==Vaccine DA==

====Vaccine hesitancy decreasing ====

\*\*Lardieri 21\*\* Lardieri, Alexa. "Vaccine Hesitancy Declines, But Barriers Prevent Some Americans From Receiving Shot: Survey." US News. N.p., 2021. Web. 1 Sept. 2021. Alexa Lardieri is a reporter and digital producer for the Civic section of U.S. News & World Report, where she writes about breaking news.

Hesitancy surrounding the coronavirus vaccine has declined among all Americans, but barriers to access have discouraged some people from receiving the vaccine. A new survey from the Public Religion Research Institute found the decrease in hesitancy spans all religious and demographic groups. Approximately two-thirds of Americans, 67%, report having received at least one dose of the COVID-19, according to the survey, with another 4% saying they will get vaccinated as soon as possible. Fifteen percent of Americans report being hesitant about getting the vaccine, a decline from 28% in March. However, 13% continued to say they will not receive the vaccine, which is mostly unchanged from the 14% who said the same in a March survey. As more people receive the vaccine and it gets closer to full approval by the Food and Drug Administration, less than half, 47%, of Americans say they worry about the long-term effects from the COVID-19 vaccines, a drop of 11 percentage points from March's 58%. Among religious groups, vaccine acceptance has increased the most among Hispanic Catholics, from 56% in March to 80% in the most recent survey. PRRI found that 79% of white Catholics also accept the COVID-19 vaccines, an 11-point increase. For those who are vaccine hesitant, 38% of them who attend religious services at least several times a year said one or more faith-based approaches would make them more likely to get vaccinated. Faith-based approaches could prove effective on multiple groups of Americans, the survey found. Nineteen percent of Americans who refuse the vaccine say one or more faith-based approaches could also make them more likely to take it. Nearly one-third, 32%, of hesitant white evangelical Protestants who attend services say that approach would make them more likely to receive the vaccine. Among the vaccinated white evangelical Protestants, 26% say that approach encouraged them to get vaccinated against COVID-19. Additionally, white Catholics who are vaccine hesitant have become more than twice as likely to say one or more faith-based approaches could sway them, with 31% in the most recent survey compared to 15% in March's survey. Religion isn't the only factor impacting vaccine hesitancy and acceptance. The survey also found that less than half of QAnon followers, 47%, accept the COVID-19 vaccines, while 32% say they will not get vaccinated. Among people who reject QAnon's conspiracy theories, 88% accept the vaccines, while only 4% say they will not get vaccinated. Beyond hesitancy about the vaccine, Americans who are not vaccinated say it is because they face barriers such as lack of time or child care or an existing health condition. According to the PRRI survey, among Americans who are not vaccinated, 11% say a critical reason preventing them from receiving the vaccine is not having time to go get it or deal with side effects. Ten percent of unvaccinated Americans say a critical reason for not getting the shot is an existing health condition. Four percent say they remain unvaccinated because they lack child care for young children at home. Lastly, 3% of unvaccinated Americans say a critical reason preventing them from receiving the shot is that they do not have a reliable way to get to a vaccinated site.

====IP protections key to ensuring high quality and safe medicine ====

\*\*Lybecker 16\*\* Lybecker, Kristina. "Counterfeit Medicines And The Role Of IP In Patient Safety - Ipwatchdog.Com ~~~| Patents & Patent Law." IPWatchdog.com ~~~| Patents & Patent Law. N.p., 2016. Web. 24 Aug. 2021. Kristina M. L. Acri née Lybecker is an Associate Professor of Economics at Colorado College in Colorado Springs, and Chair of the Department of Economics and Business.

