## 1AC—Vaccines

**1AC – Plan**

**Plan – The member nations of the World Trade Organization ought to reduce intellectual property protections for medicines.**

### FW

#### Pleasure is an intrinsic good.

Moen ’16 – (Ole Martin, PhD, Research Fellow in Philosophy @ University of Oslo, "An Argument for Hedonism." Journal of Value Inquiry 50.2 (2016): 267). Modified for glang

Let us start by observing, empirically, that a widely shared judgment about intrinsic value and disvalue is that pleasure is intrinsically valuable and pain is intrinsically disvaluable. On virtually any proposed list of intrinsic values and disvalues (we will look at some of them below), pleasure is included among the intrinsic values and pain among the intrinsic disvalues. This inclusion makes intuitive sense, moreover, for there is something undeniably good about the way pleasure feels and something undeniably bad about the way pain feels, and neither the goodness of pleasure nor the badness of pain seems to be exhausted by the further effects that these experiences might have. “Pleasure” and “pain” are here understood inclusively, as encompassing anything hedonically positive and anything hedonically negative. 2 The special value statuses of pleasure and pain are manifested in how we treat these experiences in our everyday reasoning about values. If you tell me that you are heading for the convenience store, I might ask: “What for?” This is a reasonable question, for when you go to the convenience store you usually do so, not merely for the sake of going to the convenience store, but for the sake of achieving something further that you deem to be valuable. You might answer, for example: “To buy soda.” This answer makes sense, for soda is a nice thing and you can get it at the convenience store. I might further inquire, however: “What is buying the soda good for?” This further question can also be a reasonable one, for it need not be obvious why you want the soda. You might answer: “Well, I want it for the pleasure of drinking it.” If I then proceed by asking “But what is the pleasure of drinking the soda good for?” the discussion is likely to reach an awkward end. The reason is that the pleasure is not good for anything further; it is simply that for which going to the convenience store and buying the soda is good. 3 As Aristotle observes: “We never ask what her~~is~~ end is in being pleased, because we assume that pleasure is choice worthy in itself.”4 Presumably, a similar story can be told in the case of pains, for if someone says “This is painful!” we never respond by asking: “And why is that a problem?” We take for granted that if something is painful, we have a sufficient explanation of why it is bad. If we are onto something in our everyday reasoning about values, it seems that pleasure and pain are both places where we reach the end of the line in matters of value. Although pleasure and pain thus seem to be good candidates for intrinsic value and disvalue, several objections have been raised against this suggestion: (1) that pleasure and pain have instrumental but not intrinsic value/disvalue; (2) that pleasure and pain gain their value/disvalue derivatively, in virtue of satisfying/frustrating our desires; (3) that there is a subset of pleasures that are not intrinsically valuable (so-called “evil pleasures”) and a subset of pains that are not intrinsically disvaluable (so-called “noble pains”), and (4) that pain asymbolia, masochism, and practices such as wiggling a loose tooth render it implausible that pain is intrinsically disvaluable. I shall argue that these objections fail.

#### Thus, the standard is *maximizing pleasure and minimizing pain*. Calc indicts don’t link—my framework is a general principle to be applied intuitively, not a rigid calculator. Prefer—

#### 1 – Actor-Spec – States are institutions with pragmatic purposes and not agents with intentions so non-consequentialist impacts are incoherent—outweighs since different agents have different obligations. state use util all the time.

#### 2

#### Lexical pre-requisite: threats to bodily security preclude the ability for moral actors to effectively act upon other moral theories since they are in a constant state of crisis that inhibits the ideal moral conditions which other theories presuppose

### innovation

#### corporations use patents to get rid of rivals, functionally monopolizing the market. medical innovation has slowed down tremendously.

**Gubby 19** [Hellen Gubby, professor at the Rotterdam School of Management at Amarus University with a PhD in law, 9-6-2019, "Is the Patent System a Barrier to Inclusive Prosperity? The Biomedical Perspective," Wiley Online Library, https://onlinelibrary.wiley.com/doi/10.1111/1758-5899.12730]/Kankee

As the economy has largely shifted from industrial manufacturing to high-tech, life science and information processing industries, intellectual property has become more and more important. **Corporations have become increasingly aware** **of the potential of the patent**, **not just as a shield to protect against imitation, but as a strategic tool to block competition** **and dominate markets**. Patents have come to have a broader strategic function in which **innovation may only play a small part**. Although many patents do not produce any income: ‘In terms of strategy, though, the patent can be much more valuable’ (Macdonald, 2004, p. 143). Patent strategy is directly related to the business context. The Carnegie Mellon Survey of the US manufacturing sector in 1994 revealed that **firms often used patents as strategic tools, rather than** as simply **a means of protecting an invention from wrongful imitation** (Cohen et al., 2000). In their examination of motives to patent, Blind et al. (2009) recognised that, although protection from imitation was still the most important factor, ‘the importance of the strategic motives to patent are confirmed’ (Blind et al., 2006, p. 671). Patent strategies **The decision to patent has become** in part uncoupled from the original core purpose of the patent: **to protect an invention from unfair imitation by other market participants**. **Larger firms, with the capital assets to pay for the cost of patenting, use their patent portfolios strategically**. **Patents have become** useful as **bargaining chips; they provide leverage**. **Large patent portfolios are a means to get access to important co-operations or cross-licensing arrangements** (Blind et al., 2009, p. 431). Yet while building **the portfolio** requires enormous legal costs, it **contributes little to research incentives**. Furthermore, **these** **portfolios** can be used not just to oblige competitors to take licences, but also the terms of these licences can **restrict competitors to certain areas of technology** (Barton, 2000). **Larger firms** **can** afford to play the ‘wrap around’ strategy. Instead of **apply**ing **for** a single patent to cover an invention, other **patents** are filed **around the main patent**. **These** **related** **patents lock down the discrete features of an invention**. **The tactic hinders entry to the market**. **Competitors will be put to time, effort and cost to fight their way through all the relevant patents covering the technology**. Furthermore, **the chance** that **the competitor's invention may infringe one of the many claims in one of the many patents is high**. Not only can **damages be awarded for infringement, but also an injunction**. **Injunctions prevent the party accused of infringement from producing any products that require the use of the tech**nology **covered by the infringed patent and all infringing products are removed from the market.** Patents may be used simply to block competitors. **Using a patent as a blocking strategy is common practice** (Neuhäusler, 2012). **Defensive blocking is used to protect a firm's own freedom to operate**: **it does not want to be shut out by the patents of its rivals**. An offensive blocking strategy is where **patents are filed to cover products or processes that the firm does not intend to practice itself, but which could be viable alternatives to competitors**. **By patenting all conceivable alternatives, research by competitors that might threaten their own technological lead can be thwarted**. As in general **a patentee is under no obligation to license out its technology to another, the strategy can deter market entry or new product launch.** This offensive blocking of competitors by means of **patents**, ‘is clearly a case of the patent system being used for purposes other than for which it was originally intended’ (Blind, 2009, p. 436). However, both defensive and offensive **blocking** should be a policy concern, as they **can reduce economic** **efficiency**. **Defensive patenting increases cost to firms without necessarily producing any benefit and offensive patenting can reduce technological progress and increase consumer costs by reducing competition** (Thumm, 2004, p. 533). Using data from a large-scale survey of patent applications, Torrisi discovered that **a substantial share of patents remained unused and a substantial number of patent applications were filed to block other patents**. There were institutional differences; there were more unused patents in Japan and the EU than in the USA. Although cautious to make generalisations about unused patents, as some unused patents are there to ensure freedom to operate or simply because of management inefficiency, Torrisi et al. did conclude that: ‘[**o**]**ur results highlight that there might be substantial benefits that patent owners draw from being able to keep patent rights unused**. These would have to be balanced against possible harm imposed on other economic agents’ (Torrisi et al., 2016; , p. 1384). These strategies show a disconnect with the original purpose of the patent system. Patent strategies impact on innovation, and this in turn impacts on society. Concern was already expressed quite forcibly some years ago by Turner: Surely when the framers of the [US] Constitution empowered Congress to grant monopolies to ‘promote the progress of science and the useful arts’, they did not envision the beneficiaries of this grant would use it to bury new technologies to protect market share or capital investments. (Turner, 1998, p.209) Administrative failures Patent offices have been struggling to cope with the increasing number of patent applications: in 2017, more than 3 million patent applications were filed worldwide (WIPO, 2018). This influx has resulted in substantial application backlogs, with an increasingly long time between the patent filing and the patent grant: five years is not unusual. Complaints of poor quality control have been made concerning the US Patent and Trademark Office as well as the European Patent Office (Abbott, 2004; Mabey, 2010). The WIPO recognised a consistent upward trend in patent filings is putting patent offices under enormous pressure (WIPO, 2017, p. 13). Why are these administrative failings dangerous from a societal perspective? **Patents** **grant a monopoly that can impact innovative processes for 20 years or more**. **Patents have been granted that should not have been granted**. **When an overly broad patent is granted, this can block further innovation by others**. **Broad patents may mean** that **access to vital research is not available because** the **results** of that research **are covered by patent claims**. In particular, **broad** basic **patents on fundamental research** **can block and deter follow-on** **research**. **The incentive to innovate is reduced** (Barton, 2000; Henry and Stiglitz, 2010).1 Back in 1966, the societal implication of overly broad grants was expressed clearly by the US Supreme Court when it rejected a broad claim covering a group of chemicals: ‘**Such a patent may confer power to block off whole areas of scientific development** without compensating benefits to the public.’2

#### Empirics prove our thesis– up to 80% of all new patents are not new drugs but old ones.

**Feldman 2** Robin Feldman 18, May your drug price be evergreen, Journal of Law and the Biosciences, Volume 5, Issue 3, December 2018, Pages 590–647, <https://doi.org/10.1093/jlb/lsy022> Arthur J. Goldberg Distinguished Professor of Law, Albert Abramson ’54 Distinguished Professor of Law Chair, and Director of the Center for Innovation (Study Notes: Presenting the first comprehensive study of evergreening, this article examines the extent to which evergreening behavior—which can be defined as artificially extending the protection cliff—may contribute to the problem. The author analyses all drugs on the market between 2005 and 2015, combing through 60,000 data points to examine every instance in which a company added a new patent or exclusivity.)//sid

The study results demonstrate definitively that the pharmaceutical industry has strayed far from the patent system's intended design. The patent system is not functioning as a time-limited opportunity to garner a return, followed by open competition. Rather, companies throughout the industry seek and obtain repeated extensions of their competition-free zones. Moreover, the incidence of such behavior has steadily increased between 2005 and 2015, especially on the patent front and for certain highly valuable exclusivities. Most troubling, the data suggest that the current state of affairs **is harming innovation** in tangible ways. Rather than creating new medicines—sallying forth into new frontiers for the benefit of society—**drug companies are focusing their time and effort extending the patent life of old products.** **This**, of course, **is not the innovation one would hope for**. The greatest creativity at pharmaceutical **companies should be in the lab, not in the legal department**.115 The following sections describe the results obtained through our analysis in detail, but below are the key takeaways from the study: Rather than creating new medicines, pharmaceutical companies are recycling and repurposing old ones. In fact, **78% of the drugs associated with new patents** in the FDA’s records **were not new drugs** coming on the market, but existing drugs. In some years, the percentage reached as high as 80%. Adding new patents and exclusivities to extend the protection cliff is particularly pronounced among blockbuster drugs. Of the roughly 100 best-selling drugs, more than 70% extended their protection at least once, with more than 50% extending the protection cliff more than once. Looking at the full group, almost **40% of all drugs** available on the market **created additional market barriers by having patents or exclusivities added** to them. Many of the drugs adding to the Orange Book are ‘serial offenders’—returning to the well repeatedly for new patents and exclusivities. Of the drugs that had an addition to the Orange Book, 80% of those had an addition to the Orange Book on more than one occasion, and almost half of these drugs had additions to the Orange Book on four or more occasions. The number of drugs with a high quantity of added patents in a single year has substantially increased. For example, the number of drugs with three or more patents added to them in one year has doubled. Similarly, the number of drugs with five or more added patents has also doubled. Overall, the quantity of patents added to the Orange Book has more than doubled, increasing from 349 patents added in the year 2005 to 723 in 2015. The number of drugs that had a patent added to them in the Orange Book almost doubled. There were striking increases in certain exclusivities, such as orphan drug exclusivity, new patient population exclusivity, and new product exclusivity. In particular, the number of drugs with an added orphan drug exclusivity tripled. In addition, the number of times a use code was added to a patent more than tripled, suggesting that this has become a new favored game. To provide a broad sense of the types of metrics we are using, some could be characterized as ‘intensity’ measures, which capture the breadth and depth of patent and exclusivity activity in the industry. Another set of our metrics can be characterized as ‘temporal’ measures, which evaluate whether there are any trends in the behavior under examination across time during our 11-year timeframe from 2005 to 2015.

