## 1NC – OFFs

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#### Counterplan Text - Resolved: The member nations of the World Trade Organization ought to

#### reduce intellectual property protections for medicines excluding orphan drugs.

#### Orphan drug legislation is specifically key to stimulate research into rare diseases

Horgan et. al 20 D, Moss B, Boccia S, Genuardi M, Gajewski M, Capurso G, Fenaux P, Gulbis B, Pellegrini M, Mañú Pereira M, M, Gutiérrez Valle V, Gutiérrez Ibarluzea I, Kent A, Cattaneo I, Jagielska B, Belina I, Tumiene B, Ward A, Papaluca M: Time for Change? The Why, What and How of Promoting Innovation to Tackle Rare Diseases – Is It Time to Update the EU’s Orphan Regulation? And if so, What Should be Changed? Biomed Hub 2020;5:1-11. doi: 10.1159/000509272 [https://www.karger.com/Article/Fulltext/509272#](https://www.karger.com/Article/Fulltext/509272) //sid

The European Union’s (EU) Regulation (EC) No. 141/2000 on orphan medicinal products (OMPs) (referred to as “the regulation” in this paper) states that “patients suffering from rare conditions should be entitled to the same quality of treatment as other patients,” and concludes that “it is therefore necessary to stimulate the research, development and bringing to the market of appropriate medications by the pharmaceutical industry” [[1](https://www.karger.com/Article/Fulltext/509272#ref1)]. Rare diseases had already been identified as a priority area for Community action within the framework for action in the field of public health [[2](https://www.karger.com/Article/Fulltext/509272#ref2)], and the regulation’s stated aim is – “to provide incentives for the research, development and placing on the market of designated orphan medicinal products.” It set up a mechanism to ensure that “orphan medicinal products eligible for incentives should be easily and unequivocally identified,” with the condition that “objective criteria for designation should be established” [[3](https://www.karger.com/Article/Fulltext/509272#ref3)]. The core incentive of the regulation is the granting of 10 years (+2 years for paediatric orphan medicines) of marketing exclusivity and a range of financial and scientific provisions granted via the European Medicines Agency to support product development and application for Marketing Authorisation. Nearly two decades later, the success of the measure has been demonstrated. Investment both from public research funders and from companies of all sizes in rare disease research has resulted in the approval of more than 150 orphan drugs – compared with just eight therapies for rare diseases available before the adoption of the regulation. That translates into a lot of patient benefit. With clinical research stimulated by the legislation, the EU sees some 2,000 clinical trials providing still more innovation or hope for treatments in the current R&D pipeline [[4](https://www.karger.com/Article/Fulltext/509272#ref4)]. But over the intervening years, the limitations in the functioning of the legislation have become apparent too, and these merit attention if the beneficial effects for patients and caregivers are to be maximised [[5](https://www.karger.com/Article/Fulltext/509272#ref5)]. This paper explores the successes and limitation of both the regulation and its implementation mechanisms in the current regulatory context, and suggests some improvements that could maximise its benefits and boost rare disease research even further. The discussion needs to be precise if it is to be effective. Review of the functioning of the regulation may coincide with a period of more intense scrutiny and concerns over containing the rise of expenditure to ensure sustainability of healthcare systems, with a particular focus on expensive innovation which are often developed within the orphan conditions. While there is undoubted importance in the wider but distinct debate over healthcare costs, it does not bear directly on reviewing the orphan medicines regulation [[6](https://www.karger.com/Article/Fulltext/509272#ref6)]. At the same time, economic questions do, however, have relevance to the debate on orphans, since patients’ access to the medicines that become available is conditioned by the national arrangements for reimbursement or listing of products: there is an increasing tension between the potential access to agents that can modify or even cure rare diseases, and the models for reimbursement available to European payers. Part of this hesitancy can be ascribed to the novelty of the challenges presented by many innovative treatments, which by their nature present unknowns to payers. Clearly, there is also a need to deal with uncertainty with regard to value demonstration, especially when value or values are perceived not to be sufficiently demonstrated. The risk is that such powerful economic reservations can have a cumulative negative impact on the motivation for pursuing research into rare disease treatments – thus running counter to the guiding principle of the legislation itself [[7](https://www.karger.com/Article/Fulltext/509272#ref7)]. Current value assessment rules across Europe for orphan drugs remain largely inadequate and can become a real fourth hurdle to effective patient access to those treatments [[8](https://www.karger.com/Article/Fulltext/509272#ref8)]. The regulation’s stimulation of new product development has also helped promote the development of EU biotech companies. The last two decades have witnessed the emergence of more than 150 small and medium enterprises (SMEs) focusing on rare diseases. No wonder that one of the prominent Members of the European Parliament over this period, Francoise Grossetête, emphasised the importance of the regulation in addressing “real medical needs” and generating “therapeutic breakthroughs” [[9](https://www.karger.com/Article/Fulltext/509272#ref9)]. The underlying strength of the concept of providing incentives for R&D in areas of unmet need is confirmed by the fact that Germany and other Member States are now exploring whether OMP-type incentives could contribute to solving the major risks of antimicrobial resistance (AMR), through promoting development of new anti-bacterials even where simple market economics do not provide sufficient motivation for investment [[10](https://www.karger.com/Article/Fulltext/509272#ref10)]. Thanks to increased investments and the associated efforts thus made possible, some rare diseases now benefit from effective treatments. There are leading examples in the area of haemophilia, paroxysmal nocturnal haemoglobinuria (PNH), and some lysosomal storage diseases such as Gaucher. The full list of conditions for which “orphans medicines” have been launched in Europe is too extensive to reproduce here, but by way of illustration it ranges from rare cancers to rare variants of common diseases (pulmonary hypertension, neonatal diabetes) and to rare congenital, mostly childhood-onset disorders (Gaucher, cystinosis, inherited hyperammonaemias) [[11](https://www.karger.com/Article/Fulltext/509272#ref11)]. However, these tales of success should not lead to any delusions that the process has been – or is becoming – easy. Successes in developing innovative treatments are hard-won. Without consistent and determined effort, innovation does not happen – and innovation in rare diseases is all the more challenging. The key elements of the innovation process are well documented, but the nature of the challenges is perhaps not always fully appreciated by those outside the healthcare sector, being seen as costs and not as investments. Rare diseases are categorized as “orphan diseases” because their occurrence in a small number of patients means that, despite apparent high unmet medical need, there is limited scientific understanding, making it difficult to justify the development risk and investment to develop new treatments. The OMP regulation was developed explicitly to support efforts in this field of innovation [[12](https://www.karger.com/Article/Fulltext/509272#ref12)].

#### Best studies conclude IP protections on Orphan Drugs work and doesn’t result in abuse.

Sencen 18 Lisa Sencen 12-18-2018 "New Study Finds Orphan Drug Exclusivity Working As Intended, On-Market Orphan Drug Prices Rise Slower than Common Drugs" (Reporter for National Organization for Rare Disorders)//Elmer

Washington, D.C., December 18, 2018 — A **new report commissioned** by the National Organization for Rare Disorders (NORD) and published today by the IQVIA Institute, **demonstrates** that the seven-year market **exclusivity granted to drugs** **designated under the Orphan Drug Act** of 1983 **for rare diseases is working** as intended. **In nearly every case**, orphan **exclusivity did not inappropriately prevent generics** and biosimilars from entering the market. Instead, the **lack of generic competitors** **can be credited to their prospective return on investment being too small**. The report’s major findings are as follows: **Adding an orphan indication to** an **on-market drug** **does not correlate with** a **higher than average price increase**. The average price of therapies grew at a slower pace in 8 out of the 10 years following the addition of an orphan indication to the label. Of the 503 approved therapies with an orphan indication at the time the research was conducted, 217 are no longer covered by orphan exclusivity or patent protection. Of these 217 therapies, 116 of them have generic or biosimilar competition. The **median spending on** the **101 orphan drugs without protection** from competition and without competitors **is only $8.6 million** per year per drug. Around one-quarter of orphan drug approvals target populations smaller than 5,000 patients in the United States. Since 2009, on-market common-disease drug prices have grown more every year, on average, than orphan drugs. “The data shows that the seven-year market exclusivity provision is working as intended as an incentive for developing rare disease therapies and is not being abused,” said NORD’s President and CEO, Peter L. Saltonstall. “The NORD-sponsored study illustrates that the dilemma of rising drug prices in our country should not be attributed to orphan drugs. It is my hope that this report will provide empirical data necessary to make informed decisions.” More than 7,000 rare diseases have been identified, affecting approximately 25-30 million Americans. Many affect only a few hundred or a few thousand individuals. Rare diseases tend to be chronic, serious and life-threatening. More than 80 percent are believed to be genetic. Information on the report, including a link to the study, is available on the NORD website at www.rarediseases.org/rareinsights. Editor’s note: Peter L. Saltonstall, President and CEO of NORD, is available for interviews on the report. Contact Laura Mullen at lmullen@rarediseases.org. ### About the National Organization for Rare Disorders (NORD)Ⓡ The National Organization for Rare Disorders (NORD) is the leading independent advocacy organization representing all patients and families affected by rare diseases. NORD is committed to the identification, treatment, and cure of the more than 7,000 rare diseases, of which approximately 5% have an FDA-approved treatment or therapy. Rare diseases affect 25-30 million Americans, or 1 in every 10 people. More than half of those affected are children. NORD began as a small group of patient advocates that formed a coalition to unify and mobilize support to pass the Orphan Drug Act of 1983. For more than 35 years, NORD has led the way in voicing the needs of the rare disease community, driving supportive policies and education, advancing medical research, and providing patient and family services for those who need them most. NORD represents more than 280 disease-specific member organizations as well as their communities and collaborates with many other organizations in specific causes of importance to the rare disease patient community.

#### Rare diseases disproportionately affect people of color

**RDDC, No Date** (RDDC, No Date, accessed on 9-6-2021, Rare Disease Diversity Coalition, "Charting thePath Forwardfor Equity inRare Diseases", <https://3hqwxl1mqiah5r73r2q7zll1-wpengine.netdna-ssl.com/wp-content/uploads/2021/03/RDDC_Path_Forward_Final.pdf>)//sid

While the rare disease community continues to face hurdles generally, people of color face additional hurdles in their quest for care . Barriers to diagnosis and treatment for people of color often have deadly consequences . Flaws across the entire system have a compounding effect on the care that Black, Native American, Hispanic, Asian, and Pacific Islander Americans with rare diseases receive . Americans of color continue to be underrepresented in genome-wide association studies and clinical research trials, leading to a lack of understanding about effective treatments, particularly in diverse populations . Despite making up more than 38 percent of the U .S . population, people of color comprise only 16 percent of research study participants .20 On the patient side, people of color are less likely to have affordable access to health care and rare disease experts .21 To make matters worse, some rare diseases disproportionately impact people of color . For instance, sarcoidosis, sickle cell anemia, thalassemia, and some forms of lupus are known to affect minority populations at higher rates than the general population .22 And implicit bias particularly harms people of color with rare diseases .23

#### Pharma innovation in Neglected Diseases results in global linkages that revitalizes global health diplomacy.

Hotez 16, Peter J. Blue marble health: an innovative plan to fight diseases of the poor amid wealth. JHU Press, 2016. (Sabin Vaccine Institute and Texas Children’s Hospital Center for Vaccine Development, Departments of Pediatrics and Molecular Virology and Microbiology)//Elmer

