. European Parliament (2022), p. 9.

²⁸ Cf. Our World in Data (2022d).

A direct comparison of the vaccination rate development in HICs and AMC countries between 24 February 2021 and 7 August 2022, however, shows a strong divide, particularly affecting the African continent (see table 1 and figure 4):

	24 Feb. 2021	7 Aug.2022
high-income	3.49 %	73.59 %
upper-middle-income	0.20 %	78.94 %
lower-middle-income	0.07 %	55.98 %
low-income	0.00 %	16.87 %
Africa	0.01 %	21.49 %

Table 1

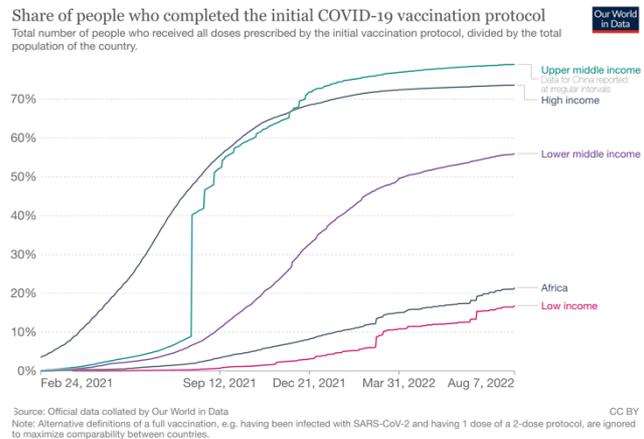


Figure 4

Even though HICs and upper-middle-income countries have both reached the 70 % mark set by the WHO, the fact that upper-middle-income countries have surpassed HICs indicates that vaccine availability no longer is the main determining factor with regard to vaccination rates. Consequently, the attention needs to shift from supply to absorption capacity.

2.1.1 Hindering factors to vaccination efficacy

COVAX' main objective is to boost global vaccine production and foster the equitable and fair distribution of COVID-19 vaccines worldwide. Throughout the year 2021, 11.2 billion COVID-19 vaccine doses were produced globally²⁹, potentially enough for a large part of the world's population to complete their initial vaccination protocol. However, the efforts channeled through the COVAX initiative have not been efficient enough to reach this goal and available vaccine doses are still not being distributed equitably on a global level. In February 2022, COVAX had still fallen short by 700 million doses of its initial aim to distribute 1.8 billion doses until the end of 2021.³⁰

²⁹ Cf. IFPMA (2021).

³⁰ UK Parliament (2022).

WHO director-general Tedros Adhanom Ghebreyesus blames four main factors for weakening the global vaccination efficacy:

1. vaccine nationalism,
2. vaccine diplomacy,
3. vaccine hesitancy and
4. vaccine euphoria.³¹

While vaccine nationalism describes the phenomenon of HICs stockpiling more than 80 % of the produced COVID-19 vaccines³², vaccine diplomacy describes a scenario where vaccine donations are used as a tool to pursue geopolitical interests³³. Vaccine hesitancy is a set of beliefs or psychological barriers that lead to fear or refusal of vaccines that have proven efficient³⁴ and vaccine euphoria describes a phenomenon where high vaccination rates lead to the premature abandon of other protective measures³⁵.

Particularly two of these phenomena can be identified as hindering factors in the evaluation of COVAX' efficiency so far: vaccine nationalism and vaccine diplomacy.

Vaccine nationalism

In the first year after effective COVID-19 vaccines had become available, vaccine nationalism was the main obstacle to the success of COVAX. While the programme was originally designed as main global procurement and distribution tool for COVID-19 vaccines, wealthier countries, including the EU Member States, mainly relied on other channels (e.g., bilateral purchasing agreements with vaccine manufacturers) to obtain a larger number of vaccine doses quicker than foreseen in COVAX' distribution rationale.

COVAX' essential strategy was to pool financial means and available vaccine doses to guarantee equitable distribution among all countries participating in the initiative until the point where all of them reached the threshold of vaccinating 20 % of their populations, regardless of their income level. But the programme's underlying mechanism does not prevent participating HICs from negotiating bilateral agreements with vaccine producers. This has led to self-financing economies obtaining multiple more vaccine doses than required to vaccinate their populations, thereby increasing the supply gap for LMICs.³⁶ The

³¹ Cf. Tedros (2021) and European Parliament (2022), p. 10.

³² Cf. Hafner et al. (2020).

³³ Cf. Jennings (2021).

³⁴ Cf. Beaulieu-Pelletier (2021).

³⁵ Cf. Conlen et al. (2021).

³⁶ Cf. European Parliament (2022), p. 1f.

dynamics of the mechanism that open up different opportunities for self-financing economies and AMC countries have progressively turned COVAX into an aid instrument rather than a tool to globally manage fair vaccine distribution.³⁷ Analysts like Rosemary Flowers-Wanjie from *Development Reimagined* make a case for COVAX to become a compulsory instrument, since the freedom for HICs to opt in or out of multilateral instruments at will, depending on the availability of more promising bilateral agreements, often is to the detriment of LMICs' populations.³⁸

Since the development of vaccines against COVID-19 was very successful and has led to the availability of more efficient vaccine candidates than expected, bilateral agreements between HICs and pharmaceutical producers have led to an over-supply in those countries. Resulting from the advance purchase agreements the EU has struck with different manufacturers, it has received almost four times more doses than needed for its population to be fully vaccinated.³⁹ Often these additional doses were then used to offer booster shots or to vaccinate younger people and children, while AMC economies were still lacking vaccines to reach COVAX' 20 % immunisation goal.⁴⁰

Another side effect of HICs purchasing vaccines outside of COVAX is the weakening of the mechanism's originally expected bargaining power.⁴¹ COVAX lost out on deals with pharmaceutical companies as a consequence of the competition for doses resulting from countries striking bilateral agreements with manufacturers themselves. These bilateral agreements were consequently often served first: According to UNAIDS, vaccine manufacturers had delivered only 120 million of 994 million allotted doses to COVAX by October 2021, while 1.8 billion doses were delivered through bilateral deals with HICs.⁴² In January 2022, the European Ombudsman criticised the lack of transparency in the EU's bilateral negotiations with vaccine producers because the negotiated prices were not made public due to confidentiality clauses.⁴³ The lacking price transparency adding to the oligopolistic market power of pharmaceutical companies that held on COVID-19 vaccines increased the costs for COVAX substantially.⁴⁴

³⁷ Cf. Ravelo (2021).

³⁸ Cf. Flowers-Wanjie (2021) and European Parliament (2022), p. 11f.

³⁹ Cf. Launch & Scale Speedometer (2022).

⁴⁰ Cf. European Parliament (2022), p. 9f.

⁴¹ Cf. WHO (2020).

⁴² Cf. UNAIDS (2021).

⁴³ Cf. European Ombudsman (2021).

⁴⁴ Cf. Oxfam (2021) and European Parliament (2022), p. 10.

Vaccine diplomacy

COVAX originally did not prevent vaccine donors from designating specific recipient countries, which potentially enabled wealthier countries to use their donation as a means to pursue other political interests. In the beginning of 2022, however, COVAX abolished this possibility and eliminated the risk of the programme being used as a channel for vaccine diplomacy.⁴⁵

Vaccine dependency

Another hindering factor can be added to the list above: It becomes apparent when assessing the efficiency of COVAX and could be described as *vaccine dependency*. While the supply gap between HICs and LMICs, especially in the first year of vaccine availability, can in large parts be attributed to vaccine nationalism, vaccine dependency addresses another and more complex issue in the supply problematic, that of intellectual property rights.

Critics like Jenny Lei Ravelo from *Devex* suggest that COVAX has fallen short of its proclaimed goal to make affordable vaccines accessible globally by choosing a redistribution mechanism instead of addressing intellectual property rights. Her criticism refers to the controversially discussed question whether patents on vaccines and other COVID-19-related technologies should be lifted. Proponents argue that a waiver on patents would open up vaccine production to manufacturers all around the globe, which in turn would promptly increase vaccine availability and drastically improve equitable vaccine access. Resolving the supply problem would also alleviate vaccine nationalism and vaccine diplomacy, since both phenomena only occur in contexts of scarcity.