The threat of counterfeit goods took center stage on June 15th in a hearing convened by Senate Finance Committee Chairman Orrin Hatch (R-Utah). Focusing on trade opportunities and challenges for American businesses in the digital age, Senator Hatch stated: "The Organization for Economic Co-Operation and Development (OECD) recently released a study that shows that counterfeit products accounted for up to 2.5 percent of world trade, or $461 billion, in 2013. This is a dramatic increase from a 2008 estimate that showed that fake products accounted for less than half that amount. Counterfeits are a worldwide problem, but the OECD estimates that the United States is the hardest hit, followed by Italy and France. Of the estimated $461 billion in counterfeit trade in 2013, goods with registered intellectual property rights in the U.S. represented 20 percent, or $92 billion, of the OECD estimate."~~~~~~[1~~~~~~] As the author of the chapter on illicit trade in counterfeit medicines within the OECD report, I worry that global policymakers may be working against each other when it comes to battling counterfeit drugs, especially in the context of intellectual property rights. While the Senate Hearing and the OECD report highlight the importance of strong IP protection in combating the growing threat of counterfeit goods, their efforts coincide with an initiative by the UN Secretary-General that has the potential to greatly worsen the problems of counterfeit pharmaceuticals. UN Secretary General Ban Ki Moon's High Level Panel on Access to Medicines proposes "to review and assess proposals and recommend solutions for remedying the policy incoherence between the justifiable rights of inventors, international human rights law, trade rules and public health in the context of health technologies."~~~~~~[2~~~~~~] The High Level Panel is a thinly veiled attempt to undermine the intellectual property rights architecture that incentivizes pharmaceutical innovation and protects patients from counterfeit medicines. While patents and other forms of intellectual property rights are widely recognized as fostering pharmaceutical innovation, they also serve to inhibit counterfeiting. The World Health Organization has determined that counterfeiting is facilitated where "there is weak drug regulatory control and enforcement; there is a scarcity and/or erratic supply of basic medicines; there are extended, relatively unregulated markets and distribution chains, both in developing and developed country systems; price differentials create an incentive for drug diversion within and between established channels; there is lack of effective intellectual property protection; due regard is not paid to quality assurance".~~~~~~[3~~~~~~] ~~~~~~[Kristina~~~~~~] According to INTERPOL estimates, approximately 30 percent of drugs sold worldwide are counterfeit.~~~~~~[4~~~~~~] However, as is the case with many other counterfeit trade statistics, the origins of this figure are somewhat uncertain, as is the methodology used to make the calculation. Perhaps the most widely-cited statistic originates from the World Health Organization, which estimates that 10 percent of the global market for pharmaceuticals is comprised of counterfeits and reports place the share in some developing countries as high as 50-70%.~~~~~~[5~~~~~~] While difficult to measure, estimates do exist on the extent of the market for counterfeit drugs and the harm done to human health. As noted in my chapter in the OECD report, "INTERPOL estimates that more than one million people die each year from counterfeit drugs.~~~~~~[6~~~~~~] While counterfeit drugs seem to primarily originate in Asia, Asian patients are also significantly victimized by the problem. A 2005 study published in PLoS Medicine estimate that 192,000 people are killed in China each year by counterfeit medicines.~~~~~~[7~~~~~~] According to work done by the International Policy Network, an estimated 700,000 deaths from malaria and tuberculosis are attributable to fake drugs. ~~~~~~[8~~~~~~] The World Health Organization presents a much more modest number noting that malaria claims one million lives annually and as many as 200,000 may be attributed to counterfeit medicines which would be avoidable if the medicines available were effective, of good quality and used correctly.~~~~~~[9~~~~~~] Even this number is double that presented by academic researchers Amir Attaran and Roger Bate who claim that each year more than of 100,000 people around the world may die from substandard and counterfeit medications.~~~~~~[10~~~~~~]" ~~~~~~[11~~~~~~] Given the devastating impact of counterfeit medicines on patients and the importance of intellectual property protection in combating pharmaceutical counterfeiting, it is troubling that the UN High Level Panel seems poised to prevent a series of recommendations that will undermine public health under the guise of enhancing access. Without the assurance of quality medicines, access is meaningless. Moreover, while falsely presenting intellectual property rights as the primary obstacle to global health care, the High Level Panel downplays a host of other factors that prevent developing country patients from getting the drugs they need: inadequate medical infrastructure, insufficient political will, a shortage of clinical trials in nations where neglected diseases are endemic, poverty, and insufficient market incentives. If the United Nations is serious about addressing the critical need for access to medicines, the Secretary General must come to terms with the reality surrounding the challenges of access to medicine. Although the international patent system may be in need of improvement, it is overly simplistic to blame drug patents, international trade agreements and the global pharmaceutical industry for the access problem. The problem is far more nuanced and complicated than portrayed by the High Level Panel. As the WHO, OECD and Senator Hatch recognize, intellectual property rights are part of the solution. To truly address the access problem, we must move beyond blaming IPRs and begin the difficult work of grappling with structural deficiencies and poverty.