We also need to better understand how these NTDs are actually transmitted within US borders, and I think it is extremely important to learn more about the links between these diseases and poverty. As I noted earlier, a drive through Houston’s Fifth Ward provides some insights, as one can quickly identify predisposing risk factors, including stray animals, dilapidated houses without window screens, standing water and discarded tires, and other evi- dence of environmental degradation, but we need to conduct careful epidemiological studies to really understand the links between poverty and NTDs, as well as animal reservoirs for illnesses such as Chagas disease and others. All of this presents an important research and development agenda for the NTDs in the United States. There are no point-of-care diagnostic tests available for most of the NTDs endemic to the nation, so blood from pa- tients must be sent to the CD С or other specialty research laboratories in order to establish a diagnosis for these conditions. As I sometimes point out to general audiences, when you go to your physician and get blood work done, there is no box to check off for toxocariasis or Chagas disease as there is for blood chemistries or other routine tests. We need diagnostic tests that are easily accessible to physicians and nurses. We also need new and improved treatments and vaccines. Because the NTDs are poverty-related diseases, they often fly below the radar screen of the major pharmaceutical companies and are not prioritized. Thus, the drugs used to treat these illnesses are not widely available, so typically the CDC has to be contacted in order to access them. In addition, many of these medicines were developed decades ago and produce a lot of side effects. For instance, the two medicines for Chagas disease—benznidazole and nifurtimox—cause skin rashes, diarrhea, and other unpleasant or even dangerous symptoms and illnesses. Patients using these medications have to interrupt their treatments up to 20% of the time. Moreover, these drugs cannot be used by pregnant women. Currently, new innovations for NTDs like Chagas dis- multinational ease still rely on nonprofit PDPs. The Geneva-based Drugs pharmaceutical for Neglected Diseases Initiative is leading efforts to de- companies have velop new and safer Chagas disease medicines [60], while shown little or modest at our National School of Tropical Medicine the Sab in interest in American Vaccine Institute and Texas Childrens Hospital Center for NTDs. As a result, new Vaccine Development (Sabin PDP) is working to develop products are being a therapeutic vaccine that could be used alongside exist- developed in the ing treatments [61]. These efforts rely on major philan- nonprofit sector. thropic donors. In our case at the Sabin PDP, they include the Kleberg Foundation, the Carlos Slim Foundation, the Southwest Electronic Energy Medical Research Institute, and Texas Childrens Hospital. Summary Points 1. In the United States, 45.3 million people live below the poverty line, roughly the same number of impoverished Americans alive during the early 1960s when Michael Harrington wrote The Other America. Approximately 20 million Americans now live in extreme poverty at one-half the US poverty level, and approximately 5 million are living on less than $2 per day 2. American poverty concentrates in specific areas, especially in southern states, with Texas having the largest numbers who live in poverty Important areas in the South include the Gulf Coast, border areas with Mexico, the Mississippi Delta, and Appalachia. 3. Approximately 12 million Americans are infected with NTDs, led by toxocariasis and trichomoniasis—which disproportionately affect African Americans—and Chagas disease (American trypanosomiasis) and cysticercosis—which disproportionately affect people of Hispanic origin. Toxoplasmosis is another important NTD. Toxocariasis, cysticercosis, and toxocariasis exert important mental health effects on impoverished Americans. Many of these NTDs are transmitted within US borders (autochthonous infections). 4. Arboviral infections are also important NTDs, led by dengue fever in Gulf Coastal areas and West Nile virus infection. WNV can cause chronic, persistent viral infections linked to chronic neurologic and renal disease. 5. There is an urgent need to promote awareness about the NTDs, especially for physicians and other health-care providers. 6. New policies are needed to expand surveillance for the NTDs affecting the United States. New legislation has been adopted in Texas, while additional bills are being introduced in the US Congress. Epidemiological studies are also needed to better understand how these diseases are transmitted and how they are linked to extreme poverty in the American South and elsewhere. 7. There is an urgent need for new “control tools” for American NTDs, including point-of-care diagnostics, antiparasitic and antiviral drugs, and vaccines. Many of these products are being developed by nonprofit PDPs rather than pharmaceutical companies. he G20 "A Theory of Justice" In his landmark 1971 book A Theory of Justice, the Harvard political philosopher John Rawls articulates two overriding principles of a just and fair society, namely, (1) “equality in the assignment of basic rights and duties” and (2) allowance of some social and economic inequalities, but only if they ultimately benefit “the least advantaged members of society” [1]. In terms of Rawls’s worldview, I believe that finding widespread NTDs among the extreme poor (and least-advantaged) who live amidst wealth—the central tenet of blue marble health—might represent one of the most jarring affronts to what he terms “justice as fairness” Because NTDs are now widespread among the leastadvantaged members of the worlds wealthiest economies, and they represent a major basis for thwarting their future growth, it is urgent for these nations, especially the G20 countries, to adopt strong internal policies to combat these diseases. I envision a three-pronged strategy to best address the G20 s (and Nigeria’s) poorest citizens afflicted by NTDs: 1. Each of the G20 nations and Nigeria has the capacity to fully understand the extent of these diseases within their own borders and then provide their own impoverished populations access to essential medicines used in mass drug administration to target helminth infections, in addition to trachoma, leprosy, yaws and scabies, and to provide treatments for other high-disease burden NTDs, including leishmaniasis and Chagas disease. The G20 countries and Nigeria Three major steps are required to effectively address blue marble health. 141 142 Blue Marble Health need to allocate resources and implement programs to achieve universal coverage for these diseases. 2. Each of the G20 nations and Nigeria has the capacity to conduct research and development for new NTD biotechnologies; they need to allocate resources toward this goal. 3. Both activities should be conducted within an overall framework of health system strengthening. Mass Drug Administration in the G20 A good place to revisit MDA among the G20 countries is to more closely examine the six G20 countries with positive worm indices—Brazil, China, India, Indonesia, Mexico, and South Africa—in addition to Nigeria. Together these countries account for one-half of the worlds helminth infections [2]. An analysis of WHO s PCT database reveals that most of these nations are severely underachieving when it comes to providing MDA for people who require regular and periodic treatment for their intestinal helminth infections, schistosomiasis, and LF. Shown in table 11.1 is WHO’s estimate of the percentage that received treatment in 2013 [3-5]. Overall, the G20 nations affected by helminth infections and Nigeria perform poorly when it comes to treating their affected populations through MDA. In terms of specific countries in Latin America, Brazil is reaching only approximately one-third of its children and population at risk. And although Mexico provides complete coverage for intestinal worms, it—as previously mentioned—neither diagnoses nor treats hundreds of thousands (and possibly millions) of people with Chagas disease. In Africa, Nigeria’s MDA reaches less than 25% of its children at risk for helminth infections, and there is no information about schistosomiasis coverage in South Africa forthcoming from WHO. However, as Dr. Eyrun Kjetland (who works extensively in South Africa) has pointed out, female genital schistosomiasis remains widespread there, in part because praziquantel has been mostly unavailable in the country, owing to its drug importation laws. Schistosomiasis and other NTDs are still found among the poor in the Kingdom of Saudi Arabia. The entire MENA region severely underdiagnoses most of its NTDs, including leishmaniasis. In Asia, Indonesia largely does not promote widespread deworming for its children, and only a small percentage of its population receives treatment for LF, while India does only marginally better. Indonesia also suffers from high rates of yaws, which can also be targeted by MDA using the antibiotic azithromycin. Similarly in India, the vast majority of its children do not have access to regular and periodic deworming, and only about one-half of the population receives MDA for LF. India also has the worlds largest numbers of leprosy cases. This disease can also be attacked through MDA using a multidrug therapy regimen. WHO does not present information on China, either because it has not been determined or is unavailable. However, China has made great strides in reducing its schistosomiasis prevalence since 1949, and it has eliminated LF. Similarly, Japan and South Korea have achieved significant success both in economic development and in reducing or eliminating its NTDs. 144 Blue Marble Health Key common factors for poor performance in meeting MDA targets are vast geographies, decentralization of health care, inadequate resource allocation, and lack of political will. Overall, the six G20 countries with positive worm indices, together with Nigeria, have the means and capacity to eliminate LF within their own borders, while greatly reducing the disease burdens of their intestinal helminth infections and schistosomiasis through MDA. Some of the key common factors for poor performance in meeting MDA targets are vast geographies, decentralization of health care that results in fragmentation of drug delivery, inadequate resource allocation, and lack of political will and commitment. What about G20 countries affected by NTDs but without a positive worm index? In the United States, the 12 million Americans infected and living with NTDs are largely unrecognized, undiagnosed, and untreated. The United States also does very little in terms of conducting active surveillance for Chagas disease (and other major NTDs), and only a tiny percentage of its population receives access to diagnosis and treatment—the same is true for Argentina. In both North America and Europe, toxocariasis and other parasitic zoonotic infections are seldom diagnosed and treated. Minimal information is available on eastern ------------------- Europeans, Turks, and Russians with intestinal worms or zoonotic NTDs or their access to diagnosis and treatment. NTDs remain widespread among Aboriginal Australians, including intestinal helminth infections and scabies—both of which can be targeted through MDA. Thus, the current status of access to essential medicines for people living in poverty and with NTDs among the G20 countries and Nigeria can be summarized as abysmal. The fact that so few are being treated through MDA programs is especially sad, given its low costs. As previ- ------------------- ously mentioned, there are approximately 1.07 billion treatments required among the populations at greatest risk in the G20 countries and Nigeria. At a cost of 50 cents per person per year, approximately $500 million would be required—that is, a dollar amount representing a tiny percentage (<0.001%) of the $65 trillion combined economy of these countries. The bottom line is that each of these nations has the internal capacity to provide these low-cost treatments to its impoverished populations. WHO has now launched a Universal Health Coverage (UHC) initiative that builds on its 1978 “Health for All” Alma-Ata declaration and the MillenThe current status of access to essential medicines for people living in poverty and with NTDs among the G20 countries and Nigeria can be summarized as abysmal. The G20 145 nium Development Goals, with a focus on protecting the health of the worlds most economically vulnerable populations. The activities highlighted here clearly fall within WHO s UHC mandate. Research and Development for New Control Tools and Biotechnologies For many of the leading NTDs—including vector-borne diseases such as dengue, leishmaniasis, Chagas disease, African sleeping sickness, and malaria, and also some helminth infections such as hookworm, schistosomiasis, onchocerciasis, and foodborne trematodiases—there are equally urgent needs to develop new drugs, diagnostics, and vaccines. Each year, the Australian policy group known as Policy Cures publishes an annual G-FINDER Report that measures the global investment in new technologies for neglected diseases, defining them broadly to include both the NTDs and the “big three” diseases: HIV/ AIDS, ТВ, and malaria [6]. For the year 2014, G-FINDER determined that approximately $3.37 billion was invested globally in neglected disease R&D technology, with most of that support going toward the big three diseases [6]. A look at total government support for neglected disease R&D, almost all of it from G20 countries, is also interesting. The public sector provided 64% of the total funding, and the United States provided two-thirds of that funding, mostly from the US National Institutes of Health [6]. In all, 71% of the total government funding for neglected diseases comes from the United States, European Commission, and United Kingdom. However, as the G-FINDER Report points out, these absolute numbers do not consider the GDPs of these nations. In terms of public funding relative to GDP ratios, countries such as Ireland, Denmark, Norway, and Argentina do particularly well in this regard [6]. Shown in table 11.2 are selected estimates from G-FINDER of the percentage of their GDP that various governments have devoted to R&D on Of government funding for neglected diseases R&D, a whopping 71% comes from the United States, European Commission, and United Kingdom. We need greater involvement and support from the remainder of the G20 countries, including positive worm index G20 countries— Brazil, China, India, Indonesia, Mexico, and South Africa, in addition to Nigeria. 146 Blue Marble Health Although NTDs and other poverty-related diseases account for almost 14% of the global disease burden, they receive only a bit more than 1% of the global health-related R&D funds. neglected diseases. Using data from the G-FINDER Report combined with GDP information, I calculate that the world spends approximately 0.0028% of its GDP on neglected diseases R&D. Only three G20 countries—United States, United Kingdom, and Australia—match or exceed that percentage, ------------------- although India and France come close to it. The worstperforming countries were China and Japan. However, in 2013 the Japanese government, together with Japans major pharmaceutical companies and the Bill & Melinda Gates Foundation, formed a partnership known as the Global Health Innovative Technology (GHIT) Fund for supporting PDPs and other entities to develop and shape new biotechnologies for neglected diseases, with an emphasis on NTDs [7, 8]. China is a different matter. The New York Times has reported that China paid out $86.3 billion in foreign investments in the year 2013 [9], with much of that spent in fragile nations where health systems are broken and NTDs are widespread. Clearly, China needs to allocate some of those funds to neglected diseases, either for MDA or new technologies. In addition, the nation of Brazil could easily increase its global contribution to NTD technologies by ю -fold in order to match higher-performing nations in this regard. Germany is now looking at supporting NTD technologies as part of an overarching G7 initiative on NTDs. In 2011, the German government launched a policy roadmap for neglected and poverty-related diseases [10]. Indeed, a recent analysis conducted by German investigators has found although NTDs ------------------- and other poverty-related diseases account for almost 14% of the global disease burden, they receive only a bit more than 1% of the global health-related R&D funds [11]. As shown in figure 11.1, by presenting R&D expenditures for a particular disease divided by the disability adjusted life years (DALYs) it is possible to get a sense of ------------------- diseases that are especially underfunded—even compared with other NTDS—such as the intestinal helminth infections and other neglected enteric diseases, as well as rheumatic fever [11]. Such data argue for the great urgency needed in addressing these health disparities by increasing R&D funding and support. Recently, the Dutch and German governments and the European Union (EU) have established important initiatives to support NTD R&D. The Dutch Ministry of Foreign Affairs, for instance, has been a major partner in our human hookworm vaccine initiative, while the EU has an important Frameworks Program 7 (FP7) for supporting new technologies [12], including a HOOKVAC Consortium of partners organized through the Amster dam Institute of Global Health and Development [13]. Most recently, the EU has established an ambitious Horizon 2020 program for expanding R&D in Europe, including NTD R&D activities [14], on top of a European and Developing Countries Clinical Trials Partnership (EDCTP) for clinically evaluating new NTD technologies [15]. New German government funding for NTD R&D funding was just announced. These Dutch, German, and EU initiatives represent an important advance for shaping the next generation of products to treat and prevent NTDs. Yet another aspect of blue marble health is the rise in comorbid conditions between the NTDs, the big three diseases, and the noncommunicable diseases. Impoverished and neglected populations in the G20 countries and Nigeria are facing a double hit resulting from the convergence of NTDs and NCDs. For instance, in Texas, Mexico, and India (but presumably elsewhere) they include both ТВ and diabetes interactions and, lately, dengue and diabetes interactions. In South Africa, HIV/AIDS now flourishes amidst the high prevalence of female genital schistosomiasis. Studying the pathogenesis and epidemiology of these comorbid interactions will also be an important theme in the coming years. Shaping a Policy for the G20 The G20 began meeting in 2008 in response to that years global recession and have since convened in a summit each year to discuss the major policy issues of the day [16]. At the 2015 G20 Summit held in Turkey, the major areas of broad emphasis included strengthening the global recovery and enhancing resilience, while ensuring sustainability [17]. Clearly, lifting the bottom segments of their populations out of poverty through NTD control and elimination could fall within the G20 remit. It is imperative that the six member nations with positive worm indices commit to providing total MDA coverage for their populations affected by the major helminth infections, and also that the four Western Hemispheric countries step up surveillance, diagnosis, and treatment for Chagas disease. Leishmaniasis, both kala-azar and the cutaneous form, also represent major NTDs affecting the G20, and these diseases need to be targeted for control and elimination. The US, Dutch, German, and Japanese governments, along with the EU, stand out for their contributions toward supporting product development to counter NTDs, 150 Blue Marble Health Equally important is the R&D agenda. There are some obvious underachievers among the G20 countries that must step up and contribute to R&D for new drug, diagnostic, and vaccine products to fight the neglected diseases [18]. Toward that aim, several investigators have proposed the establishment of R&D funds to support neglected disease research. They include a global vaccine development fund [19] and a general biomedical R&D fund focused on antimicrobial resistance, emerging infectious diseases, and neglected diseases [20]. Both proposals are thoughtful, have a lot of merit, and need to be considered, but I offer an alternative or complementary solution. In 2013, the World Health Assembly passed a resolution (66.22) that proposes a “strategic work plan” to achieve sustainable funding for health R&D that could emphasize NTDs. The plan commits the director-general of the World Health Organization to establish a global “observatory” in order to identify gaps and opportunities for health R&D related to neglected diseases [21]. Through a pooled fund managed by WHO-TDR (a special program on tropical disease research and training), several pilot projects are now being supported [22]. Given that todays neglected disease R&D support comes mostly from the United States—and indeed mostly from a single agency, the National Institutes of Health—it is difficult to envision how such a fund would be created without calling on the NIH yet again. Realistically, it is unlikely the NIH leadership or the well-established community of US scientists would be willing to cede control of NIH budgets to an international body. Instead, I think it is worth considering the possibility of having each of the G20 countries establish its own version of the Japanese GHIT Fund, which builds on indigenous scientists and academic institutions and their own pharmaceutical industries. A Chinese or South Korean version of GHIT for example could become a vital and important institution. Creating twenty separate innovation funds could achieve the same goals as a global fund, while simultaneously ensuring national ownership and capacity building for indigenous academic and industrial institutions. Many of them could develop and shape new biotechnologies in collaboration with the 16 international PDPs. This approach would be especially useful for the less developed G20 countries, including Brazil, Global funds for R&D are an option. An attractive alternative is to create national funds for product development R&D in each of the G20 countries and Nigeria—ones that resemble those put forward by the Dutch and Japanese governments. The G20 151 India, Indonesia, and Mexico. These nations have indigenous vaccine manufacturers, which are represented by the Developing Country Vaccine Manufacturers Network, and therefore have a level of sophistication for producing next-generation NTD vaccines. Still another option is for smaller groups of G20 countries to come together to support R&D investments. The EU’s programs for new NTD technologies highlighted above represent important examples. In addition, if institutions from China and India (both rivals and neighbors) collaborated in the area of neglected diseases [23], some important NTD problems affecting Asia could be solved in the coming years. The United States has potential to extend its outreach on NTDs by collaborating with other G20 nations in the Americas or other countries [24]. As a UN agency, WHO could certainly partner with one or more of these G20 NTD R&D investment funds, especially through its global health R&D observatory mechanism. Another key United Nations agency might include WIPO—the World Intellectual Property Organization. Through the Patent Cooperation Treaty mechanism, the Geneva-based WIPO represents one of the few revenue-generating UN agencies. In 2011, in collaboration with BIO Ventures for Global Health, it established WIPO Re:Search to facilitate the development of products to combat NTDs by bringing together major pharmaceutical companies and academic investigators working on these diseases [25]. As a revenue-generating UN agency under the charismatic leadership of Francis Gurry, WIPO has the potential to expand this remit to support NTD product R&D. Looking beyond the G20 The major NTDs linked to wealthy countries and blue marble health could also be addressed by nongovernmental organizations, including faith-based groups. For example, in 2011 the Pew Research Centers Forum on Religion and Public Life reported that the center of the worlds Christian-majority countries has shifted from Europe and North America to the Global South, meaning Africa, Asia, and Central and South America [26]. Thus, countries such as Brazil, Philippines, Angola, Democratic Republic of Congo, and Papua New Guinea now have some of the highest percentages of Christian populations. As shown in table 11.3, from an analysis published in PLOS NTDs I found that almost all of the world s Chagas disease cases and African trypanosomiasis (sleeping sickness) can be found in Christian-majority countries, in addition to almost one-half of the schistosomiasis cases [26]. These findings suggest the possibility of bringing in new actors to combat NTDs. They could include the Vatican and Pope Francis, especially given the new popes renewed commitment to impoverished populations [19]. The Orthodox Christian Church also has opportunities to highlight NTDs in countries such as Ethiopia or those in the Middle East, as do many Christian faith-based organizations and universities. The G20 153 Summary Points 1. The six G20 countries with positive worm indices—Brazil, China, India, Indonesia, Mexico, and South Africa, together with Nigeria, have the means and capacity to eliminate LF within their own borders, while greatly reducing the disease burdens of their intestinal helminth infections and schistosomiasis through MDA. 2. G20 countries without classical worm indices, including the United States, also need to find mechanisms for promoting surveillance and access to essential medicine options for the poor living with NTDs within their own borders. 3. The G20 countries also have important biotechnology capabilities, which have yet to be adequately tapped for producing new NTD diagnostics, drugs, and vaccines. Beyond the United States, European nations, Australia, and Japan, they also include Brazil, China, India, Indonesia, Mexico, Russian Federation, Saudi Arabia, South Africa, and South Korea. 4. Yet another aspect of blue marble health is the rise in comorbid conditions between the NTDs, the big three diseases, and the NCDs. 5. The EU and the Dutch and German governments have launched important NTD technology initiatives, as has the Japanese government and its partners through a new GHIT Fund. These activities support PDPs committed to NTDs as well as indigenous academic institutions and industrial organizations. 6. Large G20 economies such as Brazil and China must increase their global commitment to support new NTD technologies and R&D. 7. There are opportunities to link these new investments with parallel activities ongoing at two UN agencies, namely, WHO and WIPO. 8. These topics should be highlighted at future G20 summits. 9. Faith-based organizations could have a future role. For instance, the Vatican and related entities have opportunities to expand commitments to control those NTDs that are found to be prevalent among Christian-majority countries. Central to the blue marble health concept is that each of the G20 nations and Nigeria need to take greater responsibility for their own neglected diseases and neglected populations. Doing so could result in the control or elimination of one-half or more of the planets NTDs, with substantial gains made against HIV/AIDS, ТВ, and malaria. Thus, while programs of overseas development assistance devoted to health, such as PEPFAR, GFATM, PMI, and USAID’s NTD Program, in which the worlds richest countries provide support to the poorest nations for their neglected diseases, must continue and should even expand, we need increasingly to recognize the hidden burden of neglected diseases among the poor living in wealthy countries. As a first step, we must expand initiatives that raise awareness about the problem of NTDs within each of the G20 countries and Nigeria. The Global Network for NTDs linked to the Sabin Vaccine Institute has been working closely with the governments of India and Nigeria, respectively, in order to explain the opportunity for mass drug administration and its potential impact on health and economic development. MDA coverage rates are disappointingly low in these nations, especially for intestinal helminth infections and LF, as well as for schistosomiasis in the case of Nigeria. An extraordinary finding is that at least three nations with positive worm indices—India, Pakistan, and China—also maintain nuclear stockpiles [1]. Could the scientific horsepower of these nuclear states be partly redirected toward reducing endemic NTDs at home? 154 A Framework for Science and Vaccine Diplomacy 155 Outside of India and Nigeria, there is a need to promote NTD awareness in each of the G20 countries. For example, in the United States, our National School of Tropical Medicine has been highlighting the plight of some 12 million Americans living with NTDs. We have now worked with the Texas Legislature to enact a bill for NTD surveillance in suspected high-prevalence areas. However, similar initiatives need to be enacted across the G20 nations, including the European Union. In addition, international cooperation between the different G20 nations and Nigeria could be critical in achieving higher population coverage for MDA. For instance, China, despite its billions of dollars of business investments in sub-Saharan Africa, has not yet promoted NTD control efforts there. Yet China has tre- mendous expertise in MDA for NTDs and could provide Africa with valuable advice in this area. China was the first country to eliminate LF and has achieved successes in re- ducing its burden of schistosomiasis more than ю -fold since the 1949 revolution. China could also share its best practices with neighboring India, where NTDs remain practically ubiquitous [ 2]. Similarly, Japan and South Korea have made great gains toward eliminating intestinal helminth infections, while the former has also successfully eliminated LF and schistosomiasis. International cooperation between these three East Asian nations and Nigeria, or with the G20 countries with positive worm indices, especially India, Indonesia, and Brazil (where they are the highest), could result in important, positive health and economic gains. Each of these activities represents examples of what some refer to as global health diplomacy. Global Health Diplomacy My former colleague at Yale University, Ilona Kickbusch, currently the director of the Global Health Programme at the Graduate Institute of International and Development Studies in Geneva, has provided several working definitions of global health diplomacy, including efforts to “position health in foreign policy negotiations,” together with the establishment of global health governance initiatives [3]. Indeed, the creation of the GAVI Alliance, GFATM, UN AIDS, and other Geneva-based organizations might be considered vital examples of organizations created under the auspices of global health diplomacy, with the first two created following the 2000 Millennial Development Goals. The MDGs themselves represent an important framework for global health diplomacy, and arguably the most successful. Since 2005, several global health diplomacy initiatives have been enacted that could facilitate NTD activities among the G20 and Nigeria, although most of these actions are more focused on emerging viral infections of pandemic potential rather than the widespread chronic and debilitating NTDs. The International Health Regulations (IHR) were enacted in 2005 as a binding legal mechanism for all member states of WHO and focused on responses to acute public health emergencies [4]. IHR demands that countries report outbreaks and other public health events, while WHO responds with measures to uphold and enforce global health security [4]. IHR also establishes an emergency committee that advises the WHO director-general on whether an unexpected event should be considered a public health emergency. It also provides recommendations on initial steps for travel restrictions, surveillance, and infection control. With the possible exception of dengue fever, it is not clear how IHR will substantively address the NTDs or other blue marble health conditions. Moreover, even with IHR in place, the global response to the 2014 emergence of Ebola in West Africa was slow and inadequate and led to a catastrophic outbreak in the fall of that year [5]. This failure may require future revisions in the IHR, as recently recommended in a 2015 Lancet article by Lawrence Gostin and his colleagues at Georgetown University [6]. The Global Health Security Agenda (GHSA) is an interagency initiative of the US government conducted in partnership with other nations and international organizations, including WHO [7]. GHSA is also focused on preventing or reducing the impact of epidemics and outbreaks of pandemic potential, such as H7N9 influenza virus or MERS coronavirus, as well as detecting emerging threats and implementing rapid and effective responses. In some respects, GHSA represents the US component or response to IHR. It also covers intentional or accidental releases of dangerous infectious disease pathogens. Global Health 203s and The Lancet Commission were launched in 2013, coinciding with the twentieth anniversary of a landmark 1993 World Development Report that helped to ignite international efforts to link investments in health with economic development [8]. The Lancet Commission identifies four key messages and actions: (1) the substantial economic return on investing in health, which can be as much as 24% in low- and middle-income countries; (2) implementation of a “grand convergence” in global health through scale-up of health technologies and strengthening health systems by the year 2035; (3) fiscal policies such as taxation of tobacco and reduction of subsidies for fossil fuels, which represent powerful forces or “levers” for elected leaders; and (4) universal health coverage as an efficient mechanism to improve health as well as to provide “financial protection” [8]. The Addis Ababa Action Agenda (AAAA) is the product of the first of three international meetings for implementing the UN s 2015 Sustainable Development Goals. However, health is at present only a minor component of the AAAA. Indeed, the SDGs have been criticized because health is now only 1 of the 17 goals, whereas it was front and center among the 2000 MDGs. So far, the AAAAs recommendations have included the promotion of the health systems strengthening component of the GFATM and GAVI Alliance and the establishment of a Global Financing Facility (GFF) for womens and childrens health that would go hand-inhand with the UN secretary generals new Global Strategy for Every Woman Every Child [9]. The emphasis of these initiatives is to reduce preventable maternal, child, and adolescent deaths by 2030. Despite the evidence that hookworm infection and Chagas disease rank among the leading complications of pregnancy among women living in poverty in low- and middle-income countries, while female genital schistosomiasis is among sub-Saharan Africa’s most common gynecologic condition, there is not yet a specific mention of NTDs in the AAAA or GFF. Ultimately, the G20 nations can identify ways to address blue marble health disparities under the auspices of the SDGs or the global health diplomacy initiatives highlighted above. However, at present there is no specific mandate for them to do so. Vaccine Science Diplomacy Concurrently, the G20 nations have opportunities to collaborate in scientific activities leading to the development of new drugs, diagnostics, and vaccines. I have used the term “vaccine science diplomacy” to refer to inter- national scientific codevelopment of lifesaving vaccines between scientists of different nations, but particularly from nations with strained or evenly openly contentious international relations. The best historical example of vaccine science diplomacy is the codevelopment of the oral polio vaccine, led on the American side by Dr. Albert B. Sabin, and his Soviet virologist counterparts, including Dr. Mikhail Petrovich Chumakov [3]. In modern times there is potential interest in explor ing vaccine science diplomacy opportunities between the United States and some of the worlds Muslim-majority nations belonging to the Organisation of Islamic Cooperation [10,11]. OIC countries include most of the Middle East and North Africa, as well as some highly populated Southeast Asian nations, including Bangladesh, Indonesia, and Malaysia, as well as most of central Asia. New estimates that we published in PLOS NTDs in 2015 indicate that the 30 most-populated OIC countries account for 35% of the worlds helminth infections comprising the global Worm Index, including 50% of the worlds children who require MDA for schistosomiasis [11]. Given that approximately 1.5 billion people live in OIC countries, or about 20% of the global population, helminth infections appear to disproportionately affect the health and economic development of Muslim-majority countries, as does leishmaniasis, trachoma, and possibly other NTDs [11]. As shown in figure 12.1, there is also tight inverse association between the worm index and human development index in the Muslim world [11]. OIC nations with strong infrastructures in science and biotechnology are potentially attractive candidates to pursue joint vaccine science diplomacy initiatives with the United States. Here the idea would be to promote scientific collaborations between US scientists and scientists from selected OIC countries in order to create new NTD technologies for some of the worst-off Muslim-majority countries. The “worst-off” might include OIC countries at the high end of the worm index, including Mali, Cote d’Ivoire, Mozambique, Cameroon, Burkina Faso, and Niger, as well as Nigeria [11].

