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Open Letter to G7 Leaders: A G7 Action Plan to Ensure the World is Vaccinated Quickly and Equitably

The COVID-19 pandemic has cost millions of lives and trillions of dollars in lost economic activity. We are in the midst of a rapidly accelerating global crisis, triggering a cascade of humanitarian and economic disasters in many countries, as well as the proliferation of dangerous new variants that threaten to intensify the pandemic's impact in the United States and throughout the world. The continuing crisis has one principal cause: an increasingly stark gap in affordable and timely access by most of the world to safe and effective vaccines and the capacity to deliver them.

The G7 member states have historically been the leading group of democracies to drive forward ambitious visions to confront global crises. Such high-level leadership two decades ago led the world out of the then runaway HIV/AIDS crisis. COVID-19, a crisis on a scale and complexity even greater than HIV/AIDS, demands no less.

G7 member states have struggled with their own internal challenges in responding to COVID-19. But thanks to their unprecedented efforts to advance the development, manufacturing, and delivery of highly effective and safe vaccines, they are on a path to containing the pandemic in their respective countries.

The G20 Global Health Summit [highlighted](#) the need for stronger efforts to expand that progress globally; the World Health Assembly resounded with [statements](#) in support of global solidarity; and the COVAX Advance Market Commitment Summit [secured](#) an additional \$2.4 billion in funding and country commitments to donate 54 million excess vaccine doses. In addition, the US has [announced](#) distribution plans for 25 million doses of the 80 million doses it intends to donate over the course of June. These events and actions are supportive, but fall far short of what is truly required to meet the urgency and vast scale of the global vaccination gap. As Prime Minister Johnson recently [called](#) for, it is time for the G7 to lead the way to vaccinate the world.

This vaccination gap is a problem of vaccine supply as well as a massive challenge of vaccination capability and vaccination demand. It is also a matter of financing – better using existing commitments and urgently mobilizing additional resources to meet the \$50 billion or more in emergency financing needed in the next 18 months, especially to ensure that countries are able to translate vaccines into vaccinations. Indeed, delivery capabilities and vaccine hesitancy, not supply, are likely to be the critical bottleneck to vaccinations in most low- and middle-income countries

within the next 6 months. Recent findings from vaccine readiness assessments in 128 countries have revealed that only 30% of them have processes to train the large number of vaccinators required, and even fewer have undertaken significant steps to address vaccine uncertainty and hesitancy in their populations. In the absence of significant, urgent increases in country and multinational capabilities to distribute and administer vaccines, we anticipate an excess supply of vaccines globally, likely by the fourth quarter of 2021.

G7 members must use their unparalleled political and financial might, their combined vaccine expertise and manufacturing capacities, and their proven ability to shape the world's response to global public health emergencies, to accelerate global equitable access to highly effective vaccines.

We call for a G7 Action Plan that includes five immediate actions.

- 1. Create a G7 Vaccine Emergency Task Force to ensure transparency, accountability, coordinated urgent mobilization of resources, and shared planning in the vaccine marketplace;**
- 2. Develop and commit to a path to share at a minimum 1 billion doses, with the aim of 2 billion doses, of G7-authorized vaccines before the end of 2021, and ensure the availability of enough doses to enable broad vaccination in every country as soon as possible in 2022;**
- 3. Implement a coordinated G7 strategy to immediately increase production of high-quality, well-regulated vaccines, with the goal of further increasing access to these vaccines across the rest of the world;**
- 4. Accelerate development of high-quality globally distributed manufacturing capacity by bringing together public and private sector stakeholders and using voluntary licensing agreements; and**
- 5. Increase bilateral and multilateral support to low- and middle-income countries to increase their vaccine distribution and delivery capabilities and address vaccine hesitancy, with three specific goals: achieve demonstrated vaccination preparedness in each country by the end of 2021; strive for at least 60%, and ideally 70%, vaccination coverage in every country in 2022; and avoid significant excess vaccine stockpiles ahead of pandemic control in all nations.**

1. Create a G7 Vaccine Emergency Task Force to ensure transparency, accountability, coordinated urgent mobilization of resources, and shared planning in the vaccine marketplace.