In October 2020, South Africa and India brought forward a proposal for a temporary derogation on intellectual property under the WTO's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) for COVID-19-related health technologies. The proposal focused on vaccines, but also included diagnostics and therapeutics. In a situation of global vaccine shortage, the proposed TRIPS waiver was intended to enable AMC economies that possess manufacturing capacities to produce the lacking COVID-19 vaccines and at the same time create an incentive for other countries to develop such production capacities.

⁴⁵ Cf. WHO (2021b).

But the proposal remained contested because several stakeholders, including the EU, feared that loosening patent rights could drastically reduce the economic incentives for pharmaceutical innovation and consequently slow down the development of new vaccines and therapeutics against COVID-19. They also worried that opening up vaccine production to any manufacturer regardless of their qualification and know-how would negatively affect the quality of the produced vaccines. The EU therefore answered with a counterproposal that recommended to fully exhaust the already existing compulsory licensing flexibilities instead and to limit export restrictions. It also suggested to urge vaccine patent holders to expand their production through voluntary licensing agreements and to set affordable vaccine prices for LMICs. A WHO call to voluntarily share knowledge and patents to COVID-19-related technologies had only been backed by Belgium, Luxembourg, the Netherlands and Spain out of all EU Member States.⁴⁶

On 17 June 2022, the WTO's 12th Ministerial Conference finally adopted a decision on a waiver of certain TRIPS obligations. The document takes up the EU's proposal and includes a temporary removal of intellectual property barriers regarding patents for COVID-19 vaccines. The decision on potentially extending the waiver to diagnostics and medicines, however, has been postponed. While the EU welcomed the waiver as a compromise that facilitates the production and export of vaccines and still ensures a solid intellectual property framework with incentives for innovation⁴⁷, critics claim that it falls short of its original purpose to reduce patent-related barriers to all COVID-19-related technologies substantially⁴⁸.

2.1.2 Lacking absorption capacity

Vaccine shortage, however, is not the only problem COVAX is facing. This has become evident when in 2022, for the first time, the offer of available vaccine doses within the programme exceeded the demand.⁴⁹ For the first time in 14 allocation rounds, COVAX had 436 million vaccine doses available for AMC economies in January 2022, but only 100 million doses were requested for distribution by the end of May. This shift is a strong signal that the programme increasingly needs to address absorption capacities in its recipient countries.

⁴⁶ Cf. Oxfam (2022) and European Parliament (2022), p. 8.

⁴⁷ Cf. European Commission (2022d).

⁴⁸ Cf. Amnesty International (2022), Holmgaard Merish (2022), Scheel & Maier (2022), European Commission (2022d) and Oxfam (2022).

⁴⁹ Cf. WHO (2022a).

With the decrease of the supply problematic since the first half of 2022, COVAX increasingly needs to focus on infrastructural and societal issues in order to reach the WHO's global vaccination goal of 70 %. AMC countries face problems such as deficiencies in cold-chain infrastructure, vaccine hesitancy and inadequate distribution networks. At the same time, the loosening of pandemic restrictions in HICs and the resulting increase in international travel combined with the slow roll-out of vaccines in less wealthy parts of the world create favourable conditions for the virus to potentially mutate again and create new variants.⁵⁰ An assessment of the local absorption capacities in AMC economies identifies two major factors that impede the uptake of vaccines: infrastructural deficiencies and a lack of local production capacities.

Infrastructural deficiencies

An efficient global roll-out of COVID-19 vaccines does not only depend on the sufficient supply of vaccine doses, but also on the availability of adequate cold-chain equipment. COVAX partners originally anticipated that most COVID-19 vaccines would require storage between two and eight degrees Celsius in standard vaccine refrigerators. But the Pfizer-BioNTech mRNA vaccine that requires storage in ultra-cold chain freezers (UCC) between minus 60 and minus 86 degrees Celsius has now become the main vaccine offered through the COVAX programme. However, UCC and other cold-chain infrastructure is lacking in COVAX recipient countries.

In 2021, COVAX procured more than 200 cold rooms and 5 000 vaccine refrigerators. In addition, UNICEF delivered more than 800 UCC freezers, two thirds of which through COVAX.⁵¹ Despite these efforts, a UNICEF survey from January 2022 found that 44 out of 55 African Union Member States were still showing critical gaps in their cold-chain infrastructure: 24 countries were lacking fridges, 18 countries deep freezers, 22 countries walk-in freezers and 16 countries walk-in cold rooms.⁵²

As discussed above, HICs, including those that take part in COVAX, have bought a large number of vaccines through bilateral agreements with manufacturers. Within COVAX, opting for the optional purchase track has given them the flexibility to choose the kind and number of vaccines they obtain through the programme. As a result, number and type of vaccines that become available to participating AMC economies are difficult to predict in

⁵⁰ Cf. Guarascio & Rigby (2022).

⁵¹ Cf. UNICEF (2022), p. 27.

⁵² Cf. Guarascio & Rigby (2022).

advance. This leads to logistical problems in the receiving countries, because they often do not possess the means to adequately react on short notice to rising and falling numbers of vaccines that need to be processed. The same problem applies to excess vaccine doses that are donated to COVAX shortly before they expire. Some of these vaccine doses cannot be used and are sent back to the donor countries or discarded. As a reaction, COVAX has obligated donors to notify the arrival of vaccine doses at least four weeks in advance and to only donate doses with a minimum shelf-life of ten weeks.⁵³

Infrastructural deficiencies like these negatively affect the respective countries' vaccine absorption capacities and consequently slow down vaccination campaigns. The fact that vaccine donations often become available within short notice inhibits long-term planning within the already limited infrastructural resources. Critics therefore claim that COVAX has focused too much on vaccine supply and was not fast enough to invest in infrastructure and equipment for its recipient countries.⁵⁴

Lacking local production capacities

Beyond cold-chain infrastructure, the COVID-19 pandemic has revealed a lack of production capacity for medical products worldwide, but most drastically in Africa. On the African continent, imports make up 99 % of vaccines and around 70 % of essential medicines, protective equipment and diagnostics.⁵⁵

Existing initiatives often focus on aid and imports instead of industrial strategies and the development of independent production capacities and know-how. Nonetheless, LMICs need resilient health systems, supply chain security and local capacity for vaccination campaigns to end the pandemic and prevent future ones.⁵⁶

Until now, COVAX has strongly relied on donations from wealthier countries that only become available once their domestic demand decreases. While the redistribution of vaccine doses through COVAX was an important instrument to meet acute demands in the first months after COVID-19 vaccines became available, it now increasingly needs to be complemented by middle- and long-term structural measures with the aim of creating a high level of pandemic preparedness globally. This requires COVAX to support AMC countries

⁵³ Cf. WHO (2021b).

⁵⁴ Cf. Guarascio & Rigby (2022).

⁵⁵ Cf. Geddes (2021).

⁵⁶ Cf. Irwin (2021), Geddes (2021) and Fransen et al. (2021).

in the establishment of independent production capacities for vaccines, tests and medicines that are needed to contain the current as well as potential future pandemics.⁵⁷

2.2 Towards vaccine equity: other EU initiatives

The European Union's participation in the COVAX programme is only one part of its larger contribution to the global response to COVID-19. The European institutions take an active role in shaping global health priorities through their commitments in different international fora (e.g., the EU's strategic partnership with the WHO) and through their financial contribution to health-related global issues.

The Coronavirus Global Response

In spring 2020, the European Commission launched the *Coronavirus Global Response*, a fund-raising initiative for universal and affordable access to COVID-19 testing, vaccination and treatment. At the same time, it aims at strengthening health systems and promoting economic recovery. A total of 15.9 billion euros was raised in two major campaigns:

1. the *Coronavirus Global Response pledging event*, co-convened by the European Commission, four EU Member States, Canada, Japan, Norway, Saudi Arabia (then G20 presidency) and the UK, on 4 May 2020, and
2. the *Global Goal: Unite for our Future Summit*, co-convened by the European Commission and the advocacy *Global Citizen* on 27 June 2020.