#### Public Health Diplomacy solves Existential Threats.

James 17 Wilmot James 4-2-2017 “In an Age of Zika and a Threat of Biochemical Terror, Health Security Must Be Everybody’s Concern” https://archive.is/tUlRX#selection-927.0-930.0 (Honorary Professor in the Division of Human Genetics at the University of Cape Town's Medical School and Non-residential Senior Fellow at Bard College’s Hannah Arendt Centre, Ph.D. from University of Wisconsin at Madison)//re-cut by Elmer

With Zika there too was political failure to act quickly, give honest advice and confront the abortion conundrum head-on, the result being that 3,000 and likely more children with microcephaly will test the emotional resilience and financial resources of their families to breaking point. We should never cease to invest in the public health and medical science of disease, but it seems to me that our fundamental problem is not the quality of the health sciences but the grim mediocrity of our politics. Party-political bickering for short-term gain paralyses and drains the national effort in South Africa as much as it does in the United States, undermining our ability to see with compelling clarity the solutions the issues of the day deserve. **Health** security **is humanity’s shared concern**. Promoting health and preventing death define us at our most altruistic and advanced. The Hippocratic Ideal, the concept of the physician as the guardian of human health, encapsulates a fundamental human quality common to all the world’s great religions. **Medicine** is one of the earliest and greatest human achievements because it is a **co-operative enterprise** involving highly skilled individuals; and it is **as a result** of cooperation – and our unusual ability for complex language – that cumulative **civilisation is possible**. In the age of globalisation, it is **health security**, a recent Lancet editorial stated, that “is now the **most important foreign policy issue** of our time”. The rapid emergence and re-emergence of pathogenic infectious **disease**, of which Zika is the most recent, the slow but steady cumulative acts of nature associated with **climate change**, high-risk **forced migration** caused by desperation and war, the creeping reality of **biochemical terror and** the threat of **nuclear war, propel human survival** and well-being **to the frontline** of what today must be everybody’s concern. The field of **health diplomacy provides** an **unprecedented opportunity to build** human **solidarity**. It is an area of human endeavour that **cuts through** inherited **antagonisms**. Governments that offer **health improvements** as part of aid to nations with whom they wish to **develop** stronger **diplomatic links** succeed in cultivating deeper cultural relationships precisely because of their direct benefit to citizens. To advance health diplomacy requires health leaders with an inclusive global vision...