#### **Innovating prevents extinction – history shows that with with pandemics should always be finding new drugs**

Dennis Pamlin & Stuart Armstrong, Executive Project Managers of Global Risks 15, Dennis Pamlin, Executive Project Manager Global Risks, Global Challenges Foundation, and Stuart Armstrong, James Martin Research Fellow, Future of Humanity Institute, Oxford Martin School, University of Oxford, February 2015, “Global Challenges: 12 Risks that threaten human civilization: The case for a new risk category,” Global Challenges Foundation, p.30-93, https://api.globalchallenges.org/static/wp-content/uploads/12-Risks-with-infinite-impact.pdf

4 Global A pandemic (from Greek πᾶν, pan, “all”, and δῆμος demos, “people”) is an epidemic of infectious disease that has spread through human populations across a large region; for instance several continents, or even worldwide. Here only worldwide events are included. A widespread endemic disease that is stable in terms of how many people become sick from it is not a pandemic. 260 84 Global Challenges – Twelve risks that threaten human civilisation – The case for a new category of risks 3.1 Current risks 3.1.4.1 Expected impact disaggregation 3.1.4.2 Probability Influenza subtypes266 Infectious diseases have been one of the greatest causes of mortality in history. Unlike many other global challenges pandemics have happened recently, as we can see where reasonably good data exist. Plotting historic epidemic fatalities on a log scale reveals that these tend to follow a power law with a small exponent: many plagues have been found to follow a power law with exponent 0.26.261 These kinds of power laws are heavy-tailed262 to a significant degree.263 In consequence most of the fatalities are accounted for by the top few events.264 If this law holds for future pandemics as well,265 then the majority of people who will die from epidemics will likely die from the single largest pandemic. Most epidemic fatalities follow a power law, with some extreme events – such as the Black Death and Spanish Flu – being even more deadly.267 There are other grounds for suspecting that such a highimpact epidemic will have a greater probability than usually assumed. All the features of an extremely devastating disease already exist in nature: essentially incurable (Ebola268), nearly always fatal (rabies269), extremely infectious (common cold270), and long incubation periods (HIV271). If a pathogen were to emerge that somehow combined these features (and influenza has demonstrated antigenic shift, the ability to combine features from different viruses272), its death toll would be extreme. Many relevant features of the world have changed considerably, making past comparisons problematic. The modern world has better sanitation and medical research, as well as national and supra-national institutions dedicated to combating diseases. Private insurers are also interested in modelling pandemic risks.273 Set against this is the fact that modern transport and dense human population allow infections to spread much more rapidly274, and there is the potential for urban slums to serve as breeding grounds for disease.275 Unlike events such as nuclear wars, pandemics would not damage the world’s infrastructure, and initial survivors would likely be resistant to the infection. And there would probably be survivors, if only in isolated locations. Hence the risk of a civilisation collapse would come from the ripple effect of the fatalities and the policy responses. These would include political and agricultural disruption as well as economic dislocation and damage to the world’s trade network (including the food trade). Extinction risk is only possible if the aftermath of the epidemic fragments and diminishes human society to the extent that recovery becomes impossible277 before humanity succumbs to other risks (such as climate change or further pandemics). Five important factors in estimating the probabilities and impacts of the challenge: 1. What the true probability distribution for pandemics is, especially at the tail. 2. The capacity of modern international health systems to deal with an extreme pandemic. 3. How fast medical research can proceed in an emergency. 4. How mobility of goods and people, as well as population density, will affect pandemic transmission. 5. Whether humans can develop novel and effective anti-pandemic solutions.

### Developing countries

**Rich countries are blocking a WTO patent-waiver proposal necessary to boost global production of COVID vaccines.**

**Meredith 21**. [(Sam Meredith is a Correspondent at CNBC in London, covering international politics, energy and business news) “Rich countries are refusing to waive the rights on Covid vaccines as global cases hit record levels,” CNBC, April 22, 2021. <https://www.cnbc.com/2021/04/22/covid-rich-countries-are-refusing-to-waive-ip-rights-on-vaccines.html>]

LONDON — The U.S., Canada and U.K. are among some of the high-income countries actively **blocking a patent-waiver proposal** designed to **boost the global production of Covid-19 vaccines.** It comes as coronavirus cases worldwide surge to their highest level so far and the World Health Organization has repeatedly admonished a “**shocking imbalance” in the distribution of vaccines amid the pandemic.** Members of the World Trade Organization will meet virtually in Geneva, Switzerland on Thursday to hold informal talks on whether to temporarily waive intellectual property and patent rights on Covid vaccines and treatments. The landmark proposal, which was jointly submitted by India and South Africa in October, has been backed by more than 100 mostly developing countries. It aims to facilitate the manufacture of treatments locally and boost the global vaccination campaign. Six months on, the proposal continues to be **stonewalled by a small number of governments** — including the U.S., EU, U.K., Switzerland, Japan, Norway, Canada, Australia and Brazil. “In this Covid-19 pandemic, we are once again **faced with issues of scarcity**, which can be addressed through diversification of manufacturing and supply capacity and ensuring the **temporary waiver of relevant intellectual property**,” Dr. Maria Guevara, international medical secretary at Medecins Sans Frontieres, said in a statement on Wednesday. “It is about saving lives at the end, not protecting systems.” The **urgency and importance of waiving certain intellectual property rights amid the pandemic have been underscored** by the WHO, health experts, civil society groups, trade unions, former world leaders, international medical charities, Nobel laureates and human rights organizations. Why does it matter? The waiver, if adopted at the General Council, the WTO’s highest-level decision-making body, could **help countries around the world overcome legal barriers** preventing them from producing their own Covid vaccines and treatments. Advocates of the proposal have conceded the waiver is not a “silver bullet,” but argue that **removing barriers** toward the development, production and approval of vaccines is **vital in the fight to prevent, treat and contain the coronavirus.**

**The new head of the WTO is on track to push for reform and an increased role in the international arena, but is hindered now due to lack of vaccine agreement.**

**Baschuk 4-27**. [(Bryce Baschuk is a Bloomberg Reporter) ["WTO Chief Pursues a ‘Hectic’ Agenda to Fix World Trade’s Referee," Bloomberg, April 27, 2021. https://www.bloomberg.com/news/articles/2021-04-27/wto-chief-pursues-a-hectic-agenda-to-fix-world-trade-s-referee](file:///\\Users\adenbarton\Downloads\%22WTO%20Chief%20Pursues%20a%20‘Hectic’%20Agenda%20to%20Fix%20World%20Trade’s%20Referee,%22%20Bloomberg,%20April%2027,%202021.%20https:\www.bloomberg.com\news\articles\2021-04-27\wto-chief-pursues-a-hectic-agenda-to-fix-world-trade-s-referee)] TDI

The head of the World Trade Organization **raised an alarm about the credibility of the multilateral trading system**, urging leaders to act fast to bolster the global economy with steps like fairer vaccine distribution and cooperate to resolve longer-term problems like overfishing. During her first two months, WTO Director-General Ngozi Okonjo-Iweala has met with trade ministers around the globe to communicate a message that **the WTO is important, it needs to be reformed and it needs to deliver results.** So far, she says the reception from world leaders has been positive, but quickly translating that goodwill into substantive outcomes during a global pandemic is just as daunting as she anticipated. “The word I would use to describe it is absolutely hectic,” Okonjo-Iweala said in a phone interview on Tuesday when asked about her first few months in the job. “The challenges we thought were there are there and getting an agreement is not as easy because of longstanding ways of negotiating business positions.” Read More: Arcane WTO Pact Moves to Center of Vaccine Debate: Supply Lines Countries need to move past the notion that one country’s gain in international commerce is another’s loss, she said. “We need to break out of the zero-sum deadlock,” Okonjo-Iweala said. “We need to remind the countries and members that the WTO is here to deliver for people. **We can’t take 20 years to negotiate something**.” Okonjo-Iweala said **her top priority is to use trade to alleviate the pandemic** and said her recent meeting with trade ministers and vaccine manufacturers provided a positive step in the right direction. ‘More Pragmatism’ “That meeting yielded quite a lot,” she said. “I see more pragmatism on both sides.” An important component of the WTO’s trade and health agenda is a proposal from India and South Africa that seeks to temporarily waive enforcement of the WTO’s rules governing intellectual property for vaccines and other essential medical products. Read More: U.S. Trade Chief Meets Pfizer, AstraZeneca About Vaccine Supply As of this week there are fresh signals that the Biden administration, which currently opposes a waiver to the WTO agreement on Trade-Related Aspects of Intellectual Property Rights, wants vaccine manufacturers like Pfizer Inc. and AstraZeneca Plc to help ramp up U.S. pandemic assistance to the rest of the world. “There is movement,” Okonjo-Iweala said. “Are we there yet? No, but there is a little bit of change in the air among members. I think hopefully we will be able to come to some sort of a framework for the WTO ministers to bless.” “We don’t have time,” she added. “People are dying.” Okonjo-Iweala said this month’s vaccine meeting also revealed areas where the developing world can increase its capacity to produce more doses rather than waiting for rich countries to send them their excess supplies. She said various emerging markets such as India, Pakistan, Bangladesh, Senegal, Indonesia and Egypt already have some capacity to begin producing vaccines for people living in developing economies.

**Scenario 1 is India.**

**India is in crisis – the recent COVID surge is fundamentally different from that of the past.**

**Khullar 21**. [(Dhruv Khullar is a contributing writer at The New Yorker, where he writes primarily about medicine, health care, and politics. He is also a practicing physician and an assistant professor at Weill Cornell Medical College) “India’s Crisis Marks a New Phase in the Pandemic,” The New Yorker, May 13, 2021. <https://www.newyorker.com/science/medical-dispatch/indias-crisis-marks-a-new-phase-in-the-pandemic>] TDI