EU Member States contributed 3.1 billion euros, the EIB 2 billion euros and the European Commission 1.4 billion euros.⁵⁸

The EU-WHO partnership

Based on a Memorandum of Understanding between the European Commission and the WHO, the EU and the WHO entertain a strategic partnership involving the European Commission, the European Council, the European External Action Service, the EU's financial institutions and the EU Delegations. In the framework of this partnership, they support countries to meet the UN's health-related Sustainable Development Goals (SDG), particularly Goal 3 on *Good Health and Well-Being*. Regular high-level strategic dialogues identify synergies and strengthen the shared commitment to work towards Universal Health

⁵⁷ Cf. Unmüßig (2022).

⁵⁸ Cf. European Parliament (2022), p. 7 and European Union (2020).

Coverage (UHC). The partnership aims to improve local health systems as well as their capacity to adequately prepare for, prevent and respond to health emergencies.

In the past years, the EU and the WHO have intensified their partnership under the EU's 'Team Europe' approach to fight the COVID-19 pandemic and its global consequences. In this setting, they collaborate to end the pandemic and to support a post-pandemic recovery that is based on resilient health systems. In the period of 2020 to 2021, the European Commission has been the 5th largest donor to the WHO: Mainly through the Directorates General for International Partnership (INIPA), for Neighbourhood and Enlargement Negotiations (NEAR) and for Civil Protection and Humanitarian Aid (ECHO), the European Commission has contributed 466 million US-dollars to WHO activities aimed at SDG 3 and the strengthening of accessible, affordable and efficient health systems around the world.⁵⁹

With regard to the COVID-19 pandemic, EU funds under the Team Europe initiative for local manufacturing in Africa are used to improve equitable access to safe and effective vaccines and medicines and to enhance local production capacities, particularly in Sub-Saharan Africa. In March 2022, EU Commissioner for International Partnerships Jutta Urpilainen and WHO Director-General Tedros Adhanom Ghebreyesus announced to step up the support under this initiative through a pledge of 24.5 million euros from the EU budget. The funds are meant to assist the African Union in increasing local vaccine production and to support other areas that are relevant to the fight of the pandemic, such as jobs and growth, trade and scientific cooperation.

The EU's financial contribution targets three fields of action:

1. **Regulatory strengthening** (11.5 million euros): These funds will be used to support regional, national and continental African partners in the strengthening of regulatory frameworks and functions. This package aims to reinforce the *African Medicines Regulatory Harmonisation* (AMRH) initiative as well as the African Medicines Agency and is part of a broader effort to create an innovative environment that encourages the local manufacturing of vaccines, medicines and other health technologies.
2. **Technology transfer** (12 million euros): In cooperation with national, continental and global stakeholders, the WHO facilitates technology transfer for local vaccine production in Sub-Saharan Africa through the *COVAX Manufacturing Task Force*. The EU's funds support the mRNA technology transfer hub in South Africa in regional technology

⁵⁹ Cf. WHO (2022b).

transfer and workforce development. The total EU support to the hub (EU institutions + Member States) amounts to 40 million euros.

3. **Demand consolidation and strategic purchasing** (1 million euros): These funds are designated to enhance markets for locally produced commodities. It will be used to assist leaders and communities on the African continent to defragment demand and thus better predict needs.⁶⁰

Scaling-up vaccine production and rollout in Africa

Acknowledging that the distribution of vaccines rather than their supply currently is the key challenge in pursuit of equitable global access to COVID-19 vaccines, the European Commission adapted its global response strategy to the pandemic.⁶¹ Thus, the European Commission announced at the Second COVID-19 Summit on 12 May 2022 a financial contribution of 427 million euros to the *Global Pandemic Preparedness Fund* set up by the G20 in April 2022.⁶² This sum is dedicated to the acceleration of the roll-out and uptake of COVID-19 vaccines and other tools to fight the pandemic on the African continent. In her statement to the pledge, European Commission President Ursula von der Leyen declared the use of available vaccine doses as well as the strengthening of health systems and preparedness capacities a priority.⁶³

As a reaction to the changed supply-demand situation of COVID-19 vaccines, the European Commission declared to focus its future support efforts on the most efficient use of the available vaccine doses: In addition to the 427 million euros for the Global Pandemic Preparedness Fund, Team Europe pledged 300 million euros to support vaccination campaigns in Africa by funding supply chain management, logistics and service delivery, the supply of medical equipment such as syringes and the administration of vaccines. This sum will partially be channeled through COVAX and partially through other initiatives. An additional 100 million euros were dedicated to support equitable access to diagnostics, medicines and the strengthening of health systems, amounting to a total sum of 150 million euros mobilised by the European Union for this purpose. This sum will be channeled through the *COVID-19 Response Mechanism* of the *Global Fund to Fight AIDS, Tuberculosis and Malaria*.⁶⁴

⁶⁰ Cf. European Commission (2022b).

⁶¹ Cf. European Commission (2022c).

⁶² Cf. Reuters (2022).

⁶³ Cf. European Commission (2022c).

⁶⁴ Cf. *ibid.*

As mentioned above, the COVID-19 pandemic has brought the existing deficits in vaccine development and production in LMICs to global awareness. In April 2021, the African Union announced its intention to step up the domestic production of vaccines needed on the continent from currently 1 % to 60 % until 2040 by expanding manufacturing capacities and facilitating vaccine distribution. In May 2021, Team Europe pledged to support this initiative with 1 billion euros, mainly financed from the EU budget and the EIB but also from Member States' contributions.⁶⁵

A new Directorate-General for Pandemic Preparedness

With the *Health Emergency Preparedness and Response Authority* (HERA) Incubator, the European Commission has launched a bio-defence preparedness plan in February 2021, after the emergence of the first new SARS-CoV-2 variants. Its aim is to deepen the cooperation of science, industries and public authorities to monitor newly emerging variants of the virus and to adapt available vaccines accordingly. The initiative includes a task force that works on industrial upscaling in order to help the EU's manufacturing contractors to avoid bottlenecks in the production of COVID-19 vaccines.⁶⁶ Additionally, the European Commission has established a temporary authorisation mechanism to improve the export monitoring of COVID-19 vaccines which were developed thanks to the EU's advance purchase agreements. Vaccine exports to COVAX AMC countries, however, are excepted from this mechanism.⁶⁷ HERA was established as a new Directorate-General of the European Commission on 16 September 2021.⁶⁸

Over the past two years, the European Commission has initiated multiple efforts in the fight against the pandemic, within and beyond the European Union's borders. While Team Europe has been one of the largest financial contributors to international initiatives, the European Commission has also launched new ones itself. On the issue of equitable global access to COVID-19 vaccines in particular, the European Union has contributed to COVAX as one of the programme's main donors.

At the same time, the European Commission has acknowledged that a sustainable strategy must go beyond the supply issue. It has dedicated financial support to structural issues that will in the medium-term lead to greater independence and enhanced pandemic preparedness

⁶⁵ Cf. European Parliament (2022), p. 7 and European Commission (2022a).

⁶⁶ Cf. European Commission (2022d).

⁶⁷ Cf. European Parliament (2022), p. 7.

⁶⁸ Cf. European Commission (2022e).

of health systems in LMICs. A particular focus of the EU's commitment lies on initiatives addressing the African continent and the resilience of its health care systems.

Criticism addresses the EU's stance regarding intellectual property rights, notably patents on COVID-19 vaccines: Governmental and non-governmental actors in the field of international cooperation claim that the EU attaches greater importance to the protection of the financial interests of its pharmaceutical contracting partners than to equitable access to vaccines worldwide.

3. Ending COVID-19: The EU's way forward

Despite the progress already achieved, the pandemic is not yet contained in all parts of the world. The future global development in view of potential new virus variants remains unclear. Revisiting the four hindering factors to global vaccination efficacy determined by Tedros Adhanom Ghebreyesus (see chapter 2.1) in the light of the previous assessment allows to identify the issues that currently need to be addressed most urgently.

While vaccine nationalism and vaccine diplomacy are the factors most directly connected to the question of fair global access to vaccines in the strict sense of the term, vaccine hesitancy and vaccine euphoria are equally relevant when considering access to vaccines not only in terms of availability but also in terms of vaccine uptake and immunisation rates.