#### Only health cooperation solves diseases – specifically key to protect developing nations

Long 11 (William J., professor and chair at the Sam Nunn School of International Affairs at the Georgia Institute of Technology. He is the author of three books and numerous articles on conflict resolution, international cooperation, and trade and technology transfer policy and Jennings Randolph fellow at the U.S. Institute of Peace in 2009-10, “Pandemics and Peace: Cooperation in Zones of Conflict”, USIP Press Books) JA

The spread of avian influenza and other naturally occurring or man-made biological threats presents a grave security and humanitarian threat region-ally and globally." Dramatic increases in the worldwide movement of people, animals, and goods; growing population density; and uneven public health systems worldwide are the driving forces behind heightened vulnerability to the spread of both old and new infectious diseases." Since the global spread of the human immunodeficiency virus (HIV) began in the early 1980s, twenty-nine new bacteria or viruses have been identified, many of which are capable of global reach." Commenting on this trend in 2007, the United Nations' World Health Organization warned, "Since the 1970s, newly emerging diseases have been identified at the unprecedented rate of one or more per year. .. . It would be extremely naive and complacent to assume that there will not be another disease like AIDS, another Ebola, or another SARS, sooner or later."" Senior World Health officials have noted that In-adequate surveillance and response capacity in a single country can endanger national populations and public health security of the entire world."" With more than a million travelers flying across national boundaries ev-ery day, it is not an exaggeration to say that a health problem in any part of the world can rapidly become a health threat to many or 21122—v/hat one author calls the microbial unification of the world." The outbreak of severe acute respiratory syndrome (SARS) in 2002 and 2003 demonstrated how a previously unknown but lethal virus could spread by modern air trans-port, traveling from Hong Kong to Toronto in fifteen hours and eventually reaching twenty-seven countries? The increased speed of transmission also means that contagion is likely to be well established before governments and international organizations are aware of the presence of the disease.° SARS, in turn, focused attention on the ability of public health systems worldwide to cope with an anticipated pandemic associated with the next major antigenic shift in the influenza A virus. Although the influenza A virus mutates regularly (antigenic drift), every decade or so the virus undergoes a major change, or shift, for which most people have little or no protection. The threat is magnified today by the ability of such diseases to spread worldwide very rapidly.2 For example, since emerging in 1997, avian influenza—which to date has infected more than 400 people and killed more than 200—could create, if it becomes capable of human-to-human transmission as a new influ-enza A virus, a global pandemic of unprecedented lethality. Avian influenza could, if it becomes capable of human-to-human transmission as SARS did in 2002, kill somewhere between 200,000 to 16 million Americans. Countries with less robust public health systems would lose an even larger percentage of their population to such a disease. The relatively benign H1N1, or swine flu, outbreak provides a harbinger of this future danger. Global economic and political stability could fall victim to a pandemic too. Today, nations must provide for their citizens' health and well-being and protect them from disease. Health provision has become a primary public good and part of the social contract between a people and its government? Accelerating transnational flows, especially pathogens, can stress and could overwhelm a state's capacity to meet this essential function. Weak states could fail economically or politically, thereby creating regional instability and a breeding ground for terrorism or human rights violations. Statistical studies reveal that declining public health substantially increases the probability of state failure," and historical examples of the correlation between disease outbreak and political instability and violence extend from the fall of ancient Athens to recent violence in Zimbabwe. Even in the strongest states, leaders must be prepared, in an integrated way, to respond to the full spectrum of biological threats that could impede essential social functions such as food supply, transportation, education, and workforce operation and result in huge economic costs." Reducing the danger of influenza or other infectious diseases requires a focus on preparedness and monitoring. Rapidly identifying the problem, sharing information, and coordinating response are each critical to limit-ing the perils of pathogenic threats. Although the peril is great, so too is the promise of building cooperation through regional disease surveillance, detection, and response. Here is the positive potential of globalization: it can facilitate the rapid response to health challenges by quickly mobilizing health professionals, medicines, and supplies, and by deploying information technology for disease surveillance and sharing best health practices across nations." These exchanges, between neighboring states and even between traditional adver-saries, could contribute to reducing disparities in health and help improve regional relations. Armed with a theoretical understanding of the basis for such cooperation, the regional and international practitioner and policy com-munities can respond more effectively to this critical transnational security and humanitarian concern."

#### Disease is a non-linear, existential risk - encompasses AND outweighs other threats

Pamlin and Armstrong 15 Dennis Pamlin and Stuart Armstrong February 2015 “Global Challenges: 12 Risks that threaten human civilization: The case for a new risk category” https://web.archive.org/web/20171006070112/https://api.globalchallenges.org/static/wp-content/uploads/12-Risks-with-infinite-impact.pdf (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)//Re-cut by Elmer

3.1 Current risks Pandemic 3.1.4 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-tailed**262 **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.

### 1NC – 2

#### Climate Patents and Innovation high now and solving Warming but patent waivers set a dangerous precedent for appropriations – the mere threat is sufficient is enough to kill investment.

Brand 5-26, Melissa. “Trips Ip Waiver Could Establish Dangerous Precedent for Climate Change and Other Biotech Sectors.” IPWatchdog.com | Patents & Patent Law, 26 May 2021, www.ipwatchdog.com/2021/05/26/trips-ip-waiver-establish-dangerous-precedent-climate-change-biotech-sectors/id=133964/. //sid

The biotech industry is making remarkable advancestowards climate change solutions, and it is precisely for this reason that it can expect to be in the crosshairs of potential IP waiver discussions. President Biden is correct to refer to climate change as an existential crisis. Yet it does not take too much effort to connect the dots between President Biden’s focus on climate change and his Administration’s recent commitment to waive global IP rights for Covid vaccines (TRIPS IP Waiver). “This is a global health crisis, and the extraordinary circumstances of the COVID-19 pandemic call for extraordinary measures.” If an IP waiver is purportedly necessary to solve the COVID-19 global health crisis (and of course [we dispute this notion](https://www.ipwatchdog.com/2021/04/19/waiving-ip-rights-during-times-of-covid-a-false-good-idea/id=132399/)), can we really feel confident that this or some future Administration will not apply the same logic to the climate crisis? And, without the confidence in the underlying IP for such solutions, what does this mean for U.S. innovation and economic growth? United States Trade Representative (USTR) [Katherine Tai](https://www.ipwatchdog.com/2021/05/05/tai-says-united-states-will-back-india-southafrica-proposal-waive-ip-rights-trips/id=133224/) was subject to questioning along this very line during a recent Senate Finance Committee hearing. And while Ambassador Tai did not affirmatively state that an IP waiver would be in the future for climate change technology, she surely did not assuage the concerns of interested parties. The United States has historically supported robust IP protection. This support is one reason the United States is the center of biotechnology innovation and leading the fight against COVID-19. However, a brief review of the domestic legislation arguably most relevant to this discussion shows just how far the international campaign against IP rights has eroded our normative position. The Clean Air Act, for example, contains a provision allowing for the mandatory licensing of patents covering certain devices for reducing air pollution. Importantly, however, the patent owner is accorded due process and the statute lays out a detailed process regulating the manner in which any such license can be issued, including findings of necessity and that no reasonable alternative method to accomplish the legislated goal exists. Also of critical importance is that the statute requires compensation to the patent holder. Similarly, the Atomic Energy Act contemplates mandatory licensing of patents covering inventions of primary importance in producing or utilizing atomic energy. This statute, too, requires due process, findings of importance to the statutory goals and compensation to the rights holder. A TRIPS IP waiver would operate outside of these types of frameworks. There would be no due process, no particularized findings, no compensationand no recourse. Indeed, the fact that the World Trade Organization (WTO) already has a process under the TRIPS agreement to address public health crises, including the compulsory licensing provisions, with necessary guardrails and compensation, makes quite clear that the waiver would operate as a free for all. Forced Tech Transfer Could Be on The Table When being questioned about the scope of a potential TRIPS IP waiver, Ambassador Tai invoked the proverb “Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime.” While this answer suggests primarily that, in times of famine, the Administration would rather give away other people’s fishing rods than share its own plentiful supply of fish (here: actual COVID-19 vaccine stocks), it is apparent that in Ambassador Tai’s view waiving patent rights alone would not help lower- and middle-income countries produce their own vaccines. Rather, they would need to be taught how to make the vaccines and given the biotech industry’s manufacturing know-how, sensitive cell lines, and proprietary cell culture media in order to do so. In other words, Ambassador Tai acknowledged that the scope of the current TRIPS IP waiver discussions includes the concept of forced tech transfer. In the context of climate change, the idea would be that companies who develop successful methods for producing new seed technologies and sustainable biomass**,** reducing greenhouse gases in manufacturing and transportation, capturing and sequestering carbon in soil and products, and more, would be required to turn over their proprietaryknow-how to global competitors. While it is unclear how this concept would work in practice and under the constitutions of certain countries, the suggestion alone could be devastating to voluntary internationalcollaborations. Even if one could assume that the United States could not implement forced tech transfer on its own soil, what about the governments of our international development partners? It is not hard to understand that a U.S.-based company developing climate change technologies would be unenthusiastic about partnering with a company abroad knowing that the foreign country’s government is on track – with the assent of the U.S. government – to change its laws and seize proprietary materials and know-how that had been voluntarily transferred to the local company. Necessary Investment Could Diminish Developing climate change solutions is not an easy endeavor and bad policy positions threaten the likelihood that they will materialize. These products have long lead times from research and development to market introduction, owing not only to a high rate of failure but also rigorous regulatory oversight. Significant investment is required to sustain and drive these challenging and long-enduring endeavors. For example, synthetic biology companies critical to this area of innovation [raised over $1 billion in investment in the second quarter of 2019 alone](https://www.bio.org/sites/default/files/2021-04/Climate%20Report_FINAL.pdf). If investors cannot be confident that IP will be in place to protect important climate change technologies after their long road from bench to market, it is unlikely they will continue to investat the current and required levels**.**

#### Climate change destroys the world.

Specktor 19 [Brandon writes about the science of everyday life for Live Science, and previously for Reader's Digest magazine, where he served as an editor for five years] 6-4-2019, "Human Civilization Will Crumble by 2050 If We Don't Stop Climate Change Now, New Paper Claims," livescience, <https://www.livescience.com/65633-climate-change-dooms-humans-by-2050.html> Justin

The current climate crisis, they say, is larger and more complex than any humans have ever dealt with before. General climate models — like the one that the [United Nations' Panel on Climate Change](https://www.ipcc.ch/sr15/) (IPCC) used in 2018 to predict that a global temperature increase of 3.6 degrees Fahrenheit (2 degrees Celsius) could put hundreds of millions of people at risk — fail to account for the **sheer complexity of Earth's many interlinked geological processes**; as such, they fail to adequately predict the scale of the potential consequences. The truth, the authors wrote, is probably far worse than any models can fathom. How the world ends What might an accurate worst-case picture of the planet's climate-addled future actually look like, then? The authors provide one particularly grim scenario that begins with world governments "politely ignoring" the advice of scientists and the will of the public to decarbonize the economy (finding alternative energy sources), resulting in a global temperature increase 5.4 F (3 C) by the year 2050. At this point, the world's ice sheets vanish; brutal droughts kill many of the trees in the [Amazon rainforest](https://www.livescience.com/57266-amazon-river.html) (removing one of the world's largest carbon offsets); and the planet plunges into a feedback loop of ever-hotter, ever-deadlier conditions. "Thirty-five percent of the global land area, and **55 percent of the global population, are subject to more than 20 days a year of** [**lethal heat conditions**](https://www.livescience.com/55129-how-heat-waves-kill-so-quickly.html), beyond the threshold of human survivability," the authors hypothesized. Meanwhile, droughts, floods and wildfires regularly ravage the land. Nearly **one-third of the world's land surface turns to desert**. Entire **ecosystems collapse**, beginning with the **planet's coral reefs**, the **rainforest and the Arctic ice sheets.** The world's tropics are hit hardest by these new climate extremes, destroying the region's agriculture and turning more than 1 billion people into refugees. This mass movement of refugees — coupled with [shrinking coastlines](https://www.livescience.com/51990-sea-level-rise-unknowns.html) and severe drops in food and water availability — begin to **stress the fabric of the world's largest nations**, including the United States. Armed conflicts over resources, perhaps culminating in **nuclear war, are likely**. The result, according to the new paper, is "outright chaos" and perhaps "the end of human global civilization as we know it."