Laxminarayan’s walks have changed in recent weeks. **Coronavirus deaths in India have skyrocketed**, and a **frightening atmosphere** has descended. New Delhi is roughly as dense as New York City, with some thirty thousand residents per square mile. But now Laxminarayan passes just a few scattered people; almost everyone stays inside if they can, venturing out only in **search of food, medication, or medical care**. Before the surge, mask-wearing had declined, but now everyone’s face is covered again. “You need public-health enforcement when the pandemic is invisible,” Laxminarayan told me. “Now fear is the dominant force changing people’s behavior.” Government statistics indicate that the virus is **newly infecting millions** of Indians each week, and that some twenty thousand or thirty thousand people are dying weekly. But most experts, including Laxminarayan, believe that those numbers **capture a fraction** of the true covid-19 toll. “It’s a **war zone**,” Laxminarayan said. “It’s worse than what you’re reading in the papers or seeing on TV. Whatever the numbers are, they don’t tell the full story. The human toll is **devastating**.” The current surge **differs fundamentally** from India’s experience last year. “This is truly a national wave,” Laxminarayan said. “It’s not urban. It’s not rural. It’s not north or south. It’s everywhere.” He went on, “During the first wave, the poor suffered the bulk of the health and economic toll. Now everyone is affected. I personally don’t know a single family that doesn’t have covid in it right now. I don’t mean in their extended family. I mean in their nuclear family.” In late April, after his dentist’s parents both died and after a colleague fell ill and couldn’t get oxygen, Laxminarayan decided to shift from covid research to covid relief. He and his team at C.D.D.E.P. decided to focus on India’s oxygen-supply problem, which has fundamentally limited the nation’s hospital capacity. They launched an initiative called OxygenForIndia, raising eight and a half million dollars in two weeks; with the help of corporate partners, among them Verizon Media, Logitech, and UiPath, they have secured more than two thousand oxygen concentrators—portable devices that remove nitrogen from the air to produce purified oxygen—and thirty thousand cylinders to store gaseous oxygen. By some estimates, those cylinder donations add up to more gaseous oxygen than India has received through foreign aid to date. “Right now, no one wants to leave a hospital bed they’re in,” Laxminarayan said. “It’s the only place they know perhaps they can get oxygen. We want to assure people they will have oxygen at home, so that hospital capacity is freed up for the sickest patients.” Laxminarayan thinks that bolstering critical-care capacity is a long-term proposition—“You can’t make doctors and nurses overnight”—and that India is better served today by making more efficient use of its existing infrastructure. OxygenForIndia has already started delivering oxygen to people’s homes, but the organization’s larger goal is to partner with hospitals in urban areas: Delhi, Bangalore, and Kolkata, among others. Doctors, along with algorithms, will triage patients upon presentation or as they improve before discharge. Those deemed safe to go home with supportive oxygen will be given a Q.R. code to be scanned at a nearby warehouse, where they can collect an oxygen cylinder or concentrator to keep as long as they need. (Cylinders must be refilled at the warehouse each day; concentrators can be used continuously at home.) “I’m hoping this is a scalable model that can be used by other countries when they face their big covid wave,” Laxminarayan said. “Because there’s no reason to believe they won’t.” The air around us, which contains twenty-one-per-cent oxygen, must be concentrated and purified to produce the medical-grade gas that people need when the coronavirus besieges their lungs. The most efficient way to accomplish this—the default in wealthy countries—is for factories to produce liquid oxygen, which tanker trucks then deliver to hospitals, where it can be stored in large containers and then piped into patients’ rooms. Many hospitals in poor countries, however, aren’t equipped to store liquid oxygen, and must rely on an external supply. If a hospital is in a remote location, this can be a serious logistical challenge. Another option is to install on-site plants that extract oxygen from the air. These systems, which use a technology known as pressure swing adsorption, or P.S.A., are expensive, and require maintenance. In October, the Indian government announced plans to build a hundred and sixty-two such plants around the country; thus far, thirty-three have been installed. Laxminarayan’s organization also hopes to create dozens of oxygen-generation plants at Indian hospitals. For now, many hospitals rely on simpler, decentralized technology, which comes with disadvantages: the gaseous oxygen contained in cylinders can cost ten times as much as its liquid equivalent, and oxygen concentrators are usually intended for only one or a few patients at a time. Whatever the process, it’s clear that too many Indians are going without the oxygen they need. Since this February, India’s oxygen requirements have increased fifteenfold; it now needs nearly three times as much medical-grade oxygen as it did during the height of its first wave. Some hospitals have run out of oxygen, and others are on the precipice. Hospitals won’t admit patients whom they can’t treat; many Indians therefore suffer a suffocating illness at home. The government is doing what it can: granting oxygen-transport vehicles an ambulance-like status on roads; leveraging the national railway service to move tankers around the country; enlisting the air force to transport empty containers back to factories to be refilled. On Wednesday, India’s Supreme Court ordered the federal government to present a more comprehensive plan to meet New Delhi’s oxygen needs. Meanwhile, foreign governments and international aid organizations are sending ventilators, concentrators, and cylinders. Still, each day brings fresh reports of people dying because they can’t get oxygen. (The shortage is likely to spread: globally, the deficit of medical oxygen—the gap between what’s needed and what’s being produced—has tripled in recent months, in part owing to the unmet need in India but also because of growing demand in South America and the Middle East.) Technically, Indians have access to universal health coverage: the country’s constitution guarantees everyone a “right to life,” and people can receive care at government facilities free of charge. But, over decades, low levels of public financing have led to poor quality and severe staff and supply shortages. India’s federal government spends around one per cent of G.D.P. on health care—far less than most large economies. Moreover, states share responsibility with the federal government for health-care delivery, and that has resulted in a large variation in funding and quality. Many Indians therefore opt to pay for private health care, if they can afford it, and the private sector now provides most care in India, even though commercial health insurance is available to only a fraction of the population and out-of-pocket costs can be devastating. In 2018, the central government launched a major effort aimed at insuring that low-income people could receive care at private facilities. But relatively few Indians have a regular place of care where they can receive ongoing management of their medical conditions or outpatient testing and treatment for covid-19. The coronavirus has severely strained India’s critical-care capacity, which was lacking even before the pandemic: during normal times, the country has around fifteen per cent of the critical-care specialists it needs. More generally, India has nine doctors for every ten thousand people—about half the global average, and only a third as many as the U.S. There’s also the issue of maldistribution: two-thirds of India’s population lives in rural areas, where only twenty per cent of the nation’s doctors work. (Shortages of nurses and other clinicians can be even worse.) VIDEO FROM THE NEW YORKER The Pandemic Through the Eyes of a Three-Year-Old Still, India’s physician-to-patient ratio is higher than that of Bangladesh, Nepal, or any nation in sub-Saharan Africa. Many of the globe’s myriad health-care systems share the fundamental constraints that have transformed India’s second wave into a humanitarian crisis—including an oxygen-delivery infrastructure that is unable to meet the demands of a vast viral surge. Many Indians have experienced the current surge as a surprise. But the forces driving it are fundamentally familiar. “Society opened up without restraint,” K. Srinath Reddy, the president of the Public Health Foundation of India and the former chair of cardiology at the All India Institute of Medical Sciences, told me. “It was widely perceived that the pandemic is behind us, that we are unlikely to have a second wave. We didn’t just return to 2019—we entered 2021 with an extra degree of exuberance.” Politicians encouraged people to gather at massive rallies; cricket stadiums filled with fans; malls opened to shoppers and weddings welcomed guests. The government sanctioned the Kumbh Mela, a Hindu religious festival, and millions of people made the pilgrimage to Haridwar, in the northern state of Uttarakhand, to wash in the River Ganges. The festival started on April 1st and continued for nearly three weeks before the coronavirus toll became unbearable and undeniable. Afterward, people carried the virus back to far-flung cities and villages. “The euphoria of putting the pandemic behind us was a widely prevalent emotion, and it suited everyone,” Reddy said. “Industry wanted to get back to full production. Small traders wanted to get back to business. Ordinary citizens wanted to get back to their lives.” Many countries have engaged in wishful thinking during the pandemic; all have struggled to fight the virus while avoiding economic collapse. The Indian experience speaks specifically to the problem of endurance, and raises the question of how long low- and middle-income countries can maintain pandemic protocols absent a clear time line for widespread vaccination. The U.S. and much of Europe have navigated the pandemic while looking forward to early and reliable access to vaccines; if we didn’t have a firm end date, we at least knew that an end was approaching. Under such conditions, politicians and the public can examine, debate, and accept the costs of restrictions. But that calculus is harder, perhaps impossible, without some assurance that pandemic life is temporary. ADVERTISEMENT The global vaccination effort has faltered, with poor countries receiving a fraction of the vaccines they had expected. covax, the world’s primary initiative to promote vaccine equity, had planned to deliver two billion doses in 2021; so far, it’s sent out about fifty million. Less than half of one per cent of all covid-19 vaccines have been administered in poor nations. “We’re now in this very strange situation where we’re talking about fourteen-year-olds in America getting vaccinated, while older people around the world remain vulnerable and entire countries are devastated,” Ashish Jha, the dean of Brown’s public-health school, told me. “It’s a moral issue, but it’s also an epidemiological one. We’re **placing everyone at risk when we let the virus run rampant.** It creates a huge substrate for new variants. We need to **quadruple our efforts to get the world vaccinated.** That has to be the No. 1 priority for the Biden Administration going forward.” The U.S. has committed four billion dollars to covax, which still faces a funding shortfall of tens of billions of dollars. Last week, the Biden Administration also announced its support for waiving intellectual-property protections for covid-19 vaccines. The proposed waiver—it must be approved by the World Trade Organization—has been **hailed by many public-health practitioners**; the director-general of the W.H.O., Tedros Adhanom Ghebreyesus, called Biden’s support for the proposal “a monumental moment” in the fight against the pandemic. But others have sounded a cautionary note, raising the possibility that the spectre of patent waivers will disincentivize companies from investing in vaccine and drug development in the future. “I wonder whether we want to send potential firms the message that the larger the health crisis, the less we will respect and protect your I.P.,” Craig Garthwaite, a professor at Northwestern University, tweeted, after the Biden Administration’s announcement. “That’s a great system if you think this is the last pandemic we’ll face.”

**That causes Indo-Pak conflict escalation.**

**Somos 20**. [Christy Somos is a CTVNews.ca Writer) “COVID-19 has escalated armed conflict in India, Pakistan, Iraq, Libya and the Philippines, study finds,” CTV News, December 17, 2020. <https://www.ctvnews.ca/world/covid-19-has-escalated-armed-conflict-in-india-pakistan-iraq-libya-and-the-philippines-study-finds-1.5236738>] TDI

INDIA India saw a rise in armed conflict during the study period, with violent clashes in the Kashmir region between Kashmiri separatists facing off against the Indian military, as well as **conflicts between Pakistan and India.** “So what mostly drove the increase in conflict intensity…were basically due to two factors,” Ide said. “The first being that there is some evidence that Pakistan sponsors or supports these insurgents in Kashmir, to encourage them to increase their attacks [on Indian forces] because they **perceived them to be weak and struggling with the pandemic**.” The second factor, Ide explained, was that while Indian government enacted a “pretty comprehensive lockdown in Kashmir, and sealing it way from international media attention…**launched more intense counter-insurgency efforts** and…crack[ed] down on any pro-Pakistani sympathy expressions.” IRAQ Iraq had an increase in armed conflict, but Ide noted that the overall intensity did not change that much – a “very slight upward trend” in scale that was not linear. What did increase were attacks by ISIS in April, May, and June. “The Iraqi government was really in trouble,” he said. “They had enormous economic loss, they had to go head-to-head and use troops and funds to combat the pandemic – the international coalition supporting the government partially withdrew troops or stopped their activities.” “The Iraqi government was really in a position of weakness.” Ide said the Islamic State exploited the pandemic and the thin resources at hand to the government to expand territorial control, conquer new areas and to stage more attacks. LIBYA The civil war in Libya between the Government of National Accord’s (GNA) forces and the Libyan National Army escalated during the study period, after a ceasefire brokered in January was broken, Ide said. “As soon as international attention shifted to the pandemic…they really escalated the conflict, tried to make gains while hoping the other side is weakened because of the pandemic, hoping to score an easy military victory” Ide said. “It didn’t happen.” The UN Security Council noted in a May report that the pandemic was bolstering the 15-month conflict, citing the history of more than 850 broken ceasefire agreements and “a tide of civilian deaths” on top of a worsening outbreak. PAKISTAN The ongoing conflict with **India saw a rise in armed conflict in Pakistan** during the study period – which were unrelated to the pandemic, but also a rise in Taliban-affiliated groups and anti-government sentiments due to pandemic restrictions, Ide said. “There were a lot of anti-government grievances,” Ide said. “There were restrictions on religious gatherings, which religious groups did not like, and there were some negative **economic impacts which affected the local people**.” Ide said those two factors could have been exploited by the Taliban in a quest to recruit more followers. Later in the study period, a swath Pakistani government officials were struck with COVID-19, **leaving the country with a leadership crisis**, which saw an increase of attacks by Taliban groups in May.