1. *Vaccine nationalism*: With the stabilisation of vaccine supply in HICs, vaccine nationalism currently seems to have faded into the background. However, if the underlying dynamic that facilitated the emergence of this issue, notably the imbalance in global vaccine production, is not addressed, it could resurge when Omicron-adapted vaccines become available.
2. *Vaccine diplomacy*: With the ceding scarcity of vaccine doses, vaccine diplomacy is less pronounced at present than when effective COVID-19 vaccines first became available. Its logics, however, risk to be transposed to the currently more pressing issue of infrastructural health care support. Vaccine diplomacy and related phenomena following the same logics can be countered by strengthening fair global access mechanisms and the resilience of health care systems worldwide. Strong and independent health care systems make it impossible for third parties to draw political profit from the provision of vaccines or other support because recipient countries are no longer reliant on their aid.

3. *Vaccine hesitancy*: Vaccine hesitancy is a factor that has long been neglected in HICs as well as in LMICs. Only after the initial vaccine shortage was overcome, it became apparent as one of the main factors obstructing vaccine uptake globally. It is one of the main issues that needs to be addressed to secure the progress of the global immunisation campaign.
4. *Vaccine euphoria*: At present, vaccine euphoria mainly affects HICs that have reached the 70 % vaccination rate and that therefore have been able to loosen their pandemic restrictions. If the other factors hindering the global immunisation campaign are not properly addressed, it represents a considerable risk for those countries to be hit unprepared by potentially emerging new virus variants against which the existing vaccines are less effective.

To counter vaccine nationalism and vaccine diplomacy, the global supply structure needs to be secured and vaccine dependency needs to be reduced. Resilient health care systems and independent supply structures worldwide enhance global pandemic preparedness. To ensure the most efficient progress of global immunisation campaigns while reducing pressure on health care structures to a minimum, vaccination strategies need to primarily target the populations most vulnerable to the virus. Vaccine hesitancy and vaccine euphoria show that the pandemic still is a global issue that concerns HICs and LMICs alike. The progress of immunisation campaigns in HICs demonstrates that, after overcoming the problem of supply, information and communication on the efficiency and importance of vaccines is particularly important to counter vaccine hesitancy.

This assessment allows to derive the following political priorities to improve fair global access to vaccines and to increase their uptake:

- a) establishing durable immunisation infrastructure and building regional vaccine manufacturing capacities worldwide;
- b) ensuring priority access to COVID-19 vaccination for the most vulnerable population groups;
- c) stopping misinformation and the conscious spread of disinformation on vaccines to counter vaccination hesitancy.

For an effective implementation of these priorities, HICs have to intensify their efforts to adequately support LMICs in reaching these objectives.⁶⁹

⁶⁹ Cf. Bollyky et al. (2022).

As the assessment in this paper has shown, the European Union has actively participated in global efforts to enhance vaccine availability since the beginning of the COVID-19 pandemic. With the WHO's goal of a 70 % worldwide vaccination rate within reach – although unequally spread across the globe – the European Commission now has to decide how it wishes to position the European Union within this global setting and which conclusions it is going to draw for its future policy strategy. It can choose between different degrees of involvement in the future global efforts towards worldwide immunisation:

3.1 Scenario 1: More of the same

Team Europe has been one of the main donors in the COVAX programme. Through its numerous pledges to this mechanism and other initiatives in which the European Commission has taken a leading role, it has largely contributed to making efficient vaccines available. Through the joint EU-WHO initiative, the European Union has also invested in the structural strengthening of health systems around the world. The European Commission has demonstrated its ability to identify needs for action and has responded through the creation of support initiatives designed to answer to those needs, notably through its Global Response fundraising initiative and the adaptation of its pandemic response strategy according to current requirements. In doing so, the European Commission has managed to create a broad and diversified footing for its commitment in the fight against COVID-19. Efforts to date are beginning to show results in terms of global immunisation coverage.

The European Commission could therefore decide that its tried and tested approach is effective enough and continue to focus on existing initiatives. This strategy, however, risks to fall short. Current initiatives, including COVAX, still heavily emphasise the supply of vaccines. As concluded in chapter 2, the main challenges for vaccination campaigns in LMICs have meanwhile shifted from the provision to the distribution of vaccines, which has brought infrastructural problems in the health care systems of the recipient countries to the forefront. While the European Commission has started to address these problems in its support initiatives, the current pace at which these problems are being tackled is slow. In the face of an evolving virus, however, it is crucial to speed up global immunisation to stem further SARS-CoV-2 mutations. Moreover, efficient vaccination campaigns rely on a high level of trust in available vaccines. The problem of growing vaccination hesitancy in LMICs remains largely unaddressed by the EU's activities to date.

3.2 Scenario 2: Declaring the end of the pandemic

The European Union has already reached a vaccination rate surpassing the WHO's 70 % mark on its own territory⁷⁰ and its Member States have been able to loosen many of the far-reaching pandemic restrictions to economic and social life. Furthermore, the WTO countries have finally come to an agreement on a waiver of certain TRIPS obligations, largely building upon a proposal brought forward by the EU.

In the light of this success and with a comparatively high level of pandemic containment on Union territory, the European Commission could declare the end of the pandemic phase of COVID-19. It could proceed to gradually phase out its international commitments targeting global immunisation and re-orient its resources towards other acute problems such as the current energy crisis and the fight against climate change.

While these other issues justify urgent action, a premature declaration of the end of the pandemic would increase the risk of the emergence of new virus variants and other negative repercussions of vaccine euphoria. Ultimately, it could lead to a resurgence of the acute pandemic phase on the European continent and necessitate the re-introduction of the recently loosened restrictions. On a global scale, the unilateral declaration of the pandemic's end by HICs risks relapses and with that an indefinite prolongation of the worldwide health emergency.

3.3 Scenario 3: No one is safe until everyone is safe – ending the pandemic for all

The third and recommended option is for the European Commission to expand on its role as a leading global actor in the joint international efforts to end the pandemic everywhere and for all, following its self-declared motto “no one is safe until everyone is safe”⁷¹.

The European Commission should therefore focus its future commitment on the three political priorities identified above:

- a) Durable immunisation infrastructure and regional vaccine manufacturing capacities,
- b) Priority access to COVID-19 vaccines for the most vulnerable population groups and
- c) Stopping vaccine mis- and disinformation.

When designing new initiatives, it is essential to not only focus on vaccine supply but also sustainably strengthen the targeted regions' absorption capacities. The following policy

⁷⁰ Cf. Our World in Data (2022a).

⁷¹ Cf. European Commission (2020b).

recommendations are therefore based on the framework established by Andersen et al. (see chapter 1.1) to strengthen absorption capacities and each correspond to one or more of the four suggested fields of activities: *setting up supply chains, staffing & equipment, systemisation and strategic communication & community engagement*.⁷²

a) Durable immunisation infrastructure and regional vaccine manufacturing capacities

While the vaccination of children and babies has been part of global health programmes for many years, a different infrastructure is needed for the vaccination of adults. Children can be reached through immunisation initiatives in schools and pediatric clinics or in the framework of prenatal care programmes, but COVID-19 vaccination campaigns need to address a much larger and more diverse target group which does not primarily include young children below the age of five.⁷³

The current pandemic could be regarded as an opportunity to integrate lasting immunisation infrastructure into the health care systems of LMICs while building on existing resources. People with a medical background, for instance pharmacists, could be trained and mobilised to provide low-threshold vaccination offers directly in the communities, for example through the set-up of mobile vaccination clinics (*staffing & equipment and setting up supply chains*). This would simultaneously create an opportunity for community-specific information campaigns on COVID-19 vaccines (*strategic communication & community engagement*). Such infrastructure would also help with the swift administration of boosters or adapted vaccines against COVID-19 variants and could at the same time be used for vaccination campaigns against other diseases (*setting up supply chains*). The European Commission should therefore dedicate future pledges or fundraising campaigns specifically to the support of projects that target the implementation of infrastructural improvements within the existing health care systems of LMICs.⁷⁴

As concluded in the assessment above, building vaccine manufacturing capacities in LMICs is crucial to ensure early and equitable worldwide access to vaccines and improve global pandemic preparedness. Only if the quick availability and roll-out of efficient vaccines and treatments is guaranteed in all parts of the world, health emergencies at global scale, as seen in the current COVID-19 pandemic, can be prevented in the future. Financial and technical assistance from HICs is crucial to reach this objective in underserved regions.