#### Warming causes Extinction

Kareiva 18, Peter, and Valerie Carranza. "Existential risk due to ecosystem collapse: Nature strikes back." Futures 102 (2018): 39-50. (Ph.D. in ecology and applied mathematics from Cornell University, director of the Institute of the Environment and Sustainability at UCLA, Pritzker Distinguished Professor in Environment & Sustainability at UCLA)//Re-cut by Elmer

In summary, six of the nine proposed planetary boundaries (phosphorous, nitrogen, biodiversity, land use, atmospheric aerosol loading, and chemical pollution) are unlikely to be associated with existential risks. They all correspond to a degraded environment, but in our assessment do not represent existential risks. However, the three remaining boundaries (**climate change**, global **freshwater** cycle, **and** ocean **acidification**) do **pose existential risks**. This is **because of** intrinsic **positive feedback loops**, substantial lag times between system change and experiencing the consequences of that change, and the fact these different boundaries interact with one another in ways that yield surprises. In addition, climate, freshwater, and ocean acidification are all **directly connected to** the provision of **food and water**, and **shortages** of food and water can **create conflict** and social unrest. Climate change has a long history of disrupting civilizations and sometimes precipitating the collapse of cultures or mass emigrations (McMichael, 2017). For example, the 12th century drought in the North American Southwest is held responsible for the collapse of the Anasazi pueblo culture. More recently, the infamous potato famine of 1846–1849 and the large migration of Irish to the U.S. can be traced to a combination of factors, one of which was climate. Specifically, 1846 was an unusually warm and moist year in Ireland, providing the climatic conditions favorable to the fungus that caused the potato blight. As is so often the case, poor government had a role as well—as the British government forbade the import of grains from outside Britain (imports that could have helped to redress the ravaged potato yields). Climate change intersects with freshwater resources because it is expected to exacerbate drought and water scarcity, as well as flooding. Climate change can even impair water quality because it is associated with heavy rains that overwhelm sewage treatment facilities, or because it results in higher concentrations of pollutants in groundwater as a result of enhanced evaporation and reduced groundwater recharge. **Ample clean water** is not a luxury—it **is essential for human survival**. Consequently, cities, regions and nations that lack clean freshwater are vulnerable to social disruption and disease. Finally, ocean acidification is linked to climate change because it is driven by CO2 emissions just as global warming is. With close to 20% of the world’s protein coming from oceans (FAO, 2016), the potential for severe impacts due to acidification is obvious. Less obvious, but perhaps more insidious, is the interaction between climate change and the loss of oyster and coral reefs due to acidification. Acidification is known to interfere with oyster reef building and coral reefs. Climate change also increases storm frequency and severity. Coral reefs and oyster reefs provide protection from storm surge because they reduce wave energy (Spalding et al., 2014). If these reefs are lost due to acidification at the same time as storms become more severe and sea level rises, coastal communities will be exposed to unprecedented storm surge—and may be ravaged by recurrent storms. A key feature of the risk associated with climate change is that mean annual temperature and mean annual rainfall are not the variables of interest. Rather it is extreme episodic events that place nations and entire regions of the world at risk. These extreme events are by definition “rare” (once every hundred years), and changes in their likelihood are challenging to detect because of their rarity, but are exactly the manifestations of climate change that we must get better at anticipating (Diffenbaugh et al., 2017). Society will have a hard time responding to shorter intervals between rare extreme events because in the lifespan of an individual human, a person might experience as few as two or three extreme events. How likely is it that you would notice a change in the interval between events that are separated by decades, especially given that the interval is not regular but varies stochastically? A concrete example of this dilemma can be found in the past and expected future changes in storm-related flooding of New York City. The highly disruptive flooding of New York City associated with Hurricane Sandy represented a flood height that occurred once every 500 years in the 18th century, and that occurs now once every 25 years, but is expected to occur once every 5 years by 2050 (Garner et al., 2017). This change in frequency of extreme floods has profound implications for the measures New York City should take to protect its infrastructure and its population, yet because of the stochastic nature of such events, this shift in flood frequency is an elevated risk that will go unnoticed by most people. 4. The combination of positive feedback loops and societal inertia is fertile ground for global environmental catastrophes **Humans** are remarkably ingenious, and **have adapted** to crises **throughout** their **history**. Our doom has been repeatedly predicted, only to be averted by innovation (Ridley, 2011). **However**, the many **stories** **of** human ingenuity **successfully** **addressing** **existential risks** such as global famine or extreme air pollution **represent** environmental c**hallenges that are** largely **linear**, have immediate consequences, **and operate without positive feedbacks**. For example, the fact that food is in short supply does not increase the rate at which humans consume food—thereby increasing the shortage. Similarly, massive air pollution episodes such as the London fog of 1952 that killed 12,000 people did not make future air pollution events more likely. In fact it was just the opposite—the London fog sent such a clear message that Britain quickly enacted pollution control measures (Stradling, 2016). Food shortages, air pollution, water pollution, etc. send immediate signals to society of harm, which then trigger a negative feedback of society seeking to reduce the harm. In contrast, today’s great environmental crisis of climate change may cause some harm but there are generally long time delays between rising CO2 concentrations and damage to humans. The consequence of these delays are an absence of urgency; thus although 70% of Americans believe global warming is happening, only 40% think it will harm them (http://climatecommunication.yale.edu/visualizations-data/ycom-us-2016/). Secondly, unlike past environmental challenges, **the Earth’s climate system is rife with positive feedback loops**. In particular, as CO2 increases and the climate warms, that **very warming can cause more CO2 release** which further increases global warming, and then more CO2, and so on. Table 2 summarizes the best documented positive feedback loops for the Earth’s climate system. These feedbacks can be neatly categorized into carbon cycle, biogeochemical, biogeophysical, cloud, ice-albedo, and water vapor feedbacks. As important as it is to understand these feedbacks individually, it is even more essential to study the interactive nature of these feedbacks. Modeling studies show that when interactions among feedback loops are included, uncertainty increases dramatically and there is a heightened potential for perturbations to be magnified (e.g., Cox, Betts, Jones, Spall, & Totterdell, 2000; Hajima, Tachiiri, Ito, & Kawamiya, 2014; Knutti & Rugenstein, 2015; Rosenfeld, Sherwood, Wood, & Donner, 2014). This produces a wide range of future scenarios. Positive feedbacks in the carbon cycle involves the enhancement of future carbon contributions to the atmosphere due to some initial increase in atmospheric CO2. This happens because as CO2 accumulates, it reduces the efficiency in which oceans and terrestrial ecosystems sequester carbon, which in return feeds back to exacerbate climate change (Friedlingstein et al., 2001). Warming can also increase the rate at which organic matter decays and carbon is released into the atmosphere, thereby causing more warming (Melillo et al., 2017). Increases in food shortages and lack of water is also of major concern when biogeophysical feedback mechanisms perpetuate drought conditions. The underlying mechanism here is that losses in vegetation increases the surface albedo, which suppresses rainfall, and thus enhances future vegetation loss and more suppression of rainfall—thereby initiating or prolonging a drought (Chamey, Stone, & Quirk, 1975). To top it off, overgrazing depletes the soil, leading to augmented vegetation loss (Anderies, Janssen, & Walker, 2002). Climate change often also increases the risk of forest fires, as a result of higher temperatures and persistent drought conditions. The expectation is that **forest fires will become more frequent** and severe with climate warming and drought (Scholze, Knorr, Arnell, & Prentice, 2006), a trend for which we have already seen evidence (Allen et al., 2010). Tragically, the increased severity and risk of Southern California wildfires recently predicted by climate scientists (Jin et al., 2015), was realized in December 2017, with the largest fire in the history of California (the “Thomas fire” that burned 282,000 acres, https://www.vox.com/2017/12/27/16822180/thomas-fire-california-largest-wildfire). This **catastrophic fire** embodies the sorts of positive feedbacks and interacting factors that **could catch humanity off-guard and produce a** true **apocalyptic event.** Record-breaking rains produced an extraordinary flush of new vegetation, that then dried out as record heat waves and dry conditions took hold, coupled with stronger than normal winds, and ignition. Of course the record-fire released CO2 into the atmosphere, thereby contributing to future warming. Out of all types of feedbacks, water vapor and the ice-albedo feedbacks are the most clearly understood mechanisms. Losses in reflective snow and ice cover drive up surface temperatures, leading to even more melting of snow and ice cover—this is known as the ice-albedo feedback (Curry, Schramm, & Ebert, 1995). As snow and ice continue to melt at a more rapid pace, millions of people may be displaced by flooding risks as a consequence of sea level rise near coastal communities (Biermann & Boas, 2010; Myers, 2002; Nicholls et al., 2011). The water vapor feedback operates when warmer atmospheric conditions strengthen the saturation vapor pressure, which creates a warming effect given water vapor’s strong greenhouse gas properties (Manabe & Wetherald, 1967). Global warming tends to increase cloud formation because warmer temperatures lead to more evaporation of water into the atmosphere, and warmer temperature also allows the atmosphere to hold more water. The key question is whether this increase in clouds associated with global warming will result in a positive feedback loop (more warming) or a negative feedback loop (less warming). For decades, scientists have sought to answer this question and understand the net role clouds play in future climate projections (Schneider et al., 2017). Clouds are complex because they both have a cooling (reflecting incoming solar radiation) and warming (absorbing incoming solar radiation) effect (Lashof, DeAngelo, Saleska, & Harte, 1997). The type of cloud, altitude, and optical properties combine to determine how these countervailing effects balance out. Although still under debate, it appears that in most circumstances the cloud feedback is likely positive (Boucher et al., 2013). For example, models and observations show that increasing greenhouse gas concentrations reduces the low-level cloud fraction in the Northeast Pacific at decadal time scales. This then has a positive feedback effect and enhances climate warming since less solar radiation is reflected by the atmosphere (Clement, Burgman, & Norris, 2009). The key lesson from the long list of potentially positive feedbacks and their interactions is that **runaway climate change,** and runaway perturbations have to be taken as a serious possibility. Table 2 is just a snapshot of the type of feedbacks that have been identified (see Supplementary material for a more thorough explanation of positive feedback loops). However, this list is not exhaustive and the possibility of undiscovered positive feedbacks **portends** even greater **existential risks**. The many environmental crises humankind has previously averted (famine, ozone depletion, London fog, water pollution, etc.) were averted because of political will based on solid scientific understanding. We cannot count on complete scientific understanding when it comes to positive feedback loops and climate change.

### 1NC – 3

#### Budget passes now – PC is key.

BBC 10-28-2021 (“Biden announces revamped $1.75 trillion social spending plan,” https://www.bbc.com/news/world-us-canada-59081791)

US President Joe Biden unveiled a revamped $1.75tn (£1.27tn) spending plan on Thursday, calling it a historic investment in the country's future. "No one got everything they wanted, including me," he said, acknowledging the struggle within his party to reach consensus on a pair of landmark bills. Narrow margins in Congress require nearly unanimous support from the Democrats for the bills to pass. They include major investments in infrastructure, climate and childcare. Mr Biden's Democratic party suggested this week that an agreement was on the horizon, ahead of Mr Biden's trip to Europe later on Thursday. President Biden will travel to Rome, the Vatican and later to Glasgow, Scotland for the United Nations climate conference, COP26. But it remains to be seen whether Mr Biden has achieved the level of cooperation needed from within his party to move the spending plan forward. This new proposal is thought to be a stripped-down version of the roughly $3.5tn social spending plan favoured by progressives. Mr Biden was expected to use his Thursday morning meeting with House Democrats to convince progressives in the party that this new version is close enough to the original bill, and to persuade progressives in the House of Representative to pass a separate, $1tn infrastructure bill that has already passed in the Senate. It's a delicate balance for Mr Biden, as he tries to appeal to his party's progressives - who say they need action on the social spending bill before passing infrastructure - and some moderates, for whom the infrastructure bill is priority. Others had concerns over the price tag of the original social spending bill. So what's in the proposed new spending plan? $555bn aimed at fighting climate change, mainly through tax-incentives for renewable and low-emission sources of energy $400bn for free and universal preschool for all 3- and 4-year-olds $165bn to lower health care premiums for the nine million Americans covered through the Affordable Care Act - also known as Obamacare $150bn to build one million affordable housing units A 50-50 seat split in the Senate - and certain Republican resistance - means Mr Biden must bring his entire party on board if he hopes to pass the spending bill. Two moderate Democrats, Senators Kyrsten Sinema of Arizona and Joe Manchin of West Virginia, appeared to signal some support for the bill in separate statements on Thursday. "After months of productive, good-faith negotiations with President Biden and the White House, we have made significant progress," Ms Sinema said. "I look forward to getting this done." Both Ms Sinema and Mr Manchin are widely seen to have tanked the original bill by refusing to vote for it. For Mr Biden personally, a lot is riding on the fate of these two bills: his presidential legacy. "I don't think it's hyperbole to say that the House and Senate majorities and my presidency will be determined by what happens in the next week," he told Democrats on Thursday morning, according to US media.

#### Attacks on Pharmaceutical Profits triggers Mod Dem Backlash – it disrupts unity.

Cohen 9-6 Joshua Cohen 9-6-2021 "Democrats’ Plans To Introduce Prescription Drug Pricing Reform Face Formidable Obstacles" <https://www.forbes.com/sites/joshuacohen/2021/09/06/democrats-plans-to-introduce-prescription-drug-pricing-reform-face-obstacles/?sh=37a269917395> (independent healthcare analyst with over 22 years of experience analyzing healthcare and pharmaceuticals.)//Elmer

There’s considerable uncertainty regarding passage with a simple majority of the 2021 massive budget reconciliation bill. Last week, Senator Joe Manchin called on Democrats to pause pushing forward the budget reconciliation bill. If Manchin winds up saying no to the bill, this would scuttle it as the Democrats can’t afford to lose a single Senator. And, there’s speculation that provisions to reduce prescription drug prices may be watered down and not incorporate international price referencing. Additionally, reduced prices derived through Medicare negotiation may not be able to be applied to those with employer-based coverage. While the progressive wing of the Democratic Party supports drug pricing reform, **several key centrist Democrats** in both the House and Senate appear to be **uncomfortable** **with** particular aspects of the budget reconciliation bill, including a potential deal-breaker, namely the potential **negative impact of drug price controls on the domestic pharmaceutical industry**, as well as long-term patient access to new drugs. A paper released in 2019 by the nonpartisan Congressional Budget Office found that the proposed legislation, H.R. 3, would reduce global revenue for new drugs by 19%, leading to 8 fewer drugs approved in the U.S. between 2020 and 2029, and 30 fewer drugs over the next decade. And, a new report from the CBO reinforces the message that drug pricing legislation under consideration in Congress could lead to fewer new drugs being developed and launched. **Intense lobbying efforts from biopharmaceutical industry groups** **are underway**, **warning of** what they deem are **harms from price controls in** the form of diminished patient **access to new innovations**. The argument, based in part on assumptions and modeling included in the CBO reports, asserts that price controls would dampen investment critical to the biopharmaceutical industry’s pipeline of drugs and biologics. **This** won’t sway most Democrats, but has been a traditional talking point in the Republican Party for decades, and **may convince some centrist Democrats to withdraw backing** of provisions **that** in their eyes **stymie pharmaceutical innovation.** If the budget reconciliation bill would fail to garner a majority, a pared down version of H.R. 3, or perhaps a new bill altogether, with Senator Wyden spearheading the effort, could eventually land in the Senate. But, a similar set of provisos would apply, as majority support in both chambers would be far from a sure thing. In brief, Democrats’ plans at both the executive and legislative branch levels to introduce prescription **drug pricing reform** **encounter challenges** which may prevent impactful modifications from taking place.