**Extinction.**

**Roblin 21.** [(Sébastien Roblin holds a master’s degree in Conflict Resolution from Georgetown University and served as a university instructor for the Peace Corps in China, "If the Next India-Pakistan War Goes Nuclear, It Will Destroy the World," The National Interest, March 26, 2021. <https://nationalinterest.org/blog/reboot/if-next-india-pakistan-war-goes-nuclear-it-will-destroy-world-181134>]

Here's What You Need to Remember: India and Pakistan account for over one-fifth **world’s population**, and therefore a significant **share of economic** activity. Should their **major cities** become **irradiated** ruins with their populations decimated, a **tremendous disruption** would surely result. Between February 26 and 27 in 2019, Indian and Pakistani warplanes **launched strikes** on each other’s territory and engaged in **aerial combat** for the first time since 1971. Pakistan ominously hinted it was convening its National Command Authority, the institution which can authorize **a nuclear strike**. The two states, which have retained an **adversarial relationship** since their founding in 1947, between them deploy **nuclear warheads** that can be delivered by land, air and sea. However, those weapons are inferior in number and yield to the thousands of nuclear weapons possessed by Russia and the United States, which include megaton-class weapons that can wipe out a metropolis in a single blast. Some commenters have callously suggested that means a “limited regional nuclear war” would remain an Indian and Pakistani problem. People find it difficult to assess the risk of rare but catastrophic events; after all, a full-scale nuclear war has never occurred before, though it has come close to happening. Such assessments are not only shockingly callous but shortsighted. In fact, **several studies** have modeled the global impact of a “limited” **ten-day nuclear war** in which India and Pakistan each exchange fifty 15-kiloton nuclear bombs equivalent in yield to the Little Boy uranium bomb dropped on Hiroshima. Their findings concluded that **spillover** would in no way be “limited,” directly impacting people **across the globe** that would struggle to locate Kashmir on a map. And those results are merely a conservative baseline, as India and Pakistan are estimated to possess over **260 warheads**. Some likely have yields exceeding 15-kilotons, which is relatively small compared to modern strategic warheads. **Casualties** Recurring **terrorist attacks** by Pakistan-sponsored militant groups over the status of India’s Muslim-majority Jammu and Kashmir state have repeatedly led to threats of a **conventional** military **retaliation** by New Delhi. Pakistan, in turn, maintains it may use **nuclear weapons** as a **first-strike weapon** to **counter-balance** India’s superior conventional forces. Triggers could involve the **destruction** of a large part of Pakistan’s military or **penetration** by Indian forces deep into Pakistani **territory**. Islamabad also claims it might authorize a strike in event of a damaging Indian **blockade** or political **destabilization** instigated by India. India’s official policy is that it will never be first to strike with nuclear weapons—but that once any **nukes** are used against it, New Dehli will unleash an **all-out retaliation**. The Little Boy bomb alone killed around 100,000 Japanese—between 30 to 40 percent of Hiroshima’s population—and destroyed 69 percent of the buildings in the city. But Pakistan and India host some of the most populous and **densely populated** cities on the planet, with population densities of Calcutta, Karachi and Mumbai at or exceeding 65,000 people per square mile. Thus, even low-yield bombs could cause **tremendous casualties**. A 2014 study estimates that the **immediate effects** of the bombs—the fireball, over-pressure wave, radiation burns etc.—would kill **twenty million people**. An earlier study estimated a hundred 15-kiloton nuclear detonations could kill twenty-six million in India and eighteen million in Pakistan—and concluded that escalating to using 100-kiloton warheads, which have greater blast radius and overpressure waves that can shatter hardened structures, would multiply **death tolls four-fold**. Moreover, these projected body counts omit the **secondary effects** of nuclear blasts. Many survivors of the initial explosion would suffer **slow**, **lingering deaths** due to **radiation exposure**. The **collapse of healthcare**, transport, sanitation, water **and** economic **infrastructure** would also claim many more lives. A nuclear blast could also trigger a **deadly firestorm**. For instance, a firestorm caused by the U.S. napalm bombing of Tokyo in March 1945 killed more people than the Fat Man bomb killed in Nagasaki. **Refugee Outflows** The civil war in Syria caused over 5.6 million refugees to flee abroad out of a population of 22 million prior to the conflict. Despite relative stability and prosperity of the European nations to which refugees fled, this outflow triggered political backlashes that have rocked virtually every major Western government. Now consider likely **population movements** in event of a nuclear war between India-Pakistan, which together total over **1.5 billion people**. Nuclear bombings—or their even their mere potential—would likely cause many city-dwellers to **flee** to the countryside to lower their odds of being caught in a nuclear strike. Wealthier citizens, numbering in tens of millions, would use their resources to flee abroad. Should bombs beginning dropping, poorer citizens many begin pouring over land borders such as those with Afghanistan and Iran for Pakistan, and Nepal and Bangladesh for India. These poor **states would struggle** to supports tens of millions of refugees. China also borders India and Pakistan—but historically Beijing has not welcomed refugees. Some citizens may undertake risky voyages at sea on overloaded boats, setting their sights on South East Asia and the Arabian Peninsula. Thousands would surely drown. Many regional governments would turn them back, as they have refugees of conflicts in Vietnam, Cambodia and Myanmar in the past. **Fallout** Radioactive fallout would also be **disseminated across the globe**. The fallout from the Chernobyl explosion, for example, wounds its way westward from Ukraine into Western Europe, exposing 650,000 persons and contaminating 77,000 square miles. The long-term health effects of the exposure could last decades. India and Pakistan’s **neighbors** would be especially **exposed**, and most lack healthcare and infrastructure to deal with such a crisis. **Nuclear Winter** Studies in 2008 and 2014 found that of one hundred bombs that were fifteen-kilotons were used, it would blast **five million tons of** fine, **sooty particles** into the stratosphere, where they would **spread across the globe**, warping global **weather patterns** for the next twenty-five years. The particles would **block out** light from the **sun**, causing surface temperatures to decrease an average of 2.7 degrees Fahrenheit across the globe, or 4.5 degrees in North American and Europe. **Growing seasons** would be **shortened** by ten to forty days, and certain **crops** such as Canadian wheat would simply become **unviable**. Global agricultural **yields** would **fall**, leading to rising prices and **famine**. The particles may also **deplete** between 30 to 50 percent of the **ozone** layer, allowing more of the **sun’s radiation** to penetrate the atmosphere, causing increased **sunburns** and rates of **cancer** and killing off sensitive plant-life and marine plankton, with the spillover effect of **decimating fishing yields**. To be clear, these are outcomes for a **“light” nuclear winter** scenario, not a full slugging match between the Russian and U.S. arsenals. **Global Recession** Any one of the factors above would likely suffice to cause a global **economic** recession. All of them combined would guarantee one. India and Pakistan account for over one-fifth **world’s population**, and therefore a significant share of economic activity. Should their major cities become **irradiated ruins** with their **populations decimated**, a tremendous disruption would surely result. A **massive decrease in consumption and production** would obviously instigate a long-lasting recessionary cycle, with attendant deprivations and political destabilization slamming developed and less-developed countries alike. Taken together, these outcomes mean even a **“limited” India-Pakistan nuclear war** would significantly affect every person on the globe, be they a school teacher in Nebraska, a factory-worker in Shaanxi province or a fisherman in Mombasa. Unfortunately, the **recent escalation** between India and Pakistan is no fluke, but part of a **long-simmering pattern** likely to continue escalating unless New Delhi and Islamabad work together to change the nature of their relationship.

**Scenario 2 is pandemics**

#### The rate of vaccinations between the global north and south is increasing at a disproportionate rate. IP laws are barriers leaving millions unvaccinated

UN 21 [“Unequal Vaccine Distribution Self-Defeating, World Health Organization Chief Tells Economic and Social Council’s Special Ministerial Meeting,” United Nations, April 16, 2021, <https://www.un.org/press/en/2021/ecosoc7039.doc.htm>] **SC EP**