====Vaccine waiver leads to ineffective vaccines ====

\*\*Crosby et al. 21\*\* Daniel Crosby, Evan Diamond, Isabel Fernandez De La Cuesta, Jamieson Greer, Jeffrey Telep, Brian White; Crosby specializes in international trade, investment and matters related to public international law. Diamond is a partner on our Intellectual Property, Patent, Trademark and Copyright Litigation team.; 3-5-2021; "Group of Nearly 60 WTO Members Seek Unprecedented Waiver from WTO Intellectual Property Protection for COVID-related Medical Products"; https://www.jdsupra.com/legalnews/group-of-nearly-60-wto-members-seek-2523821/, JD Supra, accessed 7-21-2021

Waiver risks uncontrolled use of patented technologies, without improving vaccine access. Pharmaceutical companies can provide, and have provided, licenses to distribute or scale-up production of COVID-19 vaccines and therapies at reduced cost. Such license agreements allow for expanded access in low- and middle-income countries, while also setting reasonable parameters so that patents and other IP rights are used to address the specific medical needs of the COVID-19 pandemic at hand, and not for other purposes. License agreements also allow for orderly technology transfer, including of unpatented "trade secret" information and other critical "know-how," that may be essential to efficiently producing and scaling-up safe and effective versions of technologically complex vaccines and biologic drug products. Under the present TRIPS waiver proposal, however, member countries could try to exploit an extraordinarily broad scope of IP and copy patented technologies so long as they are "in relation to prevention, containment or treatment of COVID-19." For example, under an expansive reading of the proposed waiver language, a member country could try to produce patented pharmaceutical compounds that have other indicated uses predating COVID-19, if such compounds had later been studied or experimentally used for potential symptomatic relief or antiviral activity in COVID-19 patients. The same risks may be faced by manufacturers of patented materials or devices that have multiple uses predating COVID-19, but also may be used as "personal protective equipment" or components thereof, or in other measures arguably relating to COVID-19 "prevention" or "containment." At the same time, it is unclear how the proposed TRIPS waiver could provide the technology transfer and know-how critical for making the complex molecules and formulations constituting the various COVID-19 vaccines. Vaccine manufacture undertaken by an unauthorized party without the proper processes and controls could result in a different product that is potentially ineffective or results in unwanted health consequences. And even if an unauthorized manufacturer could overcome those substantial hurdles to reverse-engineer and scale up a safe and effective vaccine copy, it would likely take substantial time and a series of failures to do so. Notably, several of the original COVID-19 vaccine developers have recently faced low product yield and other manufacturing challenges during pre-commercial scale-up efforts and the initial months of commercial production.

====Unsafe and ineffective vaccines would fuel vaccine hesitancy – spillover to other vaccines and turns case====

\*\*Trogen et al 20\*\* Trogen B, Oshinsky D, Caplan A. Adverse Consequences of Rushing a SARS-CoV-2 Vaccine: Implications for Public Trust. JAMA. 2020;323(24):2460–2461. doi:10.1001/jama.2020.8917 Brit Trogen is a pediatrics resident at Bellevue Hospital and NYU Langone in New York. David Oshinsky holds the Jack S. Blanton Chair in History at the University of Texas and is a Distinguished Scholar in Residence at New York University Arthur L. Caplan, is the Drs. William F. and Virginia Connolly Mitty Professor of Bioethics at New York University Langone Medical Center and the founding director of the Division of Medical Ethics.