#### Sinema specifically jumps Ship.

Hancock and Lucas 20 Jay Hancock and Elizabeth Lucas 5-29-2020 "A Senator From Arizona Emerges As A Pharma Favorite" <https://khn.org/news/a-senator-from-arizona-emerges-as-a-pharma-favorite/> (Senior Correspondent, joined KHN in 2012 from The Baltimore Sun, where he wrote a column on business and finance. Previously he covered the State Department and the economics beat for The Sun and health care for The Virginian-Pilot of Norfolk and the Daily Press of Newport News. He has a bachelor’s degree from Colgate University and a master’s in journalism from Northwestern University.)//Elmer

Sen. Kyrsten **Sinema formed** a **congressional caucus to raise** “**awareness of the benefits of personalized medicine**” in February. Soon after that, employees of **pharmaceutical companies** **donated** $35,000 to her campaign committee. Amgen gave $5,000. So did Genentech and Merck. Sanofi, Pfizer and Eli Lilly all gave $2,500. Each of those companies has invested heavily in personalized medicine, which promises individually tailored drugs that can cost a patient hundreds of thousands of dollars. **Sinema** is a first-term Democrat from Arizona but has nonetheless **emerged as a pharma favorite in Congress** as the industry steers through a new political and economic landscape formed by the coronavirus. She is a **leading recipient of pharma campaign cash** even though she’s not up for reelection until 2024 and lacks major committee or subcommittee leadership posts. For the 2019-20 election cycle through March, political action committees run by employees of drug companies and their trade groups gave her $98,500 in campaign funds, Kaiser Health News’ Pharma Cash to Congress database shows. That stands out in a Congress in which a third of the members got no pharma cash for the period and half of those who did got $10,000 or less. The contributions give companies a chance to cultivate Sinema as she restocks from a brutal 2018 election victory that cost nearly $25 million. Altogether, pharma PACs have so far given $9.2 million to congressional campaign chests in this cycle, compared with $9.4 million at this point in the 2017-18 period, a sustained surge as the industry has responded to complaints about soaring prices. Sinema’s pharma haul was twice that of Sen. Susan Collins of Maine, considered one of the most vulnerable Republicans in November, and approached that of fellow Democrat Steny Hoyer, the powerful House majority leader from Maryland. It all adds up to **a bet by drug companies that** the 43-year-old **Sinema**, first elected to the Senate in 2018, **will** gain influence in coming years and **serve as an industry ally** in a party that also includes many lawmakers harshly critical of high drug prices and the companies that set them.

#### Pharma backlash independently turns Case.

Huetteman 19 Emmarie Huetteman 2-26-2019 “Senators Who Led Pharma-Friendly Patent Reform Also Prime Targets For Pharma Cash” <https://khn.org/news/senators-who-led-pharma-friendly-patent-reform-also-prime-targets-for-pharma-cash/> (former NYT Congressional correspondent with an MA in public affairs reporting from Northwestern University’s Medill School)//Elmer

Early last year, as lawmakers vowed to curb rising drug prices, Sen. Thom Tillis was named chairman of the Senate Judiciary Committee’s subcommittee on intellectual property rights, a committee that had not met since 2007. As the new gatekeeper for laws and oversight of the nation’s patent system, the North Carolina Republican signaled he was determined to make it easier for American businesses to benefit from it — a welcome message to the drugmakers who already leverage patents to block competitors and keep prices high. Less than three weeks after introducing a bill that would make it harder for generic drugmakers to compete with patent-holding drugmakers, Tillis opened the subcommittee’s first meeting on Feb. 26, 2019, with his own vow. “From the United States Patent and Trademark Office to the State Department’s Office of Intellectual Property Enforcement, no department or bureau is too big or too small for this subcommittee to take interest,” he said. “And we will.” In the months that followed, tens of thousands of dollars flowed from pharmaceutical companies toward his campaign, as well as to the campaigns of other subcommittee members — including some who promised to stop drugmakers from playing money-making games with the patent system, like Sen. John Cornyn (R-Texas). Tillis received more than $156,000 from political action committees tied to drug manufacturers in 2019, more than any other member of Congress, a new analysis of KHN’s Pharma Cash to Congress database shows. Sen. Chris Coons (D-Del.), the top Democrat on the subcommittee who worked side by side with Tillis, received more than $124,000 in drugmaker contributions last year, making him the No. 3 recipient in Congress. No. 2 was Sen. Mitch McConnell (R-Ky.), who took in about $139,000. As the Senate majority leader, he controls what legislation gets voted on by the Senate. Neither Tillis nor Coons sits on the Senate committees that introduced legislation last year to lower drug prices through methods like capping price increases to the rate of inflation. Of the four senators who drafted those bills, none received more than $76,000 from drug manufacturers in 2019. Tillis and Coons spent much of last year working on significant legislation that would expand the range of items eligible to be patented — a change that some experts say would make it easier for companies developing medical tests and treatments to own things that aren’t traditionally inventions, like genetic code. They have not yet officially introduced a bill. As obscure as patents might seem in an era of public **outrage** **over** drug prices, the fact that **drugmakers** gave most **to** the **lawmakers working to change the patent system** belies how important securing **the exclusive right to market a drug, and keep competitors at bay, is to their bottom line**. “**Pharma will fight to the death to preserve patent rights**,” said Robin Feldman, a professor at the UC Hastings College of the Law in San Francisco who is an expert in intellectual property rights and drug pricing. “Strong patent rights are central to the games drug companies play to extend their monopolies and keep prices high.” Campaign contributions, closely tracked by the Federal Election Commission, are among the few windows into how much money flows from the political groups of drugmakers and other companies to the lawmakers and their campaigns. Private companies generally give money to members of Congress to encourage them to listen to the companies, typically through lobbyists, whose activities are difficult to track. They may also communicate through so-called dark money groups, which are not required to report who gives them money. Over the past 10 years, the **pharmaceutical industry** has **spent** about $**233 million per year on lobbying**, according to a new study published in JAMA Internal Medicine. That is more than any other industry, including the oil and gas industry. Why Patents Matter Developing and testing a new drug, and gaining approval from the Food and Drug Administration, can take years and cost hundreds of millions of dollars. Drugmakers are generally granted a six- or seven-year exclusivity period to recoup their investments. But drugmakers have found ways to extend that period of exclusivity, sometimes accumulating hundreds of patents on the same drug and blocking competition for decades. One method is to patent many inventions beyond a drug’s active ingredient, such as patenting the injection device that administers the drug. Keeping that arrangement intact, or expanding what can be patented, is where lawmakers come in. Lawmakers Dig In Tillis’ home state of North Carolina is also home to three major research universities and, not coincidentally, multiple drugmakers’ headquarters, factories and other facilities. From his swearing-in in 2015 to the end of 2018, Tillis received about $160,000 from drugmakers based there or beyond. He almost matched that four-year total in 2019 alone, in the midst of a difficult reelection campaign to be decided this fall. He has raised nearly $10 million for his campaign, with lobbyists among his biggest contributors, according to OpenSecrets. Daniel Keylin, a spokesperson for Tillis, said Tillis and Coons, the subcommittee’s top Democrat, are working to overhaul the country’s “antiquated intellectual property laws.” Keylin said the bipartisan effort protects the development and access to affordable, lifesaving medication for patients,” adding: “No contribution has any impact on how [Tillis] votes or legislates.” Tillis signaled his openness to the drug industry early on. The day before being named chairman, he reintroduced a bill that would limit the options generic drugmakers have to challenge allegedly invalid patents, effectively helping brand-name drugmakers protect their monopolies. Former Sen. Orrin Hatch (R-Utah), whose warm relationship with the drug industry was well-known, had introduced the legislation, the Hatch-Waxman Integrity Act, just days before his retirement in 2018. At his subcommittee’s first hearing, Tillis said the members would rely on testimony from private businesses to guide them. He promised to hold hearings on patent eligibility standards and “reforms to the Patent Trial and Appeal Board.” In practice, the Hatch-Waxman Integrity Act would require generics makers challenging another drugmaker’s patent to either take their claim to the Patent Trial and Appeal Board, which acts as a sort of cheaper, faster quality check to catch bad patents, or file a lawsuit. A study released last year found that, since Congress created the Patent Trial and Appeal Board in 2011, it has narrowed or overturned about 51% of the drugmaker patents that generics makers have challenged. Feldman said the drug industry “went berserk” over the number of patents the board changed and has been eager to limit use of the board as much as possible. Patent reviewers are often stretched thin and sometimes make mistakes, said Aaron Kesselheim, a Harvard Medical School professor who is an expert in intellectual property rights and drug development. Limiting the ways to challenge patents, as Tillis’ bill would, does not strengthen the patent system, he said. “You want overlapping oversight for a system that is as important and fundamental as this system is,” he said. As promised, Tillis and Coons also spent much of the year working on so-called Section 101 reform regarding what is eligible to be patented — “a very major change” that “would overturn more than a century of Supreme Court law,” Feldman said. Sean Coit, Coons’ spokesperson, said lowering drug prices is one of the senator’s top priorities and pointed to Coon’s support for legislation the pharmaceutical industry opposes. “One of the reasons Senator Coons is leading efforts in Congress to fix our broken patent system is so that life-saving medicines can actually be developed and produced at affordable prices for every American,” Coit wrote in an email, adding that “his work on Section 101 reform has brought together advocates from across the spectrum, including academics and health experts.” In August, when much of Capitol Hill had emptied for summer recess, Tillis and Coons held closed-door meetings to preview their legislation to stakeholders, including the Pharmaceutical Research and Manufacturers of America, or PhRMA, the brand-name drug industry’s lobbying group. “We regularly engage with members of Congress in both parties to advance practical policy solutions that will lower medicine costs for patients,” said Holly Campbell, a PhRMA spokesperson. Neither proposal has received a public hearing. In the 30 days before Tillis and Coons were named leaders of the revived subcommittee, drug manufacturers gave them $21,000 from their political action committees. In the 30 days following that first hearing, Tillis and Coons received $60,000. Among their donors were PhRMA; the Biotechnology Innovation Organization, the biotech lobbying group; and five of the seven drugmakers whose executives — as Tillis laid out a pharma-friendly agenda for his new subcommittee — were getting chewed out by senators in a different hearing room over patent abuse. Cornyn Goes After Patent Abuse Richard Gonzalez, chief executive of AbbVie Inc., the company known for its top-selling drug, Humira, had spent the morning sitting stone-faced before the Senate Finance Committee as, one after another, senators excoriated him and six other executives of brand-name drug manufacturers over how they price their products. Cornyn brought up AbbVie’s more than 130 patents on Humira. Hadn’t the company blocked its competition? Cornyn asked Gonzalez, who carefully explained how AbbVie’s lawsuit against a generics competitor and subsequent licensing deal was not what he would describe as anti-competitive behavior. “I realize it may not be popular,” Gonzalez said. “But I think it is a reasonable balance.” A minute later, Cornyn turned to Sen. Chuck Grassley (R-Iowa), who, like Cornyn, was also a member of the revived intellectual property subcommittee. This is worth looking into with “our Judiciary Committee authorities as well,” Cornyn said, effectively threatening legislation on patent abuse. The next day, Mylan, one of the largest producers of generic drugs, gave Cornyn $5,000, FEC records show. The company had not donated to Cornyn in years. By midsummer, every drug company that sent an executive to that hearing had given money to Cornyn, including AbbVie. Cornyn, who faces perhaps the most difficult reelection fight of his career this fall, ranks No. 6 among members of Congress in drugmaker PAC contributions last year, KHN’s analysis shows. He received about $104,000. Cornyn has received about $708,500 from drugmakers since 2007, KHN’s database shows. According to OpenSecrets, he has raised more than $17 million for this year’s reelection campaign. Cornyn’s office declined to comment. On May 9, Cornyn and Sen. Richard Blumenthal (D-Conn.) introduced the **Affordable Prescriptions for Patients Act,** which proposed to define two tactics used by drug companies to make it easier for the Federal Trade Commission to **prosecute** them: “**product-hopping**,” when drugmakers withdraw older versions of their drugs from the market to push patients toward newer, more expensive ones, and “**patent-thicketing**,” when drugmakers amass a series of patents to drag out their exclusivity and slow rival generics makers, who must challenge those patents to enter the market once the initial exclusivity ends. **PhRMA opposed the bill.** **The next day, it gave Cornyn $1,000**. Cornyn and Blumenthal’s bill would have been “very tough on the techniques that pharmaceutical companies use to extend patent protections and to keep prices high,” Feldman said. “The **pharmaceutical industry lobbied tooth and nail against it**,” she said. “And **when the bill finally came** out of committee, the strongest provisions — the **patent-thicketing provisions — had been stripped**.” In the months after the bill cleared committee and waited to be taken up by the Senate, Cornyn blamed Senate Democrats for blocking the bill while trying to secure votes on legislation with more direct controls on drug prices. The Senate has not voted on the bill.