With the number of new COVID-19 cases around the world nearly doubling over the past two months — approaching the highest infection rate observed during the pandemic — the unequal distribution of vaccines is not only a moral outrage, but economically and epidemiologically self-defeating, the head of the United Nations health agency told a special ministerial meeting of the Economic and Social Council today. “Vaccine equity is the challenge of our time,” Tedros Adhanom Ghebreyesus, Director-General of the World Health Organization (WHO), told the gathering in opening remarks.  “And we are failing.” Driving that point home, he reported that, of the 832 million vaccine doses administered, 82 per cent have gone to high- or upper‑middle-income countries, while only 0.2 per cent have been sent to their low-income counterparts.  In high‑income countries alone, 1 in 4 people have been vaccinated, a ratio that drops precipitously to 1 in 500 in poorer countries. The meeting — held in virtual format with the theme “A Vaccine for All” — brought together senior officials from the United Nations, Governments, business, the scientific community and civil society.  They explored ways to guarantee equal access to vaccines as a global public good, and strengthen the readiness of countries for their distribution. The Director-General said that rapidly spreading variants, the inconsistent application and premature easing of public health measures, fatigue with social restrictions and the dramatic inequity in vaccine coverage have all led to an alarming spike in new cases and deaths.  “This is a time for partnership, not patronage,” he emphasized. “We have the tools to end this pandemic,” he continued.  The Access to COVID-19 Tools Accelerator (ACT-Accelerator), created by WHO and its partners, as well as the COVAX Facility, can prevent mistakes of 40 years ago, when the world was slow to deploy life-saving antiretroviral drugs to poor countries during the HIV/AIDS crisis. Today, COVAX has distributed 40 million doses to 100 countries, but that is nowhere near enough, he said, stressing that WHO had expected to have distributed 100 million doses by now.  Some countries have received nothing, none have received enough, and some are not receiving second-round allocation on time, he noted.  “The problem is not getting vaccines out of COVAX,” he added.  “The problem is getting them in.” He said WHO is working with Gavi, the Vaccine Alliance, and the Coalition for Epidemic Preparedness Innovations to scale up production and supply.  A COVAX manufacturing task force has been formed, and promisingly, the African Union will form the New Partnership for African Manufacturing, he noted.  It aims to build five vaccine production hubs on the continent, starting with three mRNA facilities in Rwanda, Senegal and South Africa.  WHO is also developing regional regulatory capacity through the African Medicines Agency, he reported. Calling upon countries with enough vaccine to cover their populations “many times over” to make immediate donations to COVAX, he underlined the vital need to explore every option for boosting production.  They include voluntary licences, technology pools, flexibilities on trade-related intellectual property rights and waiving certain intellectual property provisions, and investing in local vaccine manufacturing.  WHO will continue to provide technical assistance and to add manufacturing bases across Africa, Asia and Latin America, he said. He urged all countries to carry out measures that work — surveillance, testing, contact‑tracing, supportive quarantine and compassionate care — emphasizing that never in the 75-year history of the United Nations has its role been more important.  “We cannot defeat this virus one country at a time,” he stressed.  “We can only do it with a coordinated global effort, based on the principles of solidarity, equity and sharing.” Ngozi Okonjo-Iweala, Director General of the World Trade Organization (WTO), described the vaccine disparities as “morally unconscionable”.  Addressing inequity is a task that forces the world to grapple with daunting technical, logistical, policy and political hurdles, but they can be overcome in a practical, empirically informed manner, she said.  While the impulse to conserve supply is understandable, securing personal safety is not enough, she emphasized.  “We must find a way to share.” A recent WTO vaccine equity event had some encouraging takeaways, she reported, making clear the untapped potential in developing countries to step up production, and the availability of resources to bankroll such investment.  WTO members have reduced export restrictions from 109 in nearly 90 countries, to 51 in 62 countries, she said, adding that, with pragmatic engagement, they can find ways to bridge concerns over intellectual property rights.  She went on to express hope that such efforts will lead to a framework agreement on trade and health, preferably before the twelfth WTO Ministerial Conference in December. Munir Akram (Pakistan), President of the Economic and Social Council, said that, as well as being a moral imperative, universal vaccine coverage is the only realistic way out of the pandemic.  He called for scaling up production, addressing intellectual property issues, supporting weak health systems, removing export restrictions — and importantly — funding the WHO ACT‑Accelerator and COVAX Facility.  Decisive steps towards universal access to vaccines is a prerequisite for economic recovery, he stressed. Volkan Bozkir (Turkey), President of the General Assembly, emphasized:  “No topic is as relevant or pertinent to the world today as that of vaccines,” while acknowledging:  “Our efforts have not been perfect.”  He stressed that “we must finish what we have started”, pressing Governments to recommit to the principles of human solidarity and cooperation.  The progress made to date is the result of countries working with hundreds of companies and thousands of scientists — “multilateralism at its finest” — he said. With a view to ensuring the goal of “vaccines for all”, he continued, Member States should extend resources to COVAX; invest in vaccine research, production and distribution; donate vaccines to countries in need; and tackle misinformation to ensure that everyone is educated on the benefits of inoculation.  “It is the job of the United Nations and its Member States to act on these demands,” he stressed. Throughout the day, ministers and other senior officials explored ways to bridge financing gaps, build national capacities and maximize vaccine supply and rollout, as they engaged in two panel discussions addressing the related problems. Melissa Fleming, Under-Secretary-General for Global Communications, moderated the first panel discussion, on the theme “Scaling up for Vaccine Equity”.  It featured the following panellists:  Winnie Byanyima, Executive Director, Joint United Nations Programme on HIV and AIDS (UNAIDS); Henrietta Fore, Executive Director, United Nations Children’s Fund (UNICEF); Soumya Swaminathan, Chief Scientist, World Health Organization (WHO); John Nkengasong, Director, Africa Centres for Disease Control and Prevention; Paul Farmer, Professor and Chair, Department of Global Health and Social Medicine, Harvard University Medical School; and Andrey Zarur, Founder and Chief Executive Officer, GreenLight Biosciences, Incorporated. Ms. FLEMING, opening the discussion, cited data showing that 9 out of 10 people in poor countries could miss out on vaccines.  She asked the UNAIDS Executive Director to elaborate on the concept of “people’s vaccine” and on ways in which to address vaccine inequality. Ms. BYANYIMA said rich nations are currently vaccinating their citizens at a rate of one person per second while, as of the week of 4 to 11 April, seven African countries were yet to receive a single dose.  She added that widening inequality — exacerbated by the pandemic — runs counter to the Sustainable Development Goals.  The right to health is a universal human right, she pointed out, emphasizing that it that should not be up for sale or denied due to profit concerns.  Vaccine nationalism or apartheid is self-defeating because it prolongs the crisis, economic downturn and suffering for everyone, she said, stressing that investment in regional vaccine manufacturing hubs is necessary for future global safety.  Noting that vaccine inequality translates into social and economic inequality, she said any delay in response to the current crisis equates to more loss of life and increased poverty.  She added that a global plan is needed to effectively address this issue. Responding to a question about similarities between the current crisis and the HIV/AIDS one, she reiterated that unequal access to health products, technology and services costs lives and delays overall recovery.  Recalling that treatment for HIV/AIDS initially cost between $10,000 per patient per year, she said the cost fell to $100 per patient per year as a direct result of a global movement pushing for change.  She urged the international community to learn from past crises, avoid previous mistakes and bear in mind that — beyond the moral and economic imperatives to act — “no one is safe until everyone is safe”. Ms. FORE, asked about vaccine-equity concerns and UNICEF’s role in addressing COVID-19, noted that about half the world’s vaccines have passed through the agency’s doors for the past 20 years.  Children require routine immunizations and must not be neglected while the world vaccinates against COVID‑19, she emphasized.  UNICEF moves 2 billion doses of vaccines for children annually, she said, adding that the Fund plans to move another 2 billion doses of COVID-19 vaccines if it has the supply.  To that end, countries must emphasize preparedness for their distribution by developing priorities for who will receive the vaccine first — for example, front-line workers such as doctors, nurses and teachers — and by communicating to their citizens that vaccines are the best protection against COVID-19 and its variants.  She went on to underscore the importance of sufficient manufacturing capacity for supplies that facilitate vaccine distribution, including masks, syringes and safe disposal equipment. On how to avoid vaccine nationalism, she pointed out that the number of doses administered in low-income countries stands at 0.2 per cent of the population, compared to 16.7 per cent in middle-income countries and 48.7 per cent in high-income ones.  To address that inequality, she called for the removal of import and export restrictions, increased licensing of relevant intellectual property and the loan, release or donation of vaccine supplies by those countries possessing excess supply. Ms. SWAMINATHAN, answering a query about WHO’s role in pushing for equitable access to vaccines, emphasized that agency’s importance as a normative agency that informed manufacturers of benchmarks for COVID-19 vaccines — including a minimum of 50 per cent efficacy — which regulators then used in assessing vaccine candidates.  She said that, for universal access to be successful, it requires investment in infrastructure, workforce training, transfer of technology and knowledge, a competent regulatory system and willingness to share on the part of the holders of intellectual property-rights holders. On how to address the health concerns surrounding the AstraZeneca and Johnson & Johnson vaccines, she pointed out that recent health complications are not unexpected because no drug or vaccine is 100 per cent safe and a certain percentage out of a large pool of recipients will inevitably display rare side effects.  The issue here is one of trust, not only in the vaccines, but also in the authorities disseminating information about them, she stressed.  Authorities must be open and transparent about known facts, and the calculus is ultimately about benefit versus risk.  She added that the risk for all age groups of dying from COVID-19 is far higher than that of dying from a vaccine. Dr. NKENGASONG, asked about the challenges facing vaccine rollout in Africa, recalled past health crises in which tens of millions on the continent died needlessly.  The international community “should not let history repeat itself”, he emphasized, pointing out that “nice words about solidarity” expressed at the onset of the pandemic disappeared quickly with the arrival of vaccines.  The international community cannot neglect a continent of 1.3 billion people if it is to overcome the present crisis.  Expressing surprise that “basic common sense” has not prevailed in that regard, he invoked Martin Luther King, Jr.’s, appeal to the “fierce urgency of now” in calling for a return to the spirit of cooperation that defined the early days of the present crisis to fight the coronavirus. Concerning the potential for increased vaccine manufacturing in Africa to solve the current crisis and others like it, he underscored the importance of implementing a framework for reversing the narrative that 99 per cent of vaccines in Africa are imported.  He expressed hope that, in 20 years, Africa will manufacture at least 50 per cent of the vaccines it uses.  That would be in the world’s best interest, he emphasized, calling for partnerships in technology transfer, infrastructure development and regulatory issues in support of the African vision for such manufacturing. Mr. FARMER, asked how to apply lessons learned during previous health crises, said one of the biggest failures of the response to Ebola in West Africa was low expectations and ambition on the part of imported experts, tinged with a distinctly colonial feel.  The Africa Centres for Disease Control and Prevention has carried out excellent work in recent years, he noted, underlining the importance of African-led initiatives.  He emphasized that the delay between the development and use of new tools costs lives, recalling that a vaccine proven effective against Ebola sat on shelves for a decade due to a perceived lack of demand.  The history of medicine and public health in Africa, he added, serves as a reminder that the international community must focus on equitably “irrigating clinical deserts” in order to decolonize global health and respond to COVID-19. Asked about a road map for a more equitable global health system, he said what is necessary is “not rocket science” — countries need safe spaces to deliver care, systems and support to those in need. Mr. ZARUR, asked about the role that the private sector can play in scaling up vaccine production and promoting equitable distribution, said that sector has a responsibility — rather than a role to play — to build national capacities for vaccine manufacturing so that Governments can address problems on the local level.  “If you teach someone how to make a vaccine, you vaccinate them forever,” he observed.  The private sector must create a new business model that allows for profitable universal vaccine production, potentially by allowing countries to earn the right — through the licensing of intellectual property — to manufacture their own vaccines and profit from doing so, he said. Responding to a question about potential challenges faced by developing countries, even if granted licensing and manufacturing rights, he said the biggest such challenge is one of funding.  Although the cost of implementation is miniscule compared to the damage already suffered, human nature would rather spend money on treatment than on prevention, he added.  Calling for the scaling up of education systems, he said the world needs trained operators who, bolstered by the global transfer of technology and skills, can develop the next generation of vaccines for the crises to come. IBRAHIMA KALIL KABA, Minister for Foreign Affairs of Guinea, spoke on behalf of the “Group of 77” and China, emphasizing that COVID-19 vaccines must be treated as a global public good.  Fair, timely and universal access is necessary to overcome the pandemic and recover momentum to achieve the Sustainable Development Goals, he said.  He called for increased sharing of technology and information while urging all countries to counter misinformation and vaccine hesitancy.  Pointing out that the global vaccine gap threatens collective health and well‑being, he expressed support for scaling up vaccine production under the trade-related intellectual property rights agreement. ALEXEY TSOY, Minister for Healthcare of Kazakhstan, spoke on behalf of the Group of Landlocked Developing Countries, noting that inequitable access to vaccines is deepening the divide between poor and rich countries.  He called upon relevant stakeholders to refrain from direct, unilateral deals with manufacturers and by donating vaccines to vulnerable countries.  At least 70 per cent of the world’s population must be vaccinated in order to contain the current crisis, according to expert opinion, he said, encouraging the facilitators of COVAX to increase intended procurement.  He also called upon WTO members to use the trade‑related intellectual property rights agreement to temporarily increase timely, affordable access to essential medical products. FRANK ANTHONY, Minister for Health of Guyana, spoke on behalf of the Caribbean Community (CARICOM), expressing concern regarding the devastating impact of COVID-19 on small, developing States in the form of lockdown measures, supply‑chain disruptions, sharp declines in remittances and the general decrease in travel, trade and other economic activity.  Predicting that many vulnerable countries and peoples will continue to suffer unless safe, effective vaccines are made universally available and affordable, he called for increased funding for the ACT-Accelerator and its COVAX Facility, and appealed to international financial institutions to provide low-cost financing to support the pandemic recovery efforts of all developing countries. The representative of the European Union pointed out that the bloc has spent more than €1 billion to support research on anti-COVID vaccines and therapeutics and has contributed €2.5 billion to the ACT-Accelerator’s COVAX Facility, which has exported more than 80 million doses to 42 countries.  Furthermore, “Team Europe” has mobilized a global recovery package of over €40 billion and will provide a further €100 million in humanitarian support to vaccine efforts, in coordination with the Africa Centres for Disease Control and Prevention.  He went on to emphasize that vaccination is “not a race between countries, but a race against the virus”. The representative of Tuvalu, speaking on behalf of the Pacific Islands Forum, said the pandemic has affected lives, health care, infrastructure, food security, development goals, trade, tourism, remittances and social cohesion around the globe, including in “our blue Pacific continent”.  He emphasized the need to vaccinate all Pacific peoples in order to mitigate health concerns, improve well-being and facilitate early economic recovery.  Equitable access to vaccines can be “considered a form of stimulus” for Pacific economies.  Noting that the region’s small island developing States have had limited policy space in which to respond to the crisis — particularly lacking the means for extra spending — he called for increased support for health-care infrastructure, investment and training. DON PRAMUDWINAI, Deputy Prime Minister and Minister for Foreign Affairs of Thailand, noted that more than half the 9.6 billion doses of COVID-19 vaccines secured by countries around the world are concentrated in only 10 of them.  Calling for global efforts to improve vaccine manufacturing and distribution capacities, he said Thailand will serve as a regional manufacturing hub for a viral vector-based vaccine by the second half of 2021, and plans to produce up to 200 million doses annually.  He emphasized that the international community can seize the present moment to turn crisis into opportunity by accelerating achievement of health-related Sustainable Development Goals, such as universal health coverage. Moderated by Juan Sandoval Mendiolea, Deputy Permanent Representative of Mexico to the United Nations and Vice-President of the Economic and Social Council, the panel featured presentations by Seth Berkley, Chief Executive Officer, Gavi, the Vaccine Alliance; Mamta Murthi, Vice‑President for Human Development, World Bank Group; Jorge Moreira da Silva, Director, Development Co-operation Directorate, Organisation for Economic Co-operation and Development (OECD); Miho Shirotori, Acting Director of Trade and Commodities, United Nations Conference on Trade and Development (UNCTAD); Jeremy Konyndyk, Executive Director, COVID-Task Force, United States Agency for International Development; Lucas Chancel, co-Director, World Inequality Lab and World Inequality Database, Paris School of Economics; and Chris Lockyear, Secretary-General, Médecins Sans Frontières. Mr. BERKLEY said the COVAX Facility has delivered 40 million doses to 114 economies — working with Pfizer, AstraZeneca and the Serum Institute in particular — and raised $8.3 billion towards the Advance Market Commitment.  The Facility will be able cover 2 to 3 per cent of the global population by the end of summer, he added.  However, there are supply constraints, intense competition for doses and problems with restrictions on vaccine exports, he said.  Describing the global focus on equitable allocation as a success in itself, he contrasted it with the scepticism of the message “no one is safe until everyone is safe”, a year earlier.  Observing that the emergence of variants has changed minds, he said it has also led to vaccine panic, with countries buying doses from everywhere, including through bilateral agreements, which are inefficient and “not in anybody’s self-interest”.  Governments should instead remove export and import control measures that slow the delivery of vaccines and supplies, he said.  Nor is vaccine diplomacy a health-based approach to sharing, he added, emphasizing that vaccines should be delivered through a multilateral mechanism, such as COVAX.  Equitable allocation would add $9 trillion to the global economy, he noted, warning that, without it, “we’re all going to pay the price”. Mr. CHANCEL said that meeting the demands by India, South Africa and more than 100 emerging and developing countries for the opening of intellectual property rights would allow scientists to work on tackling the COVID-19 variants, and to trade the best available vaccines.  Calling attention to the European Union’s position in WTO, he said the bloc has blocked most of the emerging world from expanding distribution since October 2020, by limiting private intellectual property rights.  That action contravenes claims by European leaders that access to vaccines should be a global public good, he said, emphasizing:  “Every researcher should have access to formulas developed in 2020,” he said, adding that every company should also have access to the trials and errors of the few pharmaceutical companies that produced the best vaccines to date.  He went on to stress that it is not an efficient approach for the richest nation on earth to keep that information to itself, calling for the “liberation” of all productive capacities on the planet.  The European Union, United States and leaders of high-income countries must meet the demands of India and South Africa as soon as possible, he said.  “This will not cost high-income‑country taxpayers money,” he said.  “This really is about expanding the size of possible solutions.” Mr. MOREIRA DA SILVA, outlining policies to support equitable access to vaccines, said the absence of a global strategy to deploy them in developing countries has caused a crisis, delaying global economic recovery.  “Current efforts are not enough” as demand outstrips supply, he emphasized.  The recent OECD report “Learning from Crisis:  Building Resilience” calls on donors to increase support as inequitable vaccine rollouts threaten to reverse hard-fought progress, he noted.  Frameworks for equitable allocation, notably through COVAX, should be supported.  “We need to make the case for additional development finance,” and at the same time, ensure that support is not diverted from other areas critical for meeting the Sustainable Development Goals, he said.  Sixteen trillion dollars is being spent on domestic recovery packages, while $22 billion is needed to fill the vaccine rollout funding gap, he said, pointing out the need for country-led solutions, the right infrastructure and a solid donation structure for deploying vaccines. Ms. MURTHI said fair equitable access is among the most urgent priorities today.  While the idea that the pandemic will not end until everyone has safe and effective vaccines is understood, countries face very different odds, she said, emphasizing the importance of access and within countries.  Noting that delays in production and strong demand in high-income nations has deprived poor countries of access, she pressed countries with excess supply to donate doses, notably through the COVAX Facility as a coordinating vehicle.  She called for transparency on the part of countries, suppliers and development partners alike, describing various problems created by the lack of clarity around how much supply has been pre‑ordered and how much is available.  She emphasized the importance of reducing both formal and informal export restrictions to encourage the flow of supplies and expand manufacturing capacity.  Turning to equity within countries, she recalled her work assessing vaccine readiness, much of which found that, while countries are ready on a small scale, most must bolster their supply chains and communicate with their populations to reduce vaccine hesitancy, she said, adding that the World Bank is stepping in to support “readiness for deployment” and equitable distribution. Ms. SHIROTORI, outlining how the global trading system can minimize intellectual property rights barriers, said a transparent and predictable framework is needed to curtail vaccine nationalism, whose proponents call for irregular trade measures, such as banning vaccines outright.  The impact of such measures disproportionately harms low-income countries, she pointed out.  Emphasizing that economic recovery depends on vaccinating large swathes of a country’s population, she cautioned that vaccine nationalism could cost the global economy $1.2 trillion a year.  WTO, for its part, provides members with a legal framework within which to discuss flexibilities in relation to trade agreements.  Noting that members are currently discussing waivers to the trade-related intellectual property rights agreement, she said “the question to ask is not if or how, but when the [trade‑related intellectual property rights] waiver will be achieved.”  The waiver is in full compliance with the 2030 Agenda, clearly outlined in Sustainable Development Goal 3, target 3.b, she pointed out, describing waivers as the first step towards realizing a vaccine for all.  From a finance perspective, she said, they boost incentives for private and public investment in infrastructure and productive capacity.  She went on to call for global and regional actions to tackle major bottlenecks faced by developing countries, including their lack of technology and capital, low capacity to uphold standards, weak institutional frameworks, small market size and poor infrastructure. Mr. LOCKYEAR, agreeing that global vaccine production and supply is struggling to meet global demand, and that the scarcity of tools and vaccines has reinforced disparities, said countries with productive capacity benefit from privileged access.  That must prompt the international community to rethink the global agenda, moving away from the focus on economic efficiency to enabling local capacity in low- and middle‑income countries, he said.  To do so, vaccine developers must share their intellectual property and transfer their know-how, giving countries the opportunity to leverage the emergence of mRNA vaccines, which require less capital investment, he added, emphasizing that mechanisms for enabling technology transfer must be transparent and open to multiple manufacturers.  He also called for reducing barriers to increasing production, saying that countries must have new options for surmounting obstacles.  “The bottom line is that we need to truly treat vaccines as a global public good in themselves,” he stressed. Mr. KONYDYK, outlining how the international community can close the financing gap, recalled that the United States, alongside Gavi, co-hosted an event for investment in the COVAX Facility, aiming to raise $2 billion in the coming months and to boost coverage from 20 per cent of Advanced Market Commitment countries to 30 per cent.  But, there is a long way to go and additional resources must be identified, he said, adding that the United States will continue to support Gavi, making additional contributions to elevate what can be achieved through COVAX.  “We also need money to be routed more strategically”, because funds are indeed available, but not necessarily being routed in the most optimal way, he said, noting that the World Bank has offered $12 billion to support vaccine purchases and that multilateral development banks should do likewise.  Describing bilateral flows as inefficient, he said the power of COVAX and multilateral banks is to consolidate money, sending a signal to companies that they do not have to forge deals with Governments.  “We see COVAX as the most important way of doing that,” he added, also underlining the need to better target gaps in the supply chain. In the ensuing interactive dialogue, ministers and senior officials outlined the many ways in which their countries are working to vaccinate their peoples and support equitable access to vaccines.  The Minister for International Development of Canada highlighted her country’s strong commitment to the ACT‑Accelerator, saying it has provided $940 million to date.  She described equitable access to diagnostics, therapeutics and vaccines as “our path to ending the pandemic”. The Minister for Health of the Russian Federation recalled that his country was the first to develop and register a COVID-19 vaccine, saying it now has three available and launched mass vaccinations in January.  Importantly, the Russian Federation is working to enhance access to the Sputnik V vaccine, producing it both domestically and abroad.  Today, it is available in 60 countries and the Government is completing a procedure to include it for use in emergency situations, he said, adding that his country has made voluntary contributions to United Nations agencies and is working bilaterally to provide personal protective equipment. The Minister for Foreign Affairs of Colombia said vaccines are being distributed throughout her country with the aim of covering 70 per cent of the population by the end of the year.  She recalled that, in February, Colombia sponsored a Security Council resolution calling for global access to vaccines. Other speakers called for urgent action on trade, with the Minister for Internal Relations and Cooperation of South Africa highlighting her country’s joint efforts with India to persuade WTO members to approve an emergency temporary waiver of some intellectual property rights rules so that medical technology transfer can be granted during the pandemic.  That would allow countries to produce vaccines originally produced by other manufacturers, she said, adding that increased production would, in turn, permit direct access to and sharing of technology while enabling procurement.  It would also lower prices and expedite distribution to everyone, everywhere.  “I hope all Member States of the United Nations will support this initiative,” placing people over profits, she said, calling also on the Economic and Social Council to encourage greater action on universal access.  “After all, ECOSOC is an activist Council whose role is to ensure action for development,” she pointed out. The Minister for Health and Family Welfare of India similarly urged WTO to suspend considerations of intellectual property rights in order to rapidly increase manufacturing.  Pointing out that his country has lived up to the “civilizational ethos of seeing the world as one family”, he said India has developed two vaccines, one indigenously, and both have been granted emergency use authority.  With 20 other candidates in the pipeline, he said, the Government has sent vaccines to 80 countries and even gifted vaccines to peacekeepers.  He went on to press countries to collaborate on genomic surveillance and exchange information to ensure that vaccine programmes for other diseases are not adversely affected.  Efforts must also be made to prevent misinformation by providing scientific facts. Several speakers called for a large-scale focus on the ACT‑Accelerator and COVAX Facility, among them, the Minister for International Development of Norway, who said the ACT-Accelerator partnership aims to send 330 million doses to 145 countries by July.  To help fill the $22.3 billion gap, Norway and South Africa have sent letters to 89 high- and middle-income countries, encouraging them to contribute their share of resources, he said, adding that equity means recovery must be non-discriminating and gender-sensitive. The Minister for Foreign Affairs of Egypt similarly advocated financial assistance for the COVAX Facility, emphasizing:  “Developing countries that lack industrial capacity must be supported to expand their production base.”  He also drew attention to the need for a provisional waiver of the trade-related intellectual property rights agreement and the importance of meeting needs in Africa. The Minister for Foreign Affairs of Brazil said that, despite short-term supply and production delays that have hampered its vaccine programme, his country has nonetheless distributed 50 million doses.  Noting that Brazil joined the ACT‑Accelerator and the COVAX Facility, as well as its call to action to promote solidarity, he urged vaccine-producing countries to facilitate exports to COVAX, and the Facility to accelerate the rollout to participating countries, giving consideration to each country’s epidemiological situation.  “Governments must come together to increase production capacity,” he emphasized. On that point, the Vice‑Minister for Foreign Affairs of China said his country has kept its word in making its vaccines available as a global public good.  Noting that they are authorized for use in 80 countries, he said China was among the first to respond to the ACT‑Accelerator and expressed regret that some high‑income countries only care only about their own interests. The Minister for Health of Armenia pointed out that her country is a self‑financing participant in the COVAX Facility and committed to global solidarity.  She denounced the deteriorating global leadership amid the “political noise” over vaccines, emphasizing that the moral imperative must be restored. Broadly agreeing, the Minister for Foreign and CARICOM Affairs of Trinidad and Tobago said the pandemic has exposed the proverbial tug of war between the “haves and the have-nots”, and laid bare the fragilities of small island developing States.  He urged WHO to convene a global summit to address inequitable access to vaccines. Mr. AKRAM (Pakistan), Council President, said in closing remarks that today’s lengthy debate indicates the enormity of the threat posed by inaction.  Acknowledging that “we know what we need to do”, he emphasized:  “Lives are more important than incentives.”  Many countries in the developing world have the means to assume production of vaccines, he said, adding that the issue is now one of political will. Also speaking were ministers and senior officials representing Nicaragua, Maldives, Venezuela, Indonesia, Peru, Costa Rica, Argentina, Ethiopia, Czech Republic, Guatemala, Philippines, Bolivia, Andorra, Cuba, Georgia, Azerbaijan, Paraguay, Switzerland, Morocco, Algeria, United States, United Kingdom, Afghanistan, Bangladesh, Serbia, Nepal, Lebanon, Kenya, Qatar, Sri Lanka, Pakistan, Mexico and Italy.  The meeting also heard from the Observer Mission of the Holy See.