The current global vaccine marketplace is confusing, opaque and chaotic. It contributes to widespread lack of public confidence and trust. G7 countries have brought more predictability to their own vaccine markets, and have the capacity to bring about more transparency and accountability and permit shared planning through a Vaccine Emergency Task Force supported at the ministerial level. Through the Emergency Task Force, the G7, other countries, and international organizations should share projections and best practices for domestic vaccination needs, and implement coordinated, effective, and systematic plans for sharing doses with other nations. The Emergency Task Force should also facilitate greater transparency and predictability in the timing of global vaccine deliveries, to allow for improved country-level preparation and financing.

As G7 nations continue to prepare for COVID-19 contingencies, they project increasingly large vaccine stocks that greatly exceed the most likely domestic requirements. To maximize the benefits of these excess supplies, there is a need for reliable and predictive forecasting of scenarios that map domestic vaccine use and more accurately define the ability of G7 countries to meet global demands. Supply and demand factors will remain dynamic as the pandemic evolves. This concerted G7 effort to provide accurate supply projections based on the latest country data will build public trust and facilitate more effective and coordinated global vaccination access.

To support equitable sharing of doses, the Emergency Task Force should develop and transparently implement public health-driven criteria for decisions on the routes and distribution of sharing. As the primary global multilateral platform for vaccine access for the poorest countries, COVAX should be a major recipient of shared doses. Other important regional bodies, national partners, and multilateral institutions will also play valuable roles. Allocations should maximize impact, ensuring that vaccinations have the most impact on averting deaths, stabilizing vulnerable health systems, and stopping rampant transmission. They should also include consideration of COVID-19 burden and vaccination capacity in countries. Clear, consistent criteria across the G7 can build upon the recent US announcement of criteria for dose-sharing and align with COVAX's efforts to meet urgent needs.

2. Develop and commit to a path to share at a minimum 1 billion doses, with the aim of 2 billion doses, of G7-authorized vaccines before the end of 2021, and ensure the availability of enough doses to enable broad vaccination in every country as soon as possible in 2022.

Manufacturing of the high-quality vaccines that are available in G7 countries has continued to ramp up, with further increases possible if G7 countries act together. We estimate a 2021 supply of over 7 billion doses of vaccines produced by manufacturers based in G7 member states¹. These vaccines are currently authorized or reasonably expected to be authorized this year by a Stringent Regulatory Authority (SRA), and represent enough supply to fully vaccinate over 4 billion people. In 2022, with effective G7 support for production ramp-up, we project potential production of over 14 billion doses of vaccines with current or likely SRA authorization, enough to enable most of the world to be vaccinated. These vaccines should be provided to low- and middle-income countries through donations or at non-profit pricing.

The G7 and affiliated European Union (EU) countries currently control access to most of the supply of these high-quality vaccines, both through purchase agreements with options for additional purchases, and regional manufacturing capacity. We urge the G7, along with the EU and its member states, to approach dose-sharing with far greater urgency and intensified systematic planning. Doing so will have a far faster impact on current and evolving global vaccine needs, and on the stark inequities that exist today, than any other approach to increasing the global supply of high-quality vaccines.

We call on the G7 and EU to share a minimum of 1 billion vaccine doses, and aim to share 2 billion doses, in 2021. The G7 should also develop and implement a process to coordinate enough vaccine supply to enable vaccination of at least 60%, and ideally 70%, of every country's population as soon as possible in 2022, which would require approximately 9.2 to 11 billion total doses. Overall production could be higher and faster, depending on the success of manufacturing capacity expansion and on evolving national needs. (See Appendix for more detail.)

¹ Supply projections include vaccines produced by Pfizer/BioNTech, Moderna, AstraZeneca/Oxford, Johnson & Johnson, Novavax, and CureVac.