#### Infrastructure reform solves Existential Climate Change – it results in spill-over.

USA Today 7-20 7-20-2021 "Climate change is at 'code red' status for the planet, and inaction is no longer an option" <https://www.usatoday.com/story/opinion/todaysdebate/2021/07/20/climate-change-biden-infrastructure-bill-good-start/7877118002/> //Elmer

**Not long ago**, **climate change** for many Americans **was** like **a distant bell**. News of starving polar bears or melting glaciers was tragic and disturbing, but other worldly. Not any more. **Top climate scientists** from around the world **warned of a "code red for humanity**" in a report issued Monday that says severe, human-caused global warming is become unassailable. Proof of the findings by the United Nations' Intergovernmental Panel on Climate Change is a now a factor of daily life. Due to **intense heat waves and drought**, 107 wildfires – including the largest ever in California – are now raging across the West, consuming 2.3 million acres. Earlier this summer, hundreds of people died in unprecedented triple-digit heat in Oregon, Washington and western Canada, when a "heat dome" of enormous proportions settled over the region for days. Some victims brought by stretcher into crowded hospital wards had body temperatures so high, their nervous systems had shut down. People collapsed trying to make their way to cooling shelters. Heat-trapping greenhouse gases Scientists say the event was almost **certainly made worse and more intransigent by human-caused climate change**. They attribute it to a combination of warming Arctic temperatures and a growing accumulation of heat-trapping greenhouse gases caused by the burning of fossil fuels. The **consequences of** what mankind has done to the atmo**sphere are now inescapable**. Periods of **extreme heat** are projected to **double** in the lower 48 states by 2100. **Heat deaths** are far **outpacing every other form of weather killer** in a 30-year average. A **persistent megadrought** in America's West continues to create tinder-dry conditions that augur another devastating wildfire season. And scientists say **warming oceans** are **fueling** ever **more powerful storms**, evidenced by Elsa and the early arrival of hurricane season this year. Increasingly severe weather is causing an estimated $100 billion in damage to the United States every year. "It is honestly surreal to see your projections manifesting themselves in real time, with all the suffering that accompanies them. It is heartbreaking," said climate scientist Katharine Hayhoe. **Rising seas** from global warming Investigators are still trying to determine what led to the collapse of a Miami-area condominium that left more than 100 dead or missing. But one concerning factor is the corrosive effect on reinforced steel structures of encroaching saltwater, made worse in Florida by a foot of rising seas from global warming since the 1900s. The clock is ticking for planet Earth. While the U.N. report concludes some level of severe climate change is now unavoidable, there is still a window of time when far more catastrophic events can be mitigated. But mankind must act soon to curb the release of heat-trapping gases. Global **temperature** has **risen** nearly **2 degrees** Fahrenheit since the pre-industrial era of the late 19th century. Scientists warn that in a decade, it could surpass a **2.7**-degree increase. That's **enough** warming **to cause catastrophic climate changes**. After a brief decline in global greenhouse gas emissions during the pandemic, pollution is on the rise. Years that could have been devoted to addressing the crisis were wasted during a feckless period of inaction by the Trump administration. Congress must act Joe Biden won the presidency promising broad new policies to cut America's greenhouse gas emissions. But Congress needs to act on those ideas this year. Democrats cannot risk losing narrow control of one or both chambers of Congress in the 2022 elections to a Republican Party too long resistant to meaningful action on the climate. So what's at issue? A trillion dollar **infrastructure bill** negotiated between Biden and a group of centrist senators (including 10 Republicans) is a start. In addition to repairing bridges, roads and rails, it would **improve access** by the nation's power infrastructure **to renewable energy sources,** **cap millions of abandoned oil and gas wells spewing greenhouse gases**, **and harden structures against climate change**. It also **offers tax credits for** the **purchase of electric vehicles** and funds the construction of charging stations. (**The nation's largest source of climate pollution are gas-powered vehicles**.) Senate approval could come very soon. Much **more is needed** if the nation is going to reach Biden's necessary goal of cutting U.S. climate pollution in half from 2005 levels by 2030. His ideas worth considering include a federal clean electricity standard for utilities, federal investments and tax credits to promote renewable energy, and tens of billions of dollars in clean energy research and development, including into ways of extracting greenhouse gases from the skies. Another idea worth considering is a fully refundable carbon tax. **The vehicle** for these additional proposals **would be a second infrastructure bill**. And if Republicans balk at the cost of such vital investment, Biden is rightly proposing to pass this package through a process known as budget reconciliation, which allows bills to clear the Senate with a simple majority vote. These are drastic legislative steps. But drastic times call for them. And when Biden attends a U.N. climate conference in November, he can use American progress on climate change as a mean of persuading others to follow our lead. Further delay is not an option.

### 1NC – 4

#### CP Text: the United States should

#### -invest $25 billion into 25 production lines dedicated solely to COVID-19 vaccines to boost global vaccine production managed by the Biomedical Advanced Research and Development Authority.

#### -distribute 8 billion doses of COVID vaccines using an equitable distribution framework prioritizing developing countries in the Global South.

#### The CP solves the entirety of the case and does it faster.

Stankiewicz 21 Mike Stankiewicz 5-6-2021"Opinion: For just $25 billion, the U.S. could jump-start a project to quickly vaccinate the entire world against COVID" <https://www.marketwatch.com/story/for-just-25-billion-the-u-s-could-jump-start-a-project-to-quickly-vaccinate-the-entire-world-against-covid-11614898552> (a press officer in Public Citizen's communication's department, where he focuses on legislative policy and health-orientated advocacy)

Despite wealthy countries such as the U.S. ramping up COVID-19 vaccination efforts, it still may take years to vaccinate the world, especially poorer countries, and the economic and humanitarian impacts could be devastating. But an injection of just $25 billion into global vaccine production efforts by the U.S. government could save millions of lives and help prevent economic disaster. The most up-to-date numbers paint incredibly different futures between wealthy and low-income countries. At the current rate of vaccination, analysts predict that developing countries, including almost all of Southeast Asia, may not reach meaningful vaccine coverage until 2023. Comparatively, President Joe Biden has promised that the U.S. will have enough vaccine doses to inoculate every adult within the next three months. Increased fatalities And as wealthy countries such as the U.S. are starting to see lower death, transmission and hospitalization rates, low-income countries are experiencing increased hardship and fatalities. Countries such as Hungry are being forced to tighten restrictions as infection rates increase, and deaths in Africa have spiked by 40% in the past month, according to the World Health Organization (WHO). No country can be left behind in this global pandemic, and the U.S. is in a unique position to make sure every country gets the ample amount of vaccines they need. Public Citizen research has found that just a $25 billion investment in COVID-19 vaccine production by the U.S. government would produce enough vaccine for developing countries, potentially shaving years from the global pandemic. Public Citizen estimates that 8 billion doses of National Institutes of Health-Moderna MRNA, +1.98% vaccine can be produced for just over $3 per dose. To bolster production and supply the necessary 8 billion doses, it would take $1.9 billion to fund the necessary 25 production lines. Another $19 billion would pay for materials and labor, and $3 billion would compensate Moderna for making technology available to manufacturers in other countries. An additional $500 million would cover costs to staff and run a rapid-response federal program that provides technical assistance and facilitates technology transfer to manufacturers and works with the WHO’s technology hub**.** In total, vaccinating the world would cost less than 1.4% the total of Biden’s $1.9 trillion COVID relief plan. But such a program also needs to be properly managed to be successful. To help facilitate these efforts, the Biden administration should also designate the government’s Biomedical Advanced Research and Development Authority (BARDA) to lead the world-wide vaccine manufacturing effort. BARDA has the necessary experience to coordinate an initiative of this scale with the WHO, building on its partnership to build pandemic flu manufacturing capacity in developing countries after the bird-flu scare of 2006. Widespread vaccines would help U.S. economy These efforts would dramatically increase access to vaccines in developing countries and speed up global vaccination by years, saving countless lives. But allowing the current vaccine supply crisis to continue is not just inhumane, it is also not in our own economic interest to do so.

## Framework

### 1NC---Plummer

#### Reducing existential risks is the top priority in any coherent moral theory

Plummer 15 (Theron, Philosophy @St. Andrews http://blog.practicalethics.ox.ac.uk/2015/05/moral-agreement-on-saving-the-world/)

There appears to be lot of disagreement in moral philosophy. Whether these many apparent disagreements are deep and irresolvable, I believe there is at least one thing it is reasonable to agree on right now, whatever general moral view we adopt: that it is very important to reduce the risk that all intelligent beings on this planet are eliminated by an enormous catastrophe, such as a nuclear war. How we might in fact try to reduce such existential risks is discussed elsewhere. My claim here is only that we – whether we’re consequentialists, deontologists, or virtue ethicists – should all agree that we should try to save the world. According to consequentialism, we should maximize the good, where this is taken to be the goodness, from an impartial perspective, of outcomes. Clearly one thing that makes an outcome good is that the people in it are doing well. There is little disagreement here. If the happiness or well-being of possible future people is just as important as that of people who already exist, and if they would have good lives, it is not hard to see how reducing existential risk is easily the most important thing in the whole world. This is for the familiar reason that there are so many people who could exist in the future – there are trillions upon trillions… upon trillions. There are so many possible future people that reducing existential risk is arguably the most important thing in the world, even if the well-being of these possible people were given only 0.001% as much weight as that of existing people. Even on a wholly person-affecting view – according to which there’s nothing (apart from effects on existing people) to be said in favor of creating happy people – the case for reducing existential risk is very strong. As noted in this seminal paper, this case is strengthened by the fact that there’s a good chance that many existing people will, with the aid of life-extension technology, live very long and very high quality lives. You might think what I have just argued applies to consequentialists only. There is a tendency to assume that, if an argument appeals to consequentialist considerations (the goodness of outcomes), it is irrelevant to non-consequentialists. But that is a huge mistake. Non-consequentialism is the view that there’s more that determines rightness than the goodness of consequences or outcomes; it is not the view that the latter don’t matter. Even John Rawls wrote, “All ethical doctrines worth our attention take consequences into account in judging rightness. One which did not would simply be irrational, crazy.” Minimally plausible versions of deontology and virtue ethics must be concerned in part with promoting the good, from an impartial point of view. They’d thus imply very strong reasons to reduce existential risk, at least when this doesn’t significantly involve doing harm to others or damaging one’s character. What’s even more surprising, perhaps, is that even if our own good (or that of those near and dear to us) has much greater weight than goodness from the impartial “point of view of the universe,” indeed even if the latter is entirely morally irrelevant, we may nonetheless have very strong reasons to reduce existential risk. Even egoism, the view that each agent should maximize her own good, might imply strong reasons to reduce existential risk. It will depend, among other things, on what one’s own good consists in. If well-being consisted in pleasure only, it is somewhat harder to argue that egoism would imply strong reasons to reduce existential risk – perhaps we could argue that one would maximize her expected hedonic well-being by funding life extension technology or by having herself cryogenically frozen at the time of her bodily death as well as giving money to reduce existential risk (so that there is a world for her to live in!). I am not sure, however, how strong the reasons to do this would be. But views which imply that, if I don’t care about other people, I have no or very little reason to help them are not even minimally plausible views (in addition to hedonistic egoism, I here have in mind views that imply that one has no reason to perform an act unless one actually desires to do that act). To be minimally plausible, egoism will need to be paired with a more sophisticated account of well-being. To see this, it is enough to consider, as Plato did, the possibility of a ring of invisibility – suppose that, while wearing it, Ayn could derive some pleasure by helping the poor, but instead could derive just a bit more by severely harming them. Hedonistic egoism would absurdly imply she should do the latter. To avoid this implication, egoists would need to build something like the meaningfulness of a life into well-being, in some robust way, where this would to a significant extent be a function of other-regarding concerns (see chapter 12 of this classic intro to ethics). But once these elements are included, we can (roughly, as above) argue that this sort of egoism will imply strong reasons to reduce existential risk. Add to all of this Samuel Scheffler’s recent intriguing arguments (quick podcast version available here) that most of what makes our lives go well would be undermined if there were no future generations of intelligent persons. On his view, my life would contain vastly less well-being if (say) a year after my death the world came to an end. So obviously if Scheffler were right I’d have very strong reason to reduce existential risk. We should also take into account moral uncertainty. What is it reasonable for one to do, when one is uncertain not (only) about the empirical facts, but also about the moral facts? I’ve just argued that there’s agreement among minimally plausible ethical views that we have strong reason to reduce existential risk – not only consequentialists, but also deontologists, virtue ethicists, and sophisticated egoists should agree. But even those (hedonistic egoists) who disagree should have a significant level of confidence that they are mistaken, and that one of the above views is correct. Even if they were 90% sure that their view is the correct one (and 10% sure that one of these other ones is correct), they would have pretty strong reason, from the standpoint of moral uncertainty, to reduce existential risk. Perhaps most disturbingly still, even if we are only 1% sure that the well-being of possible future people matters, it is at least arguable that, from the standpoint of moral uncertainty, reducing existential risk is the most important thing in the world. Again, this is largely for the reason that there are so many people who could exist in the future – there are trillions upon trillions… upon trillions. (For more on this and other related issues, see this excellent dissertation). Of course, it is uncertain whether these untold trillions would, in general, have good lives. It’s possible they’ll be miserable. It is enough for my claim that there is moral agreement in the relevant sense if, at least given certain empirical claims about what future lives would most likely be like, all minimally plausible moral views would converge on the conclusion that we should try to save the world. While there are some non-crazy views that place significantly greater moral weight on avoiding suffering than on promoting happiness, for reasons others have offered (and for independent reasons I won’t get into here unless requested to), they nonetheless seem to be fairly implausible views. And even if things did not go well for our ancestors, I am optimistic that they will overall go fantastically well for our descendants, if we allow them to. I suspect that most of us alive today – at least those of us not suffering from extreme illness or poverty – have lives that are well worth living, and that things will continue to improve. Derek Parfit, whose work has emphasized future generations as well as agreement in ethics, described our situation clearly and accurately: “We live during the hinge of history. Given the scientific and technological discoveries of the last two centuries, the world has never changed as fast. We shall soon have even greater powers to transform, not only our surroundings, but ourselves and our successors. If we act wisely in the next few centuries, humanity will survive its most dangerous and decisive period. Our descendants could, if necessary, go elsewhere, spreading through this galaxy…. Our descendants might, I believe, make the further future very good. But that good future may also depend in part on us. If our selfish recklessness ends human history, we would be acting very wrongly.” (From chapter 36 of On What Matters)