#### Vaccine poverty leaves millions unvaccinated, which increases the possibility of variants. Scientifically proven.

UPH 21 [UnityPoint Health is one of the nation's most integrated health systems. Our physician-led team of professionals communicates clearly and effectively to address a patient's health care in the most appropriate setting: whether that is a clinic, a hospital or at home. Through relationships with more than 280 physician clinics, 29 hospitals in metropolitan and rural communities and home care services throughout its 8 regions, including: [Cedar Rapids](http://www.unitypoint.org/cedarrapids/default.aspx), [Des Moines](http://www.unitypoint.org/desmoines/default.aspx), [Dubuque](http://www.unitypoint.org/dubuque/default.aspx), [Fort Dodge](http://www.unitypoint.org/fortdodge/default.aspx), [Peoria](http://www.unitypoint.org/peoria/default.aspx), [Quad Cities](http://www.unitypoint.org/quadcities/default.aspx), [Sioux City](http://www.unitypoint.org/siouxcity/Default.aspx) and [Waterloo](http://www.unitypoint.org/waterloo/default.aspx). UnityPoint Health provides care throughout Iowa and Illinois, Why Viruses Mutate, Explained by an Infectious Disease Expert, Unity Point Health, July 12, 2021, https://www.unitypoint.org/article.aspx?id=db428f77-6e61-497b-91ce-1317a3396dd8] **SC EP**

How Do Viruses Evolve So Quickly?