As the SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2) pandemic persists across the US and the world, the spotlight on vaccine science has never been more intense. Researchers across the globe are working rapidly to produce a potential vaccine, and 7 candidates are already in clinical trials.1 Operation Warp Speed, the vaccine development project announced by President Trump, has advocated for a vaccine to be made available in the US by the beginning of 2021.1 But for scientists and physicians, the term "warp speed" should trigger concern. Good science requires rigor, discipline, and deliberate caution. Any medical therapy approved for public use in the absence of extensive safeguards has the potential to cause harm, not only for COVID-19 prevention efforts and vaccine recipients, but also for public trust in vaccination efforts worldwide. Long before coronavirus disease 2019 (COVID-19), vaccine hesitancy and refusal were increasing.2 In 2019, the World Health Organization listed vaccine refusal as one of the top 10 global health threats.3 Pediatricians, in particular, frequently encounter resistance to childhood vaccinations, and as a result, outbreaks of measles and other vaccine-preventable illnesses, such as pertussis and influenza, have increased in recent decades.4 Much of the distrust of vaccines (and, by extension, the physicians and scientists who promote them) is driven by widespread misinformation from both online sources and skeptical communities.2,4 The belief that vaccines cause harmful adverse effects like autism has persisted despite carefully designed research studies that have refuted such claims. When physicians promote vaccines, they do so knowing that the benefits far outweigh the minimal risks, and that each vaccine has been studied extensively to establish its safety profile. Yet vaccine opponents frequently accuse physicians and researchers of failing in this respect, citing financial or political interests as the motivation for promoting vaccines. As the search for a SARS-CoV-2 vaccine accelerates, physicians and scientists who wish to maintain the public's trust must not promote a vaccine that has either bypassed established safety standards or is open to a serious charge of having done so. There is grim historical precedent for allowing expediency to rule vaccine development. In 1955, the inactivated polio vaccine developed by Jonas Salk was declared "safe, potent, and effective" following the largest public health experiment in the nation's history, involving more than a million schoolchildren.5 Within weeks, however, the miracle vaccine intended to end the scourge of polio stood accused of causing it. Years in development, the Salk vaccine had been rigorously tested in preparation for the massive trials. But the very success of these trials led to an understandable outcry for the immediate, but premature, public release of the vaccine. Five pharmaceutical companies were given Salk's formula and left to produce the vaccine without significant oversight. As speed took precedence over caution, serious mistakes went unreported.5 One company, Cutter Laboratories, distributed a vaccine so contaminated with live poliovirus that 70 000 children who received that vaccine developed muscle weakness, 164 were permanently paralyzed, and 10 died.6 Not surprisingly, that incident forced the federal government to directly intervene. The legacy of this event is a regulatory landscape in which vaccines undergo thousands of tests to ensure their safety and effectiveness.6 Yet on rare occasions, this vital evidence-based process of vaccine development and testing has still been ignored. In 1976, concerns about the emergence of a new swine flu strain reminiscent of the lethal 1918 version led President Gerald Ford to convene a panel that recommended a government-backed mass vaccination program.7 Poorly conceived, the attempt to vaccinate the US population at breakneck speed failed in virtually every respect. Safety standards deteriorated as one manufacturer produced the incorrect strain. The vaccine tested poorly on children who, depending on the form of vaccine tested, either developed adverse reactions with high fevers and sore arms or did not mount an immune response at all. Reports emerged that the vaccine appeared to cause Guillain-Barré syndrome in a very small number of cases, a finding that remains controversial, but added to the early momentum of the antivaccine movement.7 Once again, the pressure to rapidly distribute a vaccine undermined the scientific integrity of the process and damaged public trust. COVID-19 has created intense concern and uncertainty in the US and throughout the world. There are immense public and political pressures to develop a new vaccine, a process that typically takes years, not months. But as history warns, these pressures must not supplant rigorous scientific practice. Proceeding stepwise through the phases of clinical trials is the ethical standard for investigations involving human research participants. Adherence to the scientific method is the only way to safeguard against a SARS-CoV-2 vaccine that is ineffective, or worse, carries unacceptable adverse effects. Failing to abide by standards of safety and scientific rigor during the COVID-19 crisis will fuel the argument that physicians and scientists cannot be trusted. Vaccination rates, which are declining due to widespread concern about visiting clinicians' offices, could further decrease. The US could see resurgences of many vaccine-preventable illnesses, and inevitably, massive increases in avoidable deaths and irreversible outcomes. There are, however, reasons to hope that these scenarios will not come to pass. In response to past failures, vaccine development in the US is subject to increased regulatory oversight designed to protect against substandard practices. Technological advances permit the rapid communication of adverse events in clinical trials, and the understanding of the genetic factors influencing immunologic responses has increased. To proactively address safety concerns, these and other safeguards should be clearly communicated to the public during the vaccine development process. Both the public and the scientific community want an effective and safe intervention to prevent COVID-19. The morbidity, mortality, and societal and financial devastation that SARS-CoV-2 has caused throughout the world will have wide-reaching consequences for almost every aspect of life for years to come. Nothing should dampen the ardor of researchers worldwide in the aggressive search for effective treatments. In this unprecedented crisis, novel trial designs, such as those that include challenge studies, should be carefully considered.8 But what cannot and must not be allowed is for desperation to result in the suspension of scientific principles and ethical research values. Physicians should not administer inadequately vetted vaccines; researchers should not endorse them without sufficient data. The scientific community has only one chance at winning public acceptance of a SARS-CoV-2 vaccine. The likelihood of achieving that goal will depend on convincing evidence of vaccine safety and efficacy.