⁷² Cf. Andersen et al. (2021).

⁷³ Cf. Bolloky et al. (2022).

⁷⁴ Cf. *ibid*

Africa currently is the continent most affected by this lack of production capacities with a vaccine import rate of 99 %.⁷⁵ It is also the continent with the lowest COVID-19 vaccination rate: As of 22 August 2022, only 21.7 % of Africa's population had been fully vaccinated.⁷⁶ Some programmes with the objective of obtaining independent vaccine supply security in Africa have already been launched. In April 2021, the Africa Centres for Disease Control and Prevention (CDC) initiated *Partnerships for African Vaccine Manufacturing*, an initiative to attract investment on a global scale, to foster technology transfer, to boost local research and development activities and to improve regulatory capacities on regional level. The overarching aim is to produce 60 % of the vaccines needed in Africa on the continent itself by 2040.⁷⁷

Considerable progress towards greater vaccine independence has been made in the course of the past year, involving a variety of actors that include African governments, vaccine producers and international donors: The vaccine producers Johnson & Johnson⁷⁸ and BioNTech/Pfizer⁷⁹ have signed deals on local 'fill-and-finish' manufacturing of their COVID-19 vaccines, which is the last step in the production process, in South Africa. In March 2022, the vaccine manufacturer Moderna signed a Memorandum of Understanding with the Kenyan Ministry of Health to build the first mRNA vaccine production facility in Africa with a capacity of 500 million doses per year.⁸⁰ By January 2022, Algeria, Egypt, Morocco, Rwanda and Senegal had equally either signed Memoranda of Understanding for the manufacturing of COVID-19 vaccines or started their production. Côte d'Ivoire, Ghana and Nigeria have also signaled interest to do so in the future.⁸¹

The European Commission has already pledged financial support to the expansion of local vaccine manufacturing in Africa as part of Team Europe in May 2021 (see chapter 2.2). But continuous cooperation will be needed to reach the target of regionally producing 60 % of the domestic vaccine requirements as well as the interim goals set at 10 % until 2025 and 30 % until 2030.⁸² The WTO agreement on a TRIPS waiver is a first step, but the European Commission should critically monitor and assess its effectiveness in terms of vaccine equity and, if necessary, re-evaluate its rather restrictive position on the matter. In addition, the

⁷⁵ Cf. Geddes (2021).

⁷⁶ Cf. Our World in Data (2022e).

⁷⁷ Cf. Africa CDC (2022) and Ravelo & Jerving (2022).

⁷⁸ Cf. Beukes (2020).

⁷⁹ Cf. Pfizer (2021).

⁸⁰ Cf. Ministry of Health of the Republic of Kenya (2022).

⁸¹ Cf. Ravelo & Jerving (2022).

⁸² Cf. *ibid.*

European Commission should promote the inclusion of COVID-19 diagnostics and therapeutics in the TRIPS waiver agreement and encourage WTO members to limit or suspend export restrictions on essential medical technologies during the current as well as in the case of potential future pandemics (*setting up supply chains*).

To complement the creation of manufacturing capacities, the European Commission should advocate for funders of vaccine research and development to include provisions in their licensing agreements that require or at least encourage the transfer of technology that is relevant in the fight against the current – or any future – pandemic to qualified producers in underserved regions (*setting up supply chains*). To ensure that international regulatory standards are met, the European Commission should, together with recipient countries, initiate specialised training opportunities through exchange programmes with established vaccine manufacturers (*staffing & equipment*).

b) Priority access to COVID-19 vaccines for the most vulnerable population groups

The WHO's goal of vaccinating 70 % of all countries' populations remains an important target in ending the pandemic. The emergence of the newest Omicron variants of the virus, however, have made a strategic shift in the global vaccination campaigns necessary. Since the currently available vaccines were designed to target the 2020 wildtype of SARS-CoV-2, they offer only limited protection against the contraction of the now dominant BA.4 and BA.5 variants⁸³. This means that stopping the spread of COVID-19 through high vaccination rates alone is no longer possible. Vaccination does, however, still significantly reduce the risk of hospitalisation after an infection. Data from US CDC show that in June 2022, COVID-19-related hospitalisations of unvaccinated adults above the age of 18 were 4.6 times higher than those of vaccinated adults who had at least completed the initial vaccination protocol. In unvaccinated adults older than 65 years, the hospitalisation risk was even 6.3 times higher than in the vaccinated group.⁸⁴ Against this backdrop, prioritising vulnerable groups for full vaccination is at present the most effective strategy to limit hospitalisation rates and deaths associated with COVID-19.

On a global scale, vaccination booster campaigns, predominantly in HICs, as well as unprioritised efforts to vaccinate as many people as possible bear the hazard of leaving populations at high risk unprotected. Especially in LMICs, settings with low health care

⁸³ Cf. Wendler (2022).

⁸⁴ Cf. CDC (2022).

resources and underdeveloped patient information systems represent a challenge for the identification and prioritisation of vulnerable and hard-to-reach population groups.

The European Commission should put a special focus on collaboration projects between international organisations, specialised non-profit aid agencies, donor countries and health officials in LMICs to enable the immunisation of the most vulnerable groups, such as health professionals, immunocompromised patients, older individuals and marginalised populations. Several best-practice examples for such collaborations already exist: In Uganda, the national government and the US CDC have set up centralised systems enabling health care officials to track populations by age as well as by medical and vaccination status and to increase vaccination rates in prioritised groups (*systemisation*).⁸⁵

In Mali, the US programme *Global VAX* has supported the recruitment and training of more than 800 health workers to undertake community surveys in order to better understand the local populations' attitudes towards COVID-19 vaccines and to identify community-specific barriers impeding the vaccination of vulnerable groups (*staffing & equipment* and *strategic communication & community engagement*).⁸⁶ Such collaborative projects often make use of medical infrastructure established under pre-established international cooperation initiatives, such as the US *President's Emergency Plan for AIDS Relief* (PEPFAR).

Partnerships with local actors are most efficient when they already exist before a crisis occurs. Consequently, investments that address the current COVID-19 pandemic should aim at the establishment of lasting infrastructure that will at the same time help to manage potential future health crises (*setting up supply chains*).⁸⁷

c) Stopping vaccine mis- and disinformation

Misinformation around vaccines and a lack of awareness of their importance is an issue that urgently needs to be addressed, according to UNAIDS and the Africa CDC.⁸⁸ This is a problem whose impeding effect on the success of COVID-19 vaccination campaign has been underestimated by the responsible authorities worldwide. Information campaigns involving community leaders who discuss the benefits and risks of vaccination against COVID-19 can reduce vaccine hesitancy in groups that are skeptical of government interventions. In the

⁸⁵ Cf. USAID (2022a).

⁸⁶ Cf. USAID (2022b).

⁸⁷ Cf. Bollyky et al. (2022).

⁸⁸ Cf. UNAIDS (2022).

United States, this strategy proved successful in the case of the Navajo Nation, accelerating vaccine uptake above the national average in early 2021.⁸⁹

Broad evidence-based information campaigns are needed to efficiently counter mis- and disinformation on COVID-19 vaccines. For such campaigns to be effective, strategies are needed to better equip governments as well as health officials to manage disinformation, now as well as with view to potential future health crises. Research by the *Center for Countering Digital Hate*, a US non-profit initiative, revealed that 65 % of mis- and disinformation around COVID-19 online could be traced back to twelve individuals on social media, the ‘Disinformation Dozen’.⁹⁰ Since it is still difficult to legally prevent such disinformation campaigns, continuous monitoring for false information around vaccines on social media is necessary, and effective counter-narratives need to be developed (*strategic communication & community engagement*).

While the sanctioning of digital disinformation lies in the hands of local authorities, monitoring efforts need to be put on a global base, since they are spread through a transnational medium. The WHO had warned of a so-called ‘infodemic’ around COVID-19 already in early 2020. It could be a suitable international body with to monitor and counter circulating myths and disinformation on the pandemic through the dissemination of well-targeted and adequately formulated information campaigns to a broad public (*systemisation and strategic communication & community engagement*).⁹¹

The European Commission should therefore assess whether such an initiative could be launched in the framework of its existing COVID-19 partnership with the WHO and seek to make the necessary technical and financial resources available to put it into practice. This could be a first step towards a coordinated global monitoring mechanism on COVID-19-related mis- and disinformation (*systemisation*). A better understanding of the strategies of anti-vaccination groups and the factors that foster a wide spread of disinformation is essential to develop effective information campaigns that debunk false claims and broadcast evidence-based counter-narratives (*strategic communication & community engagement*).⁹²

⁸⁹ Cf. Treisman (2021).