Viruses aren’t living things. They need a host to survive – like the cells in your body. Once a virus enters your body, it reproduces and spreads. The more a virus circulates in a population of people, the more it can change. All viruses change but not always at the same rate.   
“The rate of change varies from virus to [virus](https://www.unitypoint.org/article.aspx?id=d9acbfdc-46fa-4788-99a4-a35172a20190). Some change very fast, such as the influenza virus. That is why we get a new [flu vaccine every year](https://www.unitypoint.org/flu-article.aspx?id=9749acfd-b01c-47b8-b54c-72088f2d767f&Fighting+the+Flu+Begins+with+You). SARS-CoV-2, the virus that causes COVID-19, has taught us a lot. Current research suggests it changes at a slower rate than influenza,” Dr. Best says. Because viruses are always changing, it's very important to stay up-to-date on [all vaccines](https://www.unitypoint.org/coronavirus-article.aspx?id=636b819a-4698-4567-9921-1c35146221a4). What's the Difference Between Mutations, Variants and Strains? Mutation. When a virus replicates, and the end copy has differences (in DNA or RNA), those differences are mutations. Variant. When you accumulate enough mutations, you get a variant. Strain. When you can prove a variant truly has new biologic capabilities, then you can call it a strain.“With COVID-19, the changes to the virus are currently called variants. More research is needed to determine if any of the variants can be called a strain. In the spring of 2021, the World Health Organization (WHO) created a new system to name COVID-19 variants using Greek letters. This avoids the use of locations, which can be stigmatizing to a country. The CDC identifies four main variants of concern – the alpha (B.1.1.7, first detected in the UK), the beta (B.1.351, first detected in South Africa), the gamma (P.1, first detected in Brazil) and the delta (b.1.617.2, first detected in India),” Dr. Best says. The CDC says no variants of high consequence have been identified in the United States at this time.  What is the Delta Variant of COVID-19? The delta variant of COVID-19 is the newest variant of concern. It was first identified in India in December of 2020. Early research suggests delta may be more contagious than other COVID-19 variants. It is also now the dominant variant circulating in the United States and has been identified in all 50 states. “Self-reporting data from the U.K. identify cold-like symptoms, including headache, runny nose and a sore throat are more common with the delta variant than the more traditional COVID-19 symptoms of loss of smell, shortness of breath, fever and cough,” Dr. Best says. Researchers say the vaccines remain our biggest tool against warding off the COVID-19 variants, including the delta variant. If you received an [mRNA vaccine](https://www.unitypoint.org/article.aspx?id=04677766-a422-4450-9f13-10115d6cc7ca&What+You+Need+to+Know+About+mRNA+Vaccines) (Pfizer or Moderna) make sure you’ve received [both doses](https://www.unitypoint.org/article.aspx?id=4ade5b4e-cae7-42e5-ace8-e3391571499d&Why+are+Two+Doses+of+the+COVID-19+Vaccine+Important%253f), so you’re fully protected. "Delta won’t be the last variant of COVID-19 we see. That’s because every time the virus jumps to a new person, its chance of mutation increases. If the virus keeps running into vaccinated people, it hits a wall and can’t keep spreading. Decreasing the number of infections in a community is the best way to prevent new variants from developing,” Dr. Best says. Why is it Important to Focus on the Impact of the Virus’ Change? “What matters is the impact the changes have on the virus itself. So, some viruses might have a few differences – a few mutations – but there are no noticeable changes to the virus. Sometimes viruses can have mutations that give the virus an advantage, whether that’s a better attachment to cells or the ability to replicate faster. Mutations can also result in disadvantages for the virus, lowering the ability to attach to cells or taking longer to reproduce,” Dr. Best says.  
The important things for scientists to identify about changing viruses, like the virus that causes COVID-19, is how the change impacts people, if the vaccines still work and if tests can still identify the active virus. “For COVID-19, researchers are interested in the alpha, beta, delta and gamma variants, because they seem to be associated with either higher transmissibility. Scientists are keeping a close eye on the variants to determine if the vaccines, or the treatments, are less effective. At this point, current [PCR testing and rapid testing](https://www.unitypoint.org/article.aspx?id=b3451e2e-cf08-4eb8-8e85-7675be736b63&Your+Guide+to+Testing+for+Active+Coronavirus+Infection) can detect all COVID-19 variants,” Dr. Best says. What Causes Viruses to Mutate? Virus changes are associated with three things. First, sometimes a change in a virus is a pure error.“A good analogy about virus changes is that it’s like copying a manuscript and, at some point, you're going to have a typo,” Dr. Best says. Another reason a virus might change is because of pressure from select cellsin the body. “This hypothesis emerged regarding some of the COVID-19 variants. It states if a virus infects a person who doesn’t have a very strong immune system, for example, someone with cancer, then the body is not able to clear the virus very well. Then the virus can say, ‘Hey, how are you going to attack me and make changes based on that?’,” Dr. Best says. The creation of a vaccine for any new virus could also cause additional mutations. “Let’s explain this concept a little further. Any virus will keep trying to change, so it can continue to spread. With all vaccines, the more quickly people get vaccinated the better. The slower vaccination happens, the higher the chance of having mutations in the virus and the appearance of more variants. And, as we are seeing with the delta variant, the more the virus can spread in the community." In order to keep viruses in check, everyone must do their part by [getting vaccinated](https://www.unitypoint.org/covid-19-vaccine.aspx), and scientists must work together around the world to track emerging variants.

### heg

#### Russia and China are already ahead in vaccine diplomacy to further their national interests and the U.S. is falling behind from IPR which is uniquely worse than from any other heg scenario because COVID vaccines are used for decades.

Pratt and Levin 21 [Simon Frankel Pratt is a lecturer in the School of Sociology, Politics, and International Studies at the University of Bristol, Jamie Levin is an assistant professor of political science at St. Francis Xavier University in Canada, *“Vaccines Will Shape the New Geopolitical Order,”* Foreign Policy, April 29, 2021, <https://foreignpolicy.com/2021/04/29/vaccine-geopolitics-diplomacy-israel-russia-china/>] **SC EP**