==Vaccine CP==

====CP: Member states of the G7 ought to implement a five point plan to address vaccine inequities:====

====Create a G7 Vaccine Emergency Task Force====

====Share vaccines for all diseases====

====Remove restrictions that are slowing the supply chain====

====Encourage the use of voluntary licensing ====

====Increase financial support to low income nations====

====G7 plan has greatest impact ====

\*\*Glassman et al. 21\*\* Glassman, Amanda. "Open Letter To G7 Leaders: A G7 Action Plan To Ensure The World Is Vaccinated Quickly And Equitably." Csis.org. N.p., 2021. Web. 1 Sept. 2021. Amanda Glassman is the Executive Vice President, Center for Global Development; CEO of CGD Europe; and Senior Fellow

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. 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.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. 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.) 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. 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. 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. 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 know-how 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. 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.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. 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.

===AT COVID Waivers===

====COVID patent waivers don't solve – technology transfer difficult, supplies limited due to US restrictions, and mRNA never produced at scale before====

\*\*Tabarrok 21\*\* Tabarrok, Alex. "Patents Are Not The Problem! - Marginal REVOLUTION." Marginal REVOLUTION. N.p., 2021. Web. 9 Aug. 2021. Alex Tabarrok is Bartley J. Madden Chair in Economics at the Mercatus Center and a professor of economics at George Mason University. Along with Tyler Cowen, he is the co-author of the popular economics blog Marginal Revolution and co-founder of Marginal Revolution University. He is the author of numerous academic papers in the fields of law and economics, criminology, regulatory policy, voting theory and other areas in political economy. He is co-author with Tyler of Modern Principles of Economics, a widely used introductory textbook. He gave a TED talk in 2009. His articles have appeared in the New York Times, the Washington Post, the Wall Street Journal, and many other publications.