⁹⁰ Cf. Ahmed (2022), p. 29.

⁹¹ Cf. Bolloky et al. (2022).

⁹² Cf. *ibid.*

Conclusion

Since the emergence of SARS-CoV-2, the European Commission has always quickly responded to the acute demands of the COVID-19 pandemic and has initiated appropriate response mechanisms. But the global fight against COVID-19 is not yet won. In view of the emergence of new virus variants and a global imbalance in the current status of crisis response, the European Commission must maintain its responsiveness in order not to lose the progress made.

Even if the efforts of the past two and a half years currently allow the relaxation of pandemic restrictions on the European continent, it is still too early to declare the end of the pandemic worldwide. According to the European Commission's own motto for the fight against COVID-19, no one is safe until everyone is safe. Equitable global access to efficient vaccines is an essential and necessary step to reach this goal.

Ending the pandemic for all, as described in the third scenario above, is therefore the best way forward towards a future European strategy to contain COVID-19 on a global scale. By implementing the policy recommendations along the three political priorities identified in this paper, the European Commission can take on a leading role in improving fair global access to COVID-19 vaccines and in ending the pandemic globally and for all.

List of abbreviations

ACT	Access to COVID-19 Tools
AMC	Advance Market Commitment
AMRH	African Medicines Regulatory Harmonisation
BMGF	Bill and Melinda Gates Foundation
CDC	Centres for Disease Control and Prevention
CEPI	Coalition for Epidemic Preparedness Innovations
COVAX	COVID-19 Global Vaccine Access
COVID-19	Coronavirus Disease 2019
DG ECHO	Directorate General for Civil Protection and Humanitarian Aid
DG INTPA	Directorate General for International Partnership
DG NEAR	Directorate General for Neighbourhood and Enlargement Negotiations
EDF	European Development Fund
EIB	European Investment Bank
EFSD+	European Fund for Sustainable Development plus
EU	European Union
HERA	Health Emergency Preparedness and Response Authority
HICs	High-income countries
IFPMA	International Federation of Pharmaceutical Manufacturers & Associations
LMICs	Low- and middle-income countries
mRNA	Messenger Ribonucleic Acid
ODA	Official development assistance
PEPFAR	US President's Emergency Plan for AIDS Relief
SARS-CoV-2	Severe acute respiratory syndrome coronavirus 2
SDG	Sustainable Development Goals
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UCC	Ultra-cold chain
UHC	Universal Health Coverage
UN	United Nations
UNICEF	United Nations International Children's Emergency Fund
WHO	World Health Organisation
WTO	World Trade Organisation

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Figure 1: Our World in Data (2022a): Share of people who completed the initial COVID-19 vaccination protocol. Available online: https://ourworldindata.org/grapher/share-people-fully-vaccinated-covid?country=OWID_WRL~Africa~European+Union (last accessed: 23/08/22).

Figure 2: Our World in Data (2022b): Share of people who received at least one dose of COVID-19 vaccine. Available online: https://ourworldindata.org/grapher/share-people-vaccinated-covid?country=OWID_WRL~Africa~European+Union (last accessed: 23/08/22).

Figure 3: Our World in Data (2022c): Share of people who completed the initial COVID-19 vaccination protocol. Available online: <https://ourworldindata.org/explorers/coronavirus-data-explorer?time=earliest..2021-1231&facet=none&Metric=People+fully+vaccinated&Interval=Cumulative&Relative+to+Population=true&Color+by+test+positivity=false&country=European+Union~High+income~Lower+middle+income~Low+income~Upper+middle+income> (last accessed: 11/08/22)

Figure 4: Our World in Data (2022d): Share of people who completed the initial COVID-19 vaccination protocol. Available online: <https://ourworldindata.org/explorers/coronavirus-data-explorer?time=2021-02-24..2022-08-07&facet=none&Metric=People+fully+vaccinated&Interval=Cumulative&Relative+to+Population=true&Color+by+test+positivity=false&country=Low+income~Lower+middle+income~Upper+middle+income~High+income~Africa> (last accessed: 11/08/22).

Table 1: Our World in Data (2022d): Share of people who completed the initial COVID-19 vaccination protocol. Available online: <https://ourworldindata.org/explorers/coronavirus-data-explorer?time=2021-02-24..2022-08-07&facet=none&Metric=People+fully+vaccinated&Interval=Cumulative&Relative+to+Population=true&Color+by+test+positivity=false&country=Low+income~Lower+middle+income~Upper+middle+income~High+income~Africa> (last accessed: 11/08/22).

Bibliography

- Africa CDC** (2022): Partnerships for African Vaccine Manufacturing (PAVM) Framework for Action. Available online: <https://africacdc.org/download/partnerships-for-african-vaccine-manufacturing-pavm-framework-for-action/> (last accessed: 22/08/22).
- Ahmed, Imran** (2022): UK Parliament & the Online Safety Bill. CCDH Written Submission + Evidence to UK Parliament Public Bill Committee, Online Safety Bill. *Center for Countering Digital Hate*. Available online: https://counterhate.com/wp-content/uploads/2022/06/Written-evidence__Online-Safety-Bill-Public-Bill-Committee-CCDH-02.06.22-1.pdf (last accessed: 21/08/22).
- Amnesty International** (2022): Covid-19: WTO ministerial decision on TRIPS Agreement fails to set rules that could save lives. Available online: <https://www.amnesty.org/en/latest/news/2022/06/covid-19-wto-ministerial-decision-on-trips-agreement-fails-to-set-rules-that-could-save-lives/> (last accessed: 19/08/22).
- Andersen, Hayley et al.** (2021): The Absorption Capacity Challenge. *The Global Health Security Consortium*. Available online: <https://institute.global/sites/default/files/2021-08/Global%20Health%20Security%20Consortium%2C%20The%20AbsorptionCapacity%20Challenge%2C%20August%202021.pdf> (last accessed: 11/08/22).
- Beaulieu-Pelletier, Geneviève** (2021): The 9 psychological barriers that lead to COVID-19 vaccine hesitancy and refusal. *The Conversation*. Available online: <https://theconversation.com/the-9-psychological-barriers-that-lead-to-covid-19-vaccine-hesitancy-and-refusal-168643> (last accessed: 12/08/22).
- Beukes, Shauneen** (2020): Aspen announces agreement with Johnson & Johnson to manufacture investigational COVID-19 vaccine candidate. Available online: <https://www.aspenpharma.com/2020/11/02/aspen-announces-agreement-with-johnson-johnson-to-manufacture-investigational-covid-19-vaccine-candidate/> (last accessed: 22/08/22).
- Bollyky, Thomas et al.** (2022): Global vaccination must be swifter. *Nature*. Available online: <https://www.nature.com/articles/d41586-022-00809-w> (last accessed: 20/08/22).
- CDC** (2022): Rates of laboratory-confirmed COVID-19 hospitalizations by vaccination status. Available online: <https://covid.cdc.gov/covid-data-tracker/#covidnet-hospitalizations-vaccination> (last accessed: 21/08/22).
- CEPI** (2022): Our portfolio. Available online: https://cepi.net/research_dev/our-portfolio/ (last accessed: 11/08/22).