The pandemic has vastly exacerbated the global north-south divide, with wealthy Western states moving steadily toward herd immunity while a majority of Africa, Asia, and Latin America wait for vaccines to trickle down. Only a [small number](https://www.dw.com/en/the-covid-19-vaccines-where-do-they-come-from-where-will-they-go/a-56134178) of countries produce their own coronavirus vaccines, but the rest of the world depends on them for their immunizations. This raises the specter of a new geopolitical arrangement—one in which patron-client relationships are determined by the asymmetry in vaccine supply versus demand. Already, there are strong indications that vaccine have-nots are vulnerable to diplomatic coercion and enticement. Russia and China have begun supplying vaccines in exchange for favorable foreign-policy concessions, as has Israel. Western countries, meanwhile, are focused on their own domestic vaccination programs—although the United States has recently declared its intention to offer vaccine aid to hard-hit countries, especially India. For the non-vaccine producers, there’s always the market—and at first glance, that has worked out for some. The European Union has begun to [round the corner](https://www.wsj.com/articles/troubled-covid-19-vaccine-rollout-in-europe-nears-possible-turning-point-11617957085), administering [millions of doses](https://financialpost.com/pmn/business-pmn/europe-administers-17-mln-covid-vaccine-doses-in-latest-week-ecdc) among its 27 member states. Israel continues to be an early success story; rather than employing its own considerable pharmaceutical base, it has [imported millions of Pfizer-BioNTech doses](https://www.politico.eu/article/israel-coronavirus-vaccine-success-secret/) and administered them rapidly and efficiently. And, despite having no domestic production capacity, Canada is now [third for vaccination rates](https://ourworldindata.org/covid-vaccinations) for the top 34 largest countries, behind the United Kingdom and the United States. Its tens of millions of doses have all been imported from Europe and the United States. Similar success stories can be found in Qatar, the United Arab Emirates, and Bahrain. However, these market success stories are largely confined to preexisting and intense trade relationships between wealthy and advanced industrial economies. Rates of vaccinations in most other countries continue to be very low, and notwithstanding the [U.S. pile of AstraZeneca doses](https://www.nytimes.com/2021/03/11/us/politics/coronavirus-astrazeneca-united-states.html), this is a result of supply limits. Intellectual property laws and infrastructure constraints mean a near-total monopolization of production capacities in a small handful of countries and a hierarchy of trade advantages and preferences in which a handful of non-producing countries receive priority while others are left wanting. To overcome these challenges, the World Health Organization set up [COVAX](https://www.gavi.org/vaccineswork/covax-explained), an initiative to coordinate vaccine research and license production in order to guarantee fair and equitable distribution worldwide. To date, however, these efforts have fallen desperately short. Few vaccines have been distributed through this collaborative effort. Instead, facing domestic shortages, the [EU](https://www.nytimes.com/2021/03/23/world/europe/eu-curbs-vaccine-exports.html) and the [United States](https://www.economist.com/science-and-technology/2021/04/22/american-export-controls-threaten-to-hinder-global-vaccine-production) have imposed restrictions on vaccine exports, limiting supply. But while the United States, Canada, and Europe are still focusing on their own domestic vaccination drives, other vaccine producers are willing to exploit global demand and use their own supplies as a diplomatic instrument. China and Russia have both actively engaged in [vaccine diplomacy](https://foreignpolicy.com/2021/03/31/russia-china-vaccine-diplomacy-slovakia-europe-eu-slow-rollout/), linking vaccine exports to policy concessions and favorable geopolitical reconfigurations. In February, Russia brokered the release of an Israeli citizen held in Syria in exchange for Israel financing Sputnik V vaccines to be sent to Syria. Russia has similarly supplied vaccines to Central and Eastern European countries, drawing them closer to its orbit. China has declared that its Sinovac and Sinopharm vaccines are a “[global public good](https://www.foreignaffairs.com/articles/china/2021-03-11/vaccine-diplomacy-paying-china)” and has begun supplying them to nearly 100 countries, in many cases at no cost. Some of this seems intended to rapidly [undercut and abort](https://thediplomat.com/2021/04/latin-america-believed-in-chinese-vaccines-now-it-may-have-reason-to-rethink/) deals that states have made with Pfizer through earlier shipments and, potentially, bribery of local officials. Meanwhile, new leaks indicate that China [demanded changes](https://www.bbc.com/news/world-asia-56661303) to Paraguay’s position on Taiwan and [successfully pressured](https://www.nytimes.com/2021/03/15/world/americas/brazil-vaccine-china.html) Brazil to open its 5G market to Huawei as preconditions for receiving vaccine shipments. If this is a seize-the-moment, one-time thing, then Russia and China will likely come out ahead. India, too, once it has confronted the rapidly escalating [second wave](https://www.washingtonpost.com/politics/2021/04/21/indias-16-million-new-covid-19-cases-past-week-are-breaking-its-health-system/). If boosters or regular vaccinations are not needed more than once every several years, then the world is unlikely to see a significant geopolitical reorientation. But if a yearly shot is needed, as leading epidemiologists have [warned](https://reliefweb.int/report/world/two-thirds-epidemiologists-warn-mutations-could-render-current-covid-vaccines) may be necessary, it could be another story. One of the main hegemonic goods that aspiring powers provide is national security. Geopolitical dependencies have typically manifested from the provision of military instruments through arms deals, bases, and collective security commitments. During the Cold War, for example, vast quantities of weapons, training, and troops flowed into the global south as the United States and the Soviet Union competed for client states and as those client states opportunistically sought the most generous patron. While these flows have since diminished, they do still continue. In the current market for this good, the United States sits at the top, supported by a few allies. Russia dominates within a small region of satellites, and China seeks the same, with mixed success but obvious aspirations. Concerns about the efficacy of Sinovac and Sinopharm has dented their reputation, even among allies of Beijing. In the global pharmaceutical market, things look different. While still a major player, the United States faces stiff competition from several potential rivals. In Western Europe, Germany and the U.K. enjoy [disproportionate influence](https://www.dw.com/en/the-covid-19-vaccines-where-do-they-come-from-where-will-they-go/a-56134178), as does Russia in its former spheres of influence, Central and Eastern Europe. China and India both have massive production capacity and, most importantly, dominate export markets for generics outside the West. And, despite being a relatively small regional power, Israel also has vastly more significance than its size would indicate as another leading supplier of generics. If demand for vaccines remains high in the long term, competition among these states to become the world’s dominant suppliers will result in a very different global balance of power from today’s. While home to vaccines produced by the likes of Pfizer, Moderna, AstraZeneca, and Johnson & Johnson—all now household names and whose vaccines are considered more efficacious—governments of these states have demonstrated a reluctance to supply doses to much of the rest of the world at the expense of domestic vaccination rates. The United States and the U.K. have [exported almost none](https://www.forbes.com/sites/niallmccarthy/2021/03/31/america-first-covid-19-vaccine-production--exports-infographic/), and the EU is [clamping down](https://www.bloomberg.com/news/articles/2021-03-24/eu-plans-to-tighten-restrictions-on-covid-vaccine-exports). They have similarly been unwilling to [waive patents](https://www.nature.com/articles/d41586-021-00863-w), allowing for production of these vaccines where they are most needed. This suggests that the United States and the EU are slow to fully exploit the geopolitical opportunities of vaccine diplomacy or at least are not willing to do so with the same alacrity and enthusiasm as other states. That may change as time goes on, however, and the result will be worsened inequities within already inequitable trade relationships between these countries and the global south. When it comes to Asia, the focus may be mostly on Taiwan, where pandemic diplomacy has been particularly intense. China has attempted to exploit the pandemic to isolate the island, and Taiwan has moved to thwart those attempts through its own diplomatic initiatives—including promoting its coronavirus successes. In particular, China unsuccessfully sought to link vaccine provision to cooler relations with Taipei, in the case of Paraguay. Instead, India stepped in to provide vaccines—[at the request of Taiwan](https://foreignpolicy.com/2021/04/20/india-vaccine-diplomacy-china-taiwan/). While China might repeat such moves in the future, India’s influence will rise if vaccine provision becomes an essential and long-term geopolitical good. It also shows that Taiwan is not without powerful patrons and that the ongoing regional competition between China and India may offer protection. But perhaps surprisingly, the greatest beneficiary may be Israel. Teva Pharmaceuticals, the world’s single-largest producer of generic drugs, is already [poised to begin](https://www.reuters.com/world/middle-east-africa/exclusive-teva-pharm-talks-co-produce-covid-19-vaccines-ceo-says-2021-02-10/) manufacturing licensed doses of the vaccines. Headquartered in the Israeli city of Petah Tikva, the company may not be the dominant supplier for the rich markets of Europe and the United States, but it is an essential source of affordable medicine for much of the global south and would massively boost Israel’s geopolitical influence as well should ongoing SARS-CoV-2 vaccine provision become essential to the world’s health. Israel has reportedly offered doses to Honduras, the Czech Republic, and Guatemala in exchange for [moving their embassies to Jerusalem](https://www.timesofisrael.com/israel-said-to-trade-coronavirus-vaccines-for-diplomatic-support/). The global north has begun to crawl out of the crisis with the machinery needed to provide boosters as necessary—while the global south continues to battle an increasingly [ferocious plague](https://www.theguardian.com/world/2021/apr/22/worlds-worst-outbreak-what-indias-papers-say-as-coronavirus-crisis-toll-mounts). Nevertheless, the pandemic may prove geopolitically costly even for these wealthy countries as former allies or clients realign with current adversaries and as previous partners rise in power and assertiveness.

#### A coordinated global resolution to the pandemic facilitated by the WTO is key to maintaining US primacy and beating back China’s progress in a post-COVID world.

Stokes and Williamson 20 [Doug Stokes is a Senior Associate Fellow at RUSI and professor of International Security and Strategy at the University of Exeter, he studied at the University of London and the University of Bristol, where he completed his Ph.D. in International Relations in 2003, Martin Williamson, entre for Advanced International Studies, University of Exeter, UK, “The United States, China and the WTO after Coronavirus,” <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7543319/>] **SC EP**

The WTO trade regime has evolved in ways that have damaged the privileges the United States built into the regime for itself. The current US attacks on the regime are therefore best thought of as a hegemon’s efforts to restore its privileges in the US national interests and sustain its primacy rather than an attack intended mainly to appease an important element of President Trump’s political base, although the attacks have that effect too. The timing of the US attack is probably explained by the rapidity with which China has exploited its opportunities in the WTO, not President Trump’s election. The style of the attack is, however, probably down to the President’s nature. President Nixon’s attack on the international monetary regime in the early 1970s is an important precedent. It showed, contrary to the thrust of Institution Theory, a hegemon will attack a regime it has created once its privileges in the regime have diminished. But his experience validated another prediction of Institution Theory: regimes are sustained by the demand for them as well as the hegemon’s capacity to supply. This helps explain why the US hegemonic attacks were intended to reform a regime, not obliterate it. In Nixon’s case, the demand for the international monetary regime meant the United States had little support initially in seeking regime change. For Trump, the demand for the trade regime is a mixed blessing because those wishing to operate under a trade regime include states who broadly support the United States (Europe and Japan), but also China, his leading opponent. The global coronavirus pandemic of 2020 will likely accelerate the trends we have examined above in a number of ways. First, without coordinated global resolution, now looking very unlikely given the narrative of ‘China-bashing’ emerging from the Trump Administration, it is possible that the global pandemic will bifurcate the world economic order. Specifically, the global economy may revert to a bipolar world that, from a trade perspective, will appear something like the Cold War stand-off between the USSR’s COMECON trading bloc and the United States-led OECD trading area, with developing countries siding with one or the other as they see fit. China is already ahead of the post-pandemic global great game, with its much vaulted aid to often stricken developing nations. Secondly, if the world divides into competing regional trading blocs, the UK, EU, the broader Anglosphere and Japan will likely join the US ‘camp’. China would certainly be more successful in winning allies in the developing world than was the case with the USSR, especially in parts of Asia, the Middle East and the former Soviet Union. But India (for historical reasons) and many other Commonwealth, Francophone, and Latin American states, plus much of the Middle East, would likely side with the United States. Thirdly, if the world lined up in this fashion, with trade largely within the two regional trade blocs, not between them, life would not be comfortable. Competition for secure sources of supplies would be fierce. The situation within the US trading bloc might resemble the 19th century world where states competed through formal and informal colonisation or through their ‘national champion’ companies for access to supplies, except in the 21st century competition would be through overseas direct investment rather than formal colonisation. Ferocity of competition would, as now, be evident in bidding in international markets, and additionally where companies were bidding to acquire ownership of foreign-based producers of key inputs. Competition from deep-pocketed ‘national champion’ companies based in North America, Europe, and Japan would in many cases crowd out British bidders. Security of supply, where achievable, would come at a cost. Neither the United States nor China possess the positive structural power required to avert this outcome. If it does eventuate, spurred on by post-pandemic hardening of relations, the world will be a poorer and more troubled place if indeed this is what emerges.

**Maintenance of the ILO is key to reduce a host of existential threats – prevents extinction**

**Brands 18**. [(Hal Brands is a Henry Kissinger Distinguished Professor at Johns Hopkins University’s School of Advanced International Studies, Scholar at the American Enterprise Institute. “America’s Global Order Is Worth Fighting For, Bloomberg Opinion, Politics & Policy,” August 14, 2018, Bloomberg. <https://www.bloomberg.com/opinion/articles/2018-08-14/america-s-global-order-is-worth-fighting-for>]

The first argument is **easily disposed** of. Yes, the postwar world has been **thoroughly imperfect**, featuring nuclear arms races, genocides, widespread poverty and other scourges. But the world has **always been** imperfect, and by **any** meaningful **comparison**, the last **seven decades** have been a **veritable golden age**. The **liberal international** economic order has led to an **explosion** of **domestic** and **global prosperity**: According to World Bank data, both U.S. and global **per capita** income have increased **roughly three-fold** (in inflation-adjusted terms) since 1960, with U.S. gross domestic product increasing nearly six-fold. The U.S. **system** of alliances and forward military deployments has **contributed critically** to the **longest period** of **great-power peace** in modern history, and **the incidence of war** and conquest **more broadly** have dropped **dramatically**. The number of **democracies** in the world has **increased** from perhaps a dozen during World War II to well over 100 today; **respect for basic** human rights has also reached **impressive levels**. As a **bevy of scholarship** has shown, the policies that the U.S. has **pursued** and the **international order** it has built have contributed **enormously** and **directly** to these **outcomes**. If the **liberal international order** can’t be considered a **smashing success**, no **international order** could be. The second critique is also overstated. It is true that Washington, like all great powers throughout history, has been willing to bend the rules to get its way. It is hard to reconcile Cold War-era interventions in Guatemala, Chile and other countries with a professed solicitude for human rights and democracy; the Iraq War of 2003 is only one instance in which the U.S. brushed aside the concerns of international organizations such as the U.N. Security Council. Likewise, when the U.S. government determined that the Bretton Woods system of monetary relations no longer suited its interests in the 1970s, it terminated that scheme and insisted on creating a more favorable one. But again, the proper standard here is not sainthood but reality. And the U.S. has **generally** enlisted its power in the **service** of **universal values** such as **democracy** and **human rights**; it has, more often than not, promoted **a positive-sum** international system in which **like-minded** nations can be **secure** and **wealthy**. This goes back to the very beginning of the liberal order: Washington did not seek to hold its defeated adversaries in subjugation after World War II; it rebuilt Japan and western Germany into thriving, democratic allies that became fierce economic competitors to the U.S. The U.S. has taken this approach not simply because it wanted to do good in the world — powerful as this motivation is — but because of a hard-headed desire to do good for itself. In an interdependent global environment, American officials have long calculated, the U.S. cannot divorce its own well-being from that of the wider world. And in contrast to how other great powers — Imperial Japan, for instance, or the Soviet Union — ruled their spheres of influence, American behavior has been positively enlightened. It is this relatively benign behavior that has convinced so many countries to tolerate American leadership — and it is the emergence of a darker form of U.S. hegemony under the Trump administration that so profoundly worries them today. As for the third critique, the premise is right, but the **conclusion** can easily **go too far**. It is always **dangerous** to become **so enraptured** by past **achievements** that one **loses sight** of the **need for adaptation** in **the future**. This is particularly true today, because the strength of the liberal order is being tested from within and without, by issues ranging from unequal burden-sharing among American allies to the ambivalence of the American people themselves. There is **little evidence** to suggest, however, that either American power or **the liberal order** it supports have **eroded** so **dramatically** that **Washington**’s postwar project cannot be **sustained**. Quite the contrary — the U.S. is likely to remain the **world’s strongest power** for **decades to come**.