For the last year and a half I have been shouting from the rooftops, "invest in capacity, build more factories, shore up the supply lines, spend billions to save trillions." Fortunately, some boffins in the Biden administration have found a better way, "the US supports the waiver of IP protections on COVID-19 vaccines to help end the pandemic." Waive IP protections. So simple. Why didn't I think of that??? Patents are not the problem. All of the vaccine manufacturers are trying to increase supply as quickly as possible. Billions of doses are being produced–more than ever before in the history of the world. Licenses are widely available. AstraZeneca have licensed their vaccine for production with manufactures around the world, including in India, Brazil, Mexico, Argentina, China and South Africa. J&J's vaccine has been licensed for production by multiple firms in the United States as well as with firms in Spain, South Africa and France. Sputnik has been licensed for production by firms in India, China, South Korea, Brazil and pending EMA approval with firms in Germany and France. Sinopharm has been licensed in the UAE, Egypt and Bangladesh. Novavax has licensed its vaccine for production in South Korea, India, and Japan and it is desperate to find other licensees but technology transfer isn't easy and there are limited supplies of raw materials: Virtually overnight, ~~~~~~[Novavax~~~~~~] set up a network of outside manufacturers more ambitious than one outside executive said he's ever seen, but they struggled at times to transfer their technology there amid pandemic travel restrictions. They were kicked out of one factory by the same government that's bankrolled their effort. Competing with larger competitors, they've found themselves short on raw materials as diverse as Chilean tree bark and bioreactor bags. They signed a deal with India's Serum Institute to produce many of their COVAX doses but now face the realistic chance that even when Serum gets to full capacity — and they are behind — India's government, dealing with the world's worst active outbreak, won't let the shots leave the country. Plastic bags are a bigger bottleneck than patents. The US embargo on vaccine supplies to India was precisely that the Biden administration used the DPA to prioritize things like bioreactor bags and filters to US suppliers and that meant that India's Serum Institute was having trouble getting its production lines ready for Novavax. CureVac, another potential mRNA vaccine, is also finding it difficult to find supplies due to US restrictions (which means supplies are short everywhere). As Derek Lowe said: Abolishing patents will not provide more shaker bags or more Chilean tree bark, nor provide more of the key filtration materials needed for production. These processes have a lot of potential choke points and rate-limiting steps in them, and there is no wand that will wave that complexity away. Technology transfer has been difficult for AstraZeneca–which is one reason they have had production difficulties–and their vaccine uses relatively well understood technology. The mRNA technology is new and has never before been used to produce at scale. Pfizer and Moderna had to build factories and distribution systems from scratch. There are no mRNA factories idling on the sidelines. If there were, Moderna or Pfizer would be happy to license since they are producing in their own factories 24 hours a day, seven days a week (monopolies restrict supply, remember?). Why do you think China hasn't yet produced an mRNA vaccine? Hint: it isn't fear about violating IP. Moreover, even Moderna and Pfizer don't yet fully understand their production technology, they are learning by doing every single day. Moderna has said that they won't enforce their patents during the pandemic but no one has stepped up to produce because no one else can. The US trade representative's announcement is virtue signaling to the anti-market left and will do little to nothing to increase supply. What can we do to increase supply? Sorry, there is no quick and cheap solution. We must spend. Trump's Operation Warp Speed spent on the order of $15 billion. If we want more, we need to spend more and on similar scale. The Biden administration paid $269 million to Merck to retool its factories to make the J&J vaccine. That was a good start. We could also offer Pfizer and Moderna say $100 a dose to produce in excess of their current production and maybe with those resources there is more they could do. South Africa and India and every other country in the world should offer the same (India hasn't even approved the Pfizer vaccine and they are complaining about IP!??) We should ease up on the DPA and invest more in the supply chain–let's get CureVac and the Serum Institute what they need. We should work like hell to find a substitute for Chilean tree bark. See my piece in Science co-authored with Michael Kremer et. al. for more ideas. (Note also that these ideas are better at dealing with current supply constraints and they also increase the incentive to produce future vaccines, unlike shortsighted patent abrogation.) Bottom line is that producing more takes real resources not waving magic patent wands. You may have gathered that I am angry. I am indeed angry that the people in power think they can solve real problems on the cheap and at someone else's expense. This is not serious. I am also angry that they are sending the wrong message about business, profits and capitalism. So let me end on positive note. Like the Apollo program and Dunkirk, the creation of the mRNA vaccines by Pfizer and Moderna should be lauded with Nobel prizes and major movies. Churchill called the rescue at Dunkirk a "miracle of deliverance," well the miracle of Moderna will rescue many more. Not only was a vaccine designed in under a year, an entirely new production process was set up to produce billions of doses to rescue the world. The creation of the mRNA vaccines was a triumph of science, logistics, and management and it was done at a speed that I had thought possible only for past generations. I am grateful that greatness is still within our civilization's grasp.

====Turn – COVID waiver would lead to more vaccine skepticism, lower production, and energy taken away from other initiatives ====

\*\*Wilson 21\*\* Wilson, Simon. Why Joe Biden's Big Pharma patent grab is a terrible idea, Moneyweek.com. N.p., 2021. Web. 30 Aug. 2021. Simon Wilson is the head of Journalism Europe and Americas at BBC World Service.