3. Implement a coordinated G7 strategy to immediately increase production of high-quality, well-regulated vaccines, with the goal of further increasing access to these vaccines across the rest of the world.

By leveraging successful planning for manufacturing support in the US and other G7 countries, which has enabled significant expansions in vaccine manufacturing, the G7 can coordinate efforts to further expand short-term production. To achieve this, the G7 countries, in the coming weeks to months, should prioritize addressing critical bottlenecks in supply chains and manufacturing capacity to maximize the number of vaccine doses produced globally. With limited supplies, it is essential that available resources continue to go to high-quality, well-regulated, and efficient manufacturing. These efforts should be coordinated with CEPI in its role leading short-term supply chain optimization for the COVAX Manufacturing Task Force.

The G7 should ease or remove export restrictions and other barriers, such as the US removal of Defense Production Act priority ratings for Novavax and AstraZeneca vaccines, in a coordinated and orderly manner to assure efficient global supply chains. G7 countries must also reduce or accelerate current time-consuming agreements that donor countries and manufacturers now require to donate vaccines to other countries. Immediate, coordinated investments by G7 nations and aligned institutions to address shortages in raw materials, equipment, and supplies, using the regulatory, contracting, and supply chain expertise that have brought high-quality vaccines to the G7 countries, will also help address global needs over the next 6 months, a critical period for avoiding supply frictions and shortages.

4. Accelerate development of high-quality globally distributed manufacturing capacity by bringing together public and private sector stakeholders and using voluntary licensing agreements.

The inequities worsened by the pandemic have highlighted the risks of the consolidated nature of the vaccine manufacturing market. This divergence in access has been further exacerbated by the disruption of supply from India because of increased domestic needs in that country.

While establishing new, high-quality vaccine manufacturing capacity in Africa, Asia outside of India, and Latin America will take time, the G7 is uniquely positioned to work with leading manufacturers and local and regional authorities to create it. G7 members have already brought together public and private sector partners to enable sharing of IP, technology, and capabilities, such as with the Quad Vaccine Partnership, the US-Republic of Korea Vaccine Partnership, and the investment by the U.S. International Development Finance Corporation (USDFC) and partners in

Aspen in South Africa to produce the J&J vaccine. Team Europe has also committed to invest 1 billion Euros to support manufacturing capacity in Africa.

A systematic G7 plan to implement such cooperative agreements should be accompanied by access to financing through public and private sources, including USDFC, IFC/World Bank and local private funding. The G7 should set a target of finalizing at least 5 public-private agreements by the end of 2021, each leading to the establishment of substantial regional vaccine manufacturing capacity in 2022. To ensure long-term sustainability, attention is also needed to organize the policy framework and demand for future upfront purchasing from new manufacturers.

In collaboration with regulatory guidance and support, this approach can enable faster availability of highly effective vaccines – for this pandemic and the next – and build local expertise through shared knowhow to assure global access to high-quality, safe vaccines everywhere.

5. Increase bilateral and multilateral technical and financial support to low- and middle-income countries to enhance their vaccine distribution and delivery capabilities, and address vaccine hesitancy, with three specific goals: achieve demonstrated national vaccination preparedness in each country by the end of 2021; strive for at least 60%, and ideally 70%, vaccination in every country in 2022; and avoid significant excess vaccine stockpiles ahead of pandemic control in all nations.

As vaccine supply ramps up, most parts of the world will quickly reach an inflection point where high-quality vaccine supply exceeds the global capacity to use it. The combination of inability to effectively distribute, store, and deliver vaccines alongside vaccine hesitancy will become critical constraints to vaccination in most nations. If vaccine production keeps pace with current projections, we expect this inflection to occur in late 2021 for most low- and middle-income countries.