- CEPI** (2022): The COVAX marketplace. Available online: <https://cepi.net/the-covax-marketplace/> (last accessed: 11/08/2022).
- Conlen, Matthew et al.** (2021): Why Vaccines Alone Will Not End the Pandemic. *New York Times*, 24 January. Available online: <https://www.nytimes.com/interactive/2021/01/24/us/covid-vaccine-rollout.html> (last accessed: 12/08/22).
- Consilium** (2020): Neighbourhood, Development and International Cooperation Instrument: Coreper endorses provisional agreement with the European Parliament. Available online: <https://www.consilium.europa.eu/en/press/press-releases/2020/12/18/neighbourhood-development-and-international-cooperation-instrument-coreper-endorses-provisional-agreement-with-the-european-parliament/> (last accessed: 11/08/22).
- Consilium** (2022): Infographic - COVID-19: the EU's contribution to global vaccine solidarity. Available online: <https://www.consilium.europa.eu/en/infographics/covid-covax-global-vaccine-solidarity/> (last accessed: 10/08/2022).
- EURAXESS** (2020): EU Commission joins the COVID-19 Vaccine Global Access Facility. Available online: <https://cdn1.euraxess.org/worldwide/south-korea/eu-commission-joins-covid-19-vaccine-global-access-facility> (last accessed: 11/08/22).
- European Commission** (2020a): EU increases its contribution to COVAX to €500 million to secure COVID-19 vaccines for low and middle-income countries. Available online: https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2075 (last accessed: 11/08/22).
- European Commission** (2020b): Press statement by President von der Leyen on the next steps in the Coronavirus Global Response. Available online: https://ec.europa.eu/commission/presscorner/detail/en/statement_20_968 (last accessed: 20/08/22).
- European Commission** (2021a): A united front to beat COVID-19, COM (2021) 35 final. Brussels, 19 January. Available online: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021DC0035&qid=1616149581345#::%7E:text=EU%20Vaccine%20Sharing%20Mechanism> (last accessed: 11/08/22).
- European Commission** (2021b): EU doubles contribution to COVAX to €1 billion to ensure safe and effective vaccines for low and middle-income countries. Available online: https://ec.europa.eu/commission/presscorner/detail/en/ip_21_690 (last accessed: 11/08/22).

- European Commission** (2021c): Team Europe COVID-19 global solidarity. Available online: https://ec.europa.eu/commission/presscorner/detail/en/fs_21_6650 (last accessed: 11/08/22).
- European Commission** (2021d): Von der Leyen announces the start of HERA Incubator to anticipate the threat of coronavirus variants. Available online: https://ec.europa.eu/commission/presscorner/detail/fr/ac_21_666 (last accessed: 19/08/22).
- European Commission** (2022a): Global response to coronavirus. Available online: https://ec.europa.eu/info/live-work-travel-eu/coronavirus-response/safe-covid-19-vaccines-europeans/global-response-coronavirus_en (last accessed: 10/08/22).
- European Commission** (2022b): EU strengthens partnership with WHO to boost local manufacturing and access to vaccines, medicines and health technologies in Africa. Available online: https://ec.europa.eu/commission/presscorner/detail/en/IP_22_1970 (last accessed: 18/08/22).
- European Commission** (2022c): Global response to COVID-19 and beyond: Commission steps up funding to vaccination roll-out in Africa. Available online: https://international-partnerships.ec.europa.eu/news-and-events/news/global-response-covid-19-and-beyond-commission-steps-funding-vaccination-roll-out-africa-2022-05-12_en (last accessed: 18/08/22).
- European Commission** (2022d): WTO 12th Ministerial Conference secures key outcomes on fisheries subsidies, pandemic response, WTO reform, food security and e-commerce. Available online: https://ec.europa.eu/commission/presscorner/detail/en/ip_22_3792 (last accessed: 19/08/22).
- European Commission** (2022e): Health Emergency Preparedness and Response Authority. Available online: https://ec.europa.eu/info/departments/health-emergency-preparedness-and-response-authority_en#responsibilities (last accessed: 20/08/22).
- European Commission** (2022f): Opening Remarks by Commissioner Kyriakides at the 11th ACT- Accelerator Facilitation Council. Available online: https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_22_4350 (last accessed: 20/08/22).
- European Commission** (2022g): Safe COVID-19 vaccines for Europeans. Available online: https://ec.europa.eu/info/live-work-travel-eu/coronavirus-response/safe-covid-19-vaccines-europeans_en (last accessed: 23/08/22).
- European Investment Bank** (2021): World leaders unite to commit to global equitable access for COVID-19 vaccines. Available online: <https://www.eib.org/en/press/all/>

2021-185-world-leaders-unite-to-commit-to-global-equitable-access-for-covid-19-vaccines (last accessed: 11/08/22).

European Ombudsman (2021): Ombudsman criticises how Commission handled request for access to President's text messages. Available online: <https://www.ombudsman.europa.eu/en/press-release/en/151740> (last accessed: 13/08/22).

European Parliament (2022): Understanding COVAX. The EU's role in vaccinating the world against COVID-19. Available online: [https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/729319/EPRS_BRI\(2022\)729319_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/729319/EPRS_BRI(2022)729319_EN.pdf) (last accessed: 09/08/22).

European Union (2020): Coronavirus Global Response. Available online: https://global-response.europa.eu/index_en#:~:text=The%20Coronavirus%20Global%20Response%2C%20launched,coronavirus%20vaccination%2C%20treatment%20and%20testing . (last accessed: 18/08/22).

Flowers-Wanjie, Rosemary (2021): Rich Countries Are Ignoring the Global Vaccine System. *Foreign Policy*. Available online: <https://foreignpolicy.com/2021/09/23/covax-covid-vaccines-rich-countries-un/> (last accessed: 12/08/22).

Fransen, Liese et al. (2021): Boosting equitable access and production of diagnostics, therapeutics and vaccines to confront Covid-19 on a global footing. Available online: https://www.g20-insights.org/policy_briefs/boosting-equitable-access-and-production-of-diagnostics-therapeutics-and-vaccines-to-confront-covid-19-on-a-global-footing/ (last accessed: 16/08/22).

Gavi (2020): COVAX explained. Available online: <https://www.gavi.org/vaccineswork/covax-explained> (last accessed: 10/08/22).

Gavi (2022): COVAX Dose Donations. July 4, 2022. Available online: <https://www.gavi.org/sites/default/files/covid/covax/COVAX-Dose-Donation-Table.pdf> (last accessed: 10/08/22).

Geddes, Linda (2021): Why Africa needs to manufacture its own vaccines. Available online: <https://www.gavi.org/vaccineswork/why-africa-needs-manufacture-its-own-vaccines> (last accessed: 21/08/22).

Guarascio, Francesco & Jennifer Rigby (2022): COVID vaccine supply for global programme outstrips demand for first time. Available online: <https://www.reuters.com/business/healthcare-pharmaceuticals/covax-vaccine-supply-outstrips-demand-first-time-2022-02-23/> (last accessed: 13/08/22).

- Hafner, Marco et al.** (2020): COVID-19 and the cost of vaccine nationalism. *RAND Europe*. Available online: https://www.rand.org/pubs/research_reports/RRA769-1.html (last accessed: 12/08/22).
- Hoije, Katarina & William Clowes** (2022): Africa CDC Urges Vaccine Donors to Stagger Deliveries of Shots. *Bloomberg Europe Edition*. Available online: <https://www.bloomberg.com/news/articles/2022-02-24/africa-cdc-urges-vaccine-donors-to-stagger-deliveries-of-shots#xj4y7vzkg> (last accessed: 20/08/22).
- Holmgaard Meresh, Amalie** (2022): WTO ministerial conference delivers TRIPS waiver to criticism. *Euractiv*. Available online: <https://www.euractiv.com/section/health-consumers/news/wto-ministerial-conference-delivers-trips-waiver-to-criticism/> (last accessed: 19/08/22).
- IFPMA** (2021): 11 billion COVID-19 vaccines produced in 2021 has resulted in the biggest immunization campaign in human history and 2022 will require more and better vaccine redistribution and innovation. Available online: <https://www.ifpma.org/resource-centre/11-billion-covid-19-vaccines-produced-in-2021-has-resulted-in-the-biggest-immunization-campaign-in-human-history-and-2022-will-require-more-and-better-vaccine-redistribution-and-innovation/> (last accessed: 12/08/22).
- Irwin, Aisling** (2021): How COVID spurred Africa to plot a vaccines revolution. *Nature*. Available online: <https://www.nature.com/articles/d41586-021-01048-1> (last accessed: 16/08/22).
- Jennings, Michael** (2021): Vaccine diplomacy: how some countries are using COVID to enhance their soft power. *The Conversation*. Available online: <https://theconversation.com/vaccine-diplomacy-how-some-countries-are-using-covid-to-enhance-their-soft-power-155697> (last accessed: 12/08/22).
- Klobucista, Claire** (2022): A Guide to Global COVID-19 Vaccine Efforts. *Council on Foreign Relations*. Available online: <https://www.cfr.org/backgrounder/guide-global-covid-19-vaccine-efforts> (last accessed: 11/08/22).
- Launch & Scale Speedometer** (2022). Vaccine Purchases. Tracking COVID-19 Purchases across the Globe. Available online: <https://launchandscalefaster.org/covid-19/vaccinepurchases> (last accessed: 11/08/22).
- Ministry of Health of the Republic of Kenya** (2022): Kenya signs MOU with Moderna to Establish its first mRNA manufacturing facility in Africa. Available online: <https://www.health.go.ke/kenya-signs-mou-with-moderna-to-establish-its-first-mrna-manufacturing-facility-in-africa/> (last accessed: 22/08/22).