What's happened? Earlier this month the US surprised the global community – and stunned investors in drugs companies – by backing the temporary suspension of some globally agreed rules covering intellectual-property (IP) protections for Covid-19 vaccines. A waiver of World Trade Organisation (WTO) rules to help tackle the Covid-19-emergency was first proposed by India and South Africa last October, covering patents not just for vaccines, but also diagnostic tools and therapeutic treatments. Both countries have a large manufacturing sector making generic (off-patent) pharmaceuticals. The US is not signed up to a broader waiver of that kin, but its support for a narrower waiver on vaccine patents is a surprise. Why's that? Because the US has a vast and powerful pharmaceutical sector and Washington has a long history of opposition to public-health measures that affect intellectual property rights. In 1996, it even threatened sanctions against Brazil for weakening patent laws to improve access to life-saving Aids drugs. Still, there's no guarantee that a patent waiver – that is, a temporary suspension of certain rules set out in the WTO's Trade-Related Aspects of Intellectual Property Rights (Trips) agreement – will actually happen. Until earlier this month, the idea had gained little traction, with the US, EU (notably Germany), UK and Japan all opposed. But US support makes it far more likely that some kind of waiver will be agreed. What's the case for a waiver? The hope is that the waiver will encourage a wider and more geographically diverse production base, as well as encouraging international co-operation. And also that the prospect of a waiver will encourage pharmaceutical companies to enter into more voluntary arrangements and non-exclusive licensing to enable the transfer of technology in a controlled and transparent way. The lesson of the Aids pandemic is that patents "stymie accessible treatment, cost lives, and offer little bona fide enhancement of innovation", says Laurie Garrett in Foreign Policy. What's the case against? First, that waiving patents on Covid-19 vaccines would not actually speed up global production or get more shots into arms. Second, that doing so would have damaging long-term effects on future innovation. To take the first, it's not IP issues that lie behind vaccine supply issues, it's a range of factors including shortages of critical raw materials, a lack of production facilities and the technology and expertise to manufacture them. We know vaccine patents are not the bottleneck to making more vaccines because "there are no factories capable of producing Covid-19 vaccines sitting idle because they don't have a patent", says Matthew Lesh on CapX. Moderna announced last October that it would not be enforcing its own patents – yet there is no generic non-Moderna production. Why not? Because it's too hard to copy given the obstacles. Pfizer's vaccine, for example, requires 280 components from 86 suppliers in 19 countries, from glass vials to lipids to special plastics. And AstraZeneca, having established a global supply network with more than 20 partners across 15 countries, ran out of engineers qualified to transfer its technology. Moreover, waiving patents will increase competition for scarce ingredients, with the risk that less efficient and less expert manufacturers would hinder the ability of existing producers to ramp up capacity. And there's an obvious issue with safety – and the knock-on effects on global confidence in Covid-vaccines as a whole. And the long-term consequences? Security of property rights underpins the whole pharmaceutical sector, which is driven by massive – and massively high-risk – upfront investment in research and development. Weakening or waiving those rights would inevitably discourage companies from investing in future innovation. That would make the world less safe and more vulnerable to the next pandemic threat – and could conceivably even disincentivise investment in pharmaceuticals more broadly. Biden's "bewildering" support for this is "the single worst presidential economic decision since Nixon's wage-and-price controls", says The Wall Street Journal – destroying tens of billions of dollars in US intellectual property and surrendering America's advantage in biotech, a key growth industry. Certainly, when the next pandemic hits, the world will want the pharmaceutical industry to once again "drop everything and work like hell to make vaccines", says Tom Chivers on Unherd. "Maybe waiving IP rights will have no impact on their willingness to do that next time, but if there's even a small chance that it will, it seems a bad bet." Will it happen? Any agreement will need the backing of all 164 WTO members, and will take weeks or months to secure. Meanwhile, many poor countries have jabbed less than 1% of their populations, 44% of vaccine doses have gone to Europe and North America, and Covid-19 is raging in south Asia and Latin America – and all the while new variants are raising the risk-level globally. Investors are worried about a fall in pharma profits, says The Economist, but the danger – in terms of both health and economy – is far broader than that. If protracted negotiations at the WTO "suck energy away from other initiatives to transfer technology and increase vaccine supplies, that would really be something to fear". Far more useful than waiving patents, says The Washington Post, would be a concerted effort by Western governments to share their vaccine surpluses, and by Western pharma firms to strike more licensing deals and "share manufacturing know-how, experienced personnel, quality control methods, oversight and raw materials".