To increase vaccine distribution and delivery capacity, the G7 should bring together bilateral capabilities, in coordination with WHO, Gavi, UNICEF, COVAX, ACT-A, The Global Fund, IMF, World Bank, IFC, and other relevant organizations and programs to assure financing and integral support to country governments, civil society and private firms. This concerted effort can help strengthen global coordination and leverage all available resources in support of effective local vaccine distribution and delivery. The G7 can also use its initial experience with allocation of donated doses to help identify, in collaboration with COVAX partners, areas where improvements in national and sub-national capacity are most needed.

In-country vaccine distribution and delivery capabilities are largely focused on routine immunizations for children. They will face intense pressure over the coming months to enable rapid mass-vaccination campaigns that ensure equitable access for adult populations on a national level, a challenge that many countries have not faced before. Reliable data on distribution and storage capabilities for many countries is not available. We have already seen several unfortunate [examples](#) where suboptimal readiness for vaccination efforts led to [wastage](#) of valuable vaccine doses. Coupled to financing and dose-sharing, the G7 should support monitoring and improvements in country readiness for vaccinations.

These efforts should be guided by clear goals for effective vaccinations across low- and middle-income countries, including aiming for every country to achieve vaccination preparedness by the end of 2021. In addition, the G7 should set the goal of striving for at least 60%, and ideally 70%, vaccination coverage in every country in 2022. As experienced in several high-income countries already, this coverage target will likely be more constrained by delivery and demand factors than supply. G7 leadership and coordination should ensure that some countries or regions do not establish excess vaccine stockpiles while other regions or countries still lack adequate supply.

Providing appropriate support for vaccine distribution and delivery efforts will come with significant costs. The IMF has [estimated](#) that an additional \$50 billion will be needed, including \$35 billion in grants, to finance vaccine roll-out and related public health interventions by 2022. However, there are substantial unused resources right now that could achieve major short-term improvements. This includes the potential to mobilize a range of existing global public health [funding sources](#), such as commitments from multilateral development banks (MDBs) that are not yet disbursed, as well as financial and in-kind resources and technical expertise from G7 countries themselves.

Closing

The coming weeks and months are critical to address the human catastrophe facing low- and middle-income countries, to preempt further explosive growth of the virus, and to prevent the spawning of new variants that threaten to undermine vaccine immunity everywhere, including in the US and other G7 economies. To meet this unprecedented historical moment, we have described an approach for G7 leadership to assure the fastest possible path to access billions of doses of high-quality vaccines and ensure local capacity to deliver them. We call on the G7 leaders to take the immediate actions described above in order to lead to more equitable global access to vaccines, and to commit to tracking and sharing regular updates about progress toward shared goals and targets.

The G7 Leaders' Summit on June 11-13 represents a consequential opportunity for meaningful, urgent action. The G7, as a platform to address the world's most critical challenges, should seize this opportunity to once again demonstrate unrivaled global leadership, harnessing its collective capabilities and partnerships to save millions of lives and bring this pandemic to an end.

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Appendix: Projecting Vaccine Supply and Coverage

Based on analysis of publicly available information, we have attempted to project 2021 and 2022 overall vaccine supply and vaccine purchases by G7/EU countries, in order to identify the potential scale of doses available for sharing.

Our analysis focused on six vaccines – those by Pfizer/BioNTech, Moderna, AstraZeneca/Oxford, Johnson & Johnson, Novavax, and CureVac – that are currently or likely to be approved this year by a Stringent Regulatory Authority (SRA) and whose manufacturers are based in G7 member states.

We project 2021 production of 7.1 billion doses across these vaccines, enough to fully vaccinate 4 billion people; and 2022 production of 14.3 billion doses, enough to fully vaccinate 8.4 billion people. Details are provided below in Table 1. For vaccines from AZ/Oxford, J&J, and Novavax, we have discounted publicly-stated production targets based on manufacturing and supply chain challenges those vaccines have experienced.