- Our World in Data** (2022e): Share of people vaccinated against COVID-19, Aug 22, 2022. Available online: <https://ourworldindata.org/covid-vaccinations> (last accessed: 23/08/22).
- Oxfam** (2021): Vaccine monopolies make cost of vaccinating the world against COVID at least 5 times more expensive than it could be. Available online: <https://www.oxfamamerica.org/press/vaccine-monopolies-make-cost-of-vaccinating-the-world-against-covid-at-least-5-times-more-expensive-than-it-could-be/> (last accessed: 13/08/22).
- Oxfam** (2022): WTO agrees a deal on patents for COVID vaccines - but campaigners say this is absolutely not the broad intellectual property waiver the world desperately needs. Available online: <https://www.oxfam.org/en/press-releases/wto-agrees-deal-patents-covid-vaccines-campaigners-say-absolutely-not-broad> (last accessed: 19/08/22).
- Pfizer** (2021): Pfizer and BioNTech Announce Collaboration With Biovac to Manufacture and Distribute COVID-19 Vaccine Doses Within Africa. Available online: <https://www.pfizer.com/news/press-release/press-release-detail/pfizer-and-biontech-announce-collaboration-biovac> (last accessed: 22/08/22).
- Ravelo, Jenny Lei** (2021): Is COVAX part of the problem or the solution? Available online: <https://www.devex.com/news/is-covax-part-of-the-problem-or-the-solution-99334> (last accessed: 12/08/22).
- Ravelo, Jenny Lei & Sara Jerving** (2022): Prospects for local manufacturing of COVID-19 vaccines in Africa. Available online: <https://www.devex.com/news/prospects-for-local-manufacturing-of-covid-19-vaccines-in-africa-102300> (last accessed: 22/08/22).
- Reuters** (2022): G20 agrees to set up global pandemic preparedness fund. Available online: <https://www.reuters.com/business/healthcare-pharmaceuticals/g20-agrees-set-up-global-pandemic-preparedness-fund-2022-04-21/> (last accessed: 18/08/22).
- Schäfer, Stefanie** (2021): Team Europe and COVAX: Locating the EU's role in the global fight against Covid-19. *European Student Think Tank*. Available online: <https://esthinktank.com/2021/12/15/team-europe-and-covax-locating-the-eus-role-in-the-global-fight-against-covid-19/> (last accessed: 10/08/22).
- Scheel, Malte & Tobias Maier** (2022): World Trade Organization agrees on partial patent waiver for vaccine production based on EU proposals. Available online: <https://www.lexology.com/commentary/healthcare-life-sciences/european-union/eversheds-sutherland-international-llp/world-trade-organization-agrees-on->

partial-patent-waiver-for-vaccine-production-based-on-eu-proposals (last accessed: 19/08/22).

Tedros, Adhanom Ghebreyesus (2021): I Run the W.H.O, and I Know That Rich Countries Must Make a Choice. *New York Times*, 22 April. Available online: <https://www.nytimes.com/2021/04/22/opinion/who-covid-vaccines.html> (last accessed: 12/08/22).

Treisman, Rachel (2021): Outpacing The U.S., Hard-Hit Navajo Nation Has Vaccinated More Than Half Of Adults. *NPR*. Available online: <https://www.npr.org/sections/coronavirus-live-updates/2021/04/26/990884991/outpacing-the-u-s-hard-hit-navajo-nation-has-vaccinated-more-than-half-of-adults> (last accessed: 21/08/22).

UK Parliament (2022): Covax: Vaccinating the world against Covid-19 in 2022. House of Commons Library. Available online: <https://commonslibrary.parliament.uk/covax-vaccinating-the-world-against-covid-19-in-2022/> (last accessed: 12/08/22).

UNAIDS (2021): A Dose of Reality: How rich countries and pharmaceutical corporations are breaking their vaccine promises. Available online: https://www.unaids.org/en/resources/presscentre/featurestories/2021/october/20211021_dose-of-reality (last accessed: 13/08/22).

UNAIDS (2022): UNAIDS and Africa CDC tackle misinformation around COVID-19 and HIV in Africa. Available online: https://www.unaids.org/en/resources/presscentre/featurestories/2022/june/20220630_misinformation_training_Senegal (last accessed: 16/08/22).

UNICEF (2022): Supply annual report 2021. Available online: <https://www.unicef.org/supply/media/12646/file/Supply-Annual-report-2021> (last accessed: 16/08/22).

Unmüßig, Barbara (2022): Covid-19 pandemic, vaccine distribution and global justice: the story so far. *Heinrich Böll Stiftung Brussels*. Available online: <https://eu.boell.org/en/2022/02/16/covid-19-pandemic-vaccine-distribution-and-global-justice-story-so-far> (last accessed: 17/08/22).

USAID (2022a): New case studies show significant rise in vaccination rates in sub-saharan Africa following U.S. government's targeted 'Global VAX' interventions. Available online: <https://www.usaid.gov/news-information/press-releases/feb-17-2022-new-case-studies-show-significant-rise-vaccination-rates-sub-saharan-africa> (last accessed: 21/08/22).

- USAID** (2022b): Global VAX: COVID-19 Fact Sheet. An ‘Initiative for Global Vaccine Access’ To Turn Vaccines In Vials Into Vaccinations In Arms Around the World. Available online: https://www.usaid.gov/sites/default/files/documents/Global_VAX_Factsheet_Update_May_2022_FINAL_FOR_UPLOAD3.pdf (last accessed: 21/08/22).
- Wendler, Ronda** (2022): COVID-19’s BA.4 and BA.5 Omicron subvariants: 12 questions, answered. Available online: <https://www.mdanderson.org/cancerwise/covid-19-s-ba-4-and-ba-5-omicron-subvariants--12-questions--answered.h00-159541323.html> (last accessed: 21/08/22).
- WHO** (2020): ACT Accelerator. An economic investment case & financing requirements. Available online: <https://www.who.int/publications/i/item/an-economic-investment-case-financing-requirements> (last accessed: 13/08/22).
- WHO** (2021a): Strategy to Achieve Global Covid-19 Vaccination by mid-2022. Available online: https://cdn.who.int/media/docs/default-source/immunization/covid-19/strategy-to-achieve-global-covid-19-vaccination-by-mid-2022.pdf?sfvrsn=5a68433c_5 (last accessed: 09/08/22).
- WHO** (2021b): Joint Statement on Dose Donations of COVID-19 Vaccines to African Countries. Available online: <https://www.who.int/news/item/29-11-2021-joint-statement-on-dose-donations-of-covid-19-vaccines-to-african-countries> (last accessed: 12/08/22).
- WHO** (2022a): COVAX calls for urgent action to close vaccine equity gap. Available online: <https://www.who.int/news/item/20-05-2022-covax-calls-for-urgent-action-to-close-vaccine-equity-gap> (last accessed: 13/08/22).
- WHO** (2022b): The European Union. Partner in global health. Available online: <https://www.who.int/about/funding/contributors/european-union#:~:text=During%20the%20COVID%2D19%20pandemic,the%20fight%20against%20the%20COVID%2D> (last accessed: 18/08/22).
- WTO** (2022): Draft Ministerial Decision on the TRIPS Agreement. WT/MIN(22)/W/15/Rev.2. 17 June 2022. Available online: <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/WT/MIN22/W15R2.pdf&Open=True> (last accessed: 19/08/22).