Table 1: Projected Supply for 2021 and 2022 for Select Vaccines

Source: Launch and Scale Speedometer, Duke GHIC, from publicly available sources

Platform	Vaccine	2021 Supply	2022 Supply
<i>mRNA</i>	Pfizer/BioNTech	3,000,000,000	4,000,000,000
	Moderna	800,000,000	3,000,000,000
	CureVac	300,000,000	1,000,000,000
<i>Viral Vector</i>	AZ/Oxford	1,500,000,000	2,000,000,000
	JNJ	1,000,000,000	2,500,000,000
<i>Protein Subunit</i>	Novovax	500,000,000	1,800,000,000
	TOTAL	7,100,000,000	14,300,000,000
	Population Coverage	4,050,000,000	8,400,000,000

For analysis of G7 purchases, data for EU purchases and population were included as almost all vaccine purchases for Germany, Italy, and France are at the level of the EU. The G7/EU, with a total population of 1 billion, have purchased over 3.7 billion vaccine doses from the six manufacturers listed above (excluding an additional 900 million doses of Pfizer/BioNTech vaccine purchased by EU for delivery in 2022), enough to fully vaccinate 2 billion people.

Table 2: G7/EU Purchases of Select Vaccines

Source: Launch and Scale Speedometer, Duke GHIC, from publicly available sources

	Pfizer/ BioNTech	Moderna	Az/ Oxford	JNJ	CureVac	Novovax	Total Doses
EU	650,000,000	310,000,000	300,000,000	200,000,000	225,000,000		1,685,000,000
UK	100,000,000	17,000,000	100,000,000	30,000,000	50,000,000	60,000,000	357,000,000
US	300,000,000	300,000,000	300,000,000	100,000,000		100,000,000	1,100,000,000
Canada	105,000,000	44,000,000	23,500,000	10,000,000		52,000,000	234,500,000
Japan	194,000,000	50,000,000	120,000,000				364,000,000
Total	1,349,000,000	721,000,000	843,500,000	340,000,000	275,000,000	212,000,000	3,740,500,000
2021 Projected Supply	3,000,000,000	800,000,000	1,500,000,000	1,000,000,000	300,000,000	500,000,000	7,100,000,000
% to G7/EU	45%	90%	56%	34%	92%	42%	53%

To achieve ~70% population coverage across G7/EU countries would require ~1.4-1.6 billion doses, making accommodations for wastage, expiration, one vs. two-dose vaccines, and other relevant variables. Many countries are actively evaluating the need for additional boosters toward the end of 2021, based on waning immunity and/or emergence of new variants. A scenario with 70% of G7/EU populations receiving a one-dose booster in 2021 would account for an additional ~0.7-0.8 billion doses, with a cumulative demand of ~2.1-2.4 billion doses for 2021. Further accounting for 10% contingency supply for emergencies has also been included in our calculations.

If the vaccine purchases documented in Table 2 are delivered in 2021, which is feasible given projected 2021 supply for these vaccines, there would be excess doses available in 2021 across the G7/EU of anywhere from **1 billion doses to 2 billion doses**. These calculations are shown in Table 3.

Table 3: Calculation of Potential Excess Doses Available to G7/EU Member States in 2021

Source: Team Analysis, using data from publicly available sources

Projected 2021 Supply to G7/EU (from Table 2)	3,740,500,000
Estimated doses required to fully vaccinate 70% (total population of ~1 billion; assumes two doses for 70% of total population, plus additional doses lost to wastage, expiration, etc.)	1,600,000,000
10% additional contingency (for further unforeseen circumstances, or demand beyond 70% total population coverage)	160,000,000
Excess doses available in 2021 without boosters	1,980,500,000
Potential booster doses used in 2021 (assumes single dose booster for full 70% of population, plus 10% contingency)	880,000,000
Excess doses available in 2021 after boosters	1,100,500,000

In addition, incremental supply of these six vaccines for 2021 beyond the G7/EU purchase commitments would be ~3.4 billion doses. Much of this supply has been purchased through direct procurements by other governments as well as by Gavi on behalf of COVAX.