### AT: Trade-offs

#### 1---Trade-offs are inevitable even under their framework but it’s a question of calculating the harm of those tradeoffs---their framework justifies worse modes of policy obstruction and subjective value adjustments

#### 2---Independently creates terrible policymaking---policymakers make thousands of choices like this every year, and even if an existential risk is .001 percent, they’d trigger a nuclear war given literally three years which proves the “ignore 1 percent” framing is ethically bankrupt

### AT: No act-omission

#### ---Creating ethical maxims to create the greatest good doesn’t solve their offense based on attempting to calculate maximum utility, and doesn’t solve our arbitrariness offense because its just utilitarianism but you have to follow it, and maxims have to change based on evolving understandings of good

### AT: Kessler

#### 1---Probability 1st Collapses – everything can be more probable in the absolute AND impossible to measure risk of probability which links to the paralysis argument

#### 2---We’re not the “most absurd scenarios”---we have robust proof of our internal links, and impacts---the bright line is arbitrary and low

#### 3---Weigh magnitude times probability---“probability first” framing is rooted in psychological biases and leads to mass death

Clarke 08 [Lee, member of a National Academy of Science committee that considered decision-making models, Anschutz Distinguished Scholar at Princeton University, Fellow of AAAS, Professor Sociology (Rutgers), Ph.D. (SUNY), “Possibilistic Thinking: A New Conceptual Tool for Thinking about Extreme Events,” Fall, Social Research 75.3, JSTOR]

In scholarly work, the subfield of disasters is often seen as narrow. One reason for this is that a lot of scholarship on disasters is practically oriented, for obvious reasons, and the social sciences have a deep-seated suspicion of practical work. This is especially true in sociology. Tierney (2007b) has treated this topic at length, so there is no reason to repeat the point here. There is another, somewhat unappreciated reason that work on disaster is seen as narrow, a reason that holds some irony for the main thrust of my argument here: disasters are unusual and the social sciences are generally biased toward phenomena that are frequent. Methods textbooks caution against using case stud- ies as representative of anything, and articles in mainstreams journals that are not based on probability samples must issue similar obligatory caveats. The premise, itself narrow, is that the only way to be certain that we know something about the social world, and the only way to control for subjective influences in data acquisition, is to follow the tenets of probabilistic sampling. This view is a correlate of the central way of defining rational action and rational policy in academic work of all varieties and also in much practical work, which is to say in terms of probabilities. The irony is that probabilistic thinking has its own biases, which, if unacknowledged and uncorrected for, lead to a conceptual neglect of extreme events. This leaves us, as scholars, paying attention to disasters only when they happen and doing that makes the accumulation of good ideas about disaster vulnerable to issue-attention cycles (Birkland, 2007). These conceptual blinders lead to a neglect of disasters as "strategic research sites" (Merton, 1987), which results in learning less about disaster than we could and in missing opportunities to use disaster to learn about society (cf. Sorokin, 1942). We need new conceptual tools because of an upward trend in frequency and severity of disaster since 1970 (Perrow, 2007), and because of a growing intellectual attention to the idea of worst cases (Clarke, 2006b; Clarke, in press). For instance, the chief scientist in charge of studying earthquakes for the US Geological Service, Lucile Jones, has worked on the combination of events that could happen in California that would constitute a "give up scenario": a very long-shaking earthquake in southern California just when the Santa Anna winds are making everything dry and likely to burn. In such conditions, meaningful response to the fires would be impossible and recovery would take an extraordinarily long time. There are other similar pockets of scholarly interest in extreme events, some spurred by September 11 and many catalyzed by Katrina. The consequences of disasters are also becoming more severe, both in terms of lives lost and property damaged. People and their places are becoming more vulnerable. The most important reason that vulnerabilities are increasing is population concentration (Clarke, 2006b). This is a general phenomenon and includes, for example, flying in jumbo jets, working in tall buildings, and attending events in large capacity sports arenas. Considering disasters whose origin is a natural hazard, the specific cause of increased vulnerability is that people are moving to where hazards originate, and most especially to where the water is. In some places, this makes them vulnerable to hurricanes that can create devastating storm surges; in others it makes them vulnerable to earthquakes that can create tsunamis. In any case, the general problem is that people concentrate themselves in dangerous places, so when the hazard comes disasters are intensified. More than one-half of Florida's population lives within 20 miles of the sea. Additionally, Florida's population grows every year, along with increasing development along the coasts. The risk of exposure to a devastating hurricane is obviously high in Florida. No one should be surprised if during the next hurricane season Florida becomes the scene of great tragedy. The demographic pressures and attendant development are wide- spread. People are concentrating along the coasts of the United States, and, like Florida, this puts people at risk of water-related hazards. Or consider the Pacific Rim, the coastline down the west coasts of North and South America, south to Oceania, and then up the eastern coast- line of Asia. There the hazards are particularly threatening. Maps of population concentration around the Pacific Rim should be seen as target maps, because along those shorelines are some of the most active tectonic plates in the world. The 2004 Indonesian earthquake and tsunami, which killed at least 250,000 people, demonstrated the kind of damage that issues from the movement of tectonic plates. (Few in the United States recognize that there is a subduction zone just off the coast of Oregon and Washington that is quite similar to the one in Indonesia.) Additionally, volcanoes reside atop the meeting of tectonic plates; the typhoons that originate in the Pacific Ocean generate furiously fatal winds. Perrow (2007) has generalized the point about concentration, arguing not only that we increase vulnerabilities by increasing the breadth and depth of exposure to hazards but also by concentrating industrial facilities with catastrophic potential. Some of Perrow's most important examples concern chemical production facilities. These are facilities that bring together in a single place multiple stages of production used in the production of toxic substances. Key to Perrow's argument is that there is no technically necessary reason for such concentration, although there may be good economic reasons for it. The general point is that we can expect more disasters, whether their origins are "natural" or "technological." We can also expect more death and destruction from them. I predict we will continue to be poorly prepared to deal with disaster. People around the world were appalled with the incompetence of America's leaders and orga- nizations in the wake of Hurricanes Katrina and Rita. Day after day we watched people suffering unnecessarily. Leaders were slow to grasp the importance of the event. With a few notable exceptions, organi- zations lumbered to a late rescue. Setting aside our moral reaction to the official neglect, perhaps we ought to ask why we should have expected a competent response at all? Are US leaders and organiza- tions particularly attuned to the suffering of people in disasters? Is the political economy of the United States organized so that people, espe- cially poor people, are attended to quickly and effectively in noncri- sis situations? The answers to these questions are obvious. If social systems are not arranged to ensure people's well-being in normal times, there is no good reason to expect them to be so inclined in disastrous times. Still, if we are ever going to be reasonably well prepared to avoid or respond to the next Katrina-like event, we need to identify the barriers to effective thinking about, and effective response to, disas- ters. One of those barriers is that we do not have a set of concepts that would help us think rigorously about out-sized events. The chief toolkit of concepts that we have for thinking about important social events comes from probability theory. There are good reasons for this, as probability theory has obviously served social research well. Still, the toolkit is incomplete when it comes to extreme events, especially when it is used as a base whence to make normative judgments about what people, organizations, and governments should and should not do. As a complement to probabilistic thinking I propose that we need possibilistic thinking. In this paper I explicate the notion of possibilistic thinking. I first discuss the equation of probabilism with rationality in scholarly thought, followed by a section that shows the ubiquity of possibilis- tic thinking in everyday life. Demonstrating the latter will provide an opportunity to explore the limits of the probabilistic approach: that possibilistic thinking is widespread suggests it could be used more rigorously in social research. I will then address the most vexing prob- lem with advancing and employing possibilistic thinking: the prob- lem of infinite imagination. I argue that possibilism can be used with discipline, and that we can be smarter about responding to disasters by doing so.

### AT: Structural Violence First

#### 1---Prefer util---even if its flawed, alternatives are worse because they justify the same ends but create decision paralysis, and requires saying some lives are more valuable than others, which turns all their impacts

#### 2---Tautological---devolves into consequentialism---either their maxims are created to minimize harm, which means they’re utilitarian consequentialist, or they’re inflexible in cases of moral atrocity worse than utilitarianism because they requires saving some people over others

#### 3---Not our util---utilitarian framework wouldn’t justify atrocities like slavery because the magnitude of the harm to a smaller group still outweighs

### AT: Particularity/Research

#### 1---We better access Particularity.

Yudkowsky, ‘8 Eliezer Yudkowsky, co-founder and research fellow at the Machine Intelligence Research Institute 2008, “Cognitive Biases Potentially Affecting Judgment of Global Risks”, In Global Catastrophic Risks, edited by Nick Bostrom and Milan M. Ćirković, New York: Oxford University Press, [https://intelligence.org/files/CognitiveBiases.pdf](about:blank), EO

Every true idea which discomforts you will seem to match the pattern of at least one psychological error.

Robert Pirsig said: “The world’s biggest fool can say the sun is shining, but that doesn’t make it dark out.” If you believe someone is guilty of a psychological error, then demonstrate your competence by first demolishing their consequential factual errors. If there are no factual errors, then what matters the psychology? The temptation of psychology is that, knowing a little psychology, we can meddle in arguments where we have no technical expertise—instead sagely analyzing the psychology of the disputants.

If someone wrote a novel about an asteroid strike destroying modern civilization, then someone might criticize that novel as extreme, dystopian, apocalyptic; symptomatic of the author’s naive inability to deal with a complex technological society. We should recognize this as a literary criticism, not a scientific one; it is about good or bad novels, not good or bad hypotheses. To quantify the annual probability of an asteroid strike in real life, one must study astronomy and the historical record: no amount of literary criticism can put a number on it. Garreau (2005) seems to hold that a scenario of a mind slowly increasing in capability, is more mature and sophisticated than a scenario of extremely rapid intelligence increase. But that’s a technical question, not a matter of taste; no amount of psychologizing can tell you the exact slope of that curve.

It’s harder to abuse heuristics and biases than psychoanalysis. Accusing someone of conjunction fallacy leads naturally into listing the specific details that you think are burdensome and drive down the joint probability. Even so, do not lose track of the real-world facts of primary interest; do not let the argument become about psychology.

### AT: Racism First

#### 1---Requires winning a tradeoff between their framing and ours solving ongoing/racially discriminatory harms which is false---war makes all their harms worse OR we solve all the racism offense

#### 2---No tradeoff and preventing war turns case

John **Horgan 14**. Director of the Center for Science Writings at Stevens Institute of Technology, “To End War, Focus on Culture Rather than "Root Causes"”, Scientific American, 8-18, https://blogs.scientificamerican.com/cross-check/to-end-war-focus-on-culture-rather-than-root-causes/

When I started researching war, I also assumed that to get rid of war, we have to get rid of its root causes. The trouble is, scholars have identified countless causes of war. One pseudo-explanation (which I'm glad Kloor does not mention, and which I rebut early on in my book and in posts such as this) is that war stems from a compulsion bred into our ancestors by natural selection. Biology underpins war, as it underpins all human behaviors. The crucial question is, why does war break out in certain places and times and not others? The most popular non-biological explanations of war are what I call the Malthusian and Marxist hypotheses. The first posits that war stems from our tendency to over-reproduce and hence fight over land and other resources. The second holds that war stems from inequality, the tendency of societies (especially capitalist ones) to divide into haves and have-nots. Scholars have also blamed wars on religion, racism and nationalism, which Kloor mentions above, as well as such fundamental social traits as hierarchy, sexism and injustice. If you cherry pick, you always find evidence to support your favorite theory. But as scholars such as Lewis Fry Richardson (whom my friend David Berreby recently profiled) have shown, neither the Malthusian and Marxist theories nor any of the other explanations above can account for the vast diversity of wars. Moreover, some factors that provoke conflict, such as religion, can also inhibit it. Religion has inspired some of our greatest antiwar leaders, notably Gandhi and Martin Luther King. I have found only one theory of war that fits the facts. The theory holds that war is a self-perpetuating, contagious meme, which can propagate independently of other social and environmental factors. As anthropologist Margaret Mead put it in a famous 1940 essay, "Warfare Is Only an Invention—Not a Biological Necessity." In other words, the major cause of war is war itself, which has a terrible tendency to spread even to societies that would prefer to remain peaceful. I make this point in my book and in a 2010 blog post, "Margaret Mead’s war theory kicks butt of neo-Darwinian and Malthusian models." Here is an edited excerpt: In his 1997 book War Before Civilization, anthropologist Lawrence Keeley notes that war among North American Indians often stemmed from the aggression of just a few extremely warlike tribes, "rotten apples that spoiled their regional barrels." He added, "Less aggressive societies, stimulated by more warlike groups in their vicinity, become more bellicose themselves." Societies in a violent region, the political scientist Azar Gat emphasizes in his 2006 book War in Human Civilization, have a strong incentive to carry out preemptive attacks. Societies may "attack the other side in order to eliminate or severely weaken them as a potential enemy. Indeed, this option only makes the other side more insecure, rendering the security dilemma more acute. War can thus become a self-fulfilling prophecy. The fear of war breeds war." Many people are pessimistic about ending war because they assume it will require radical social engineering. World peace will require eliminating poverty, inequality, sexism, racism or [fill in the blank]. We will need to eradicate religion, or all embrace the same religion. We will need to get rid of all nation states and become anarchists, or form a single global government. My analysis of war suggests that if we want to end war, we don't need to create a society radically different from our own, let alone a utopia. If we want to end war, we should //

focus on ending war and the culture of war rather than on supposed causal factors. If we can do that, we will take a major step toward solving many of our other social problems, as I argued in my previous post. And that brings me to Keith Kloor's final challenge to me. He devotes much of his column to a discussion of how extremists on both sides of the conflict between Israel and Palestine have "hijacked the peace process. Horrific spasmodic cycles of violence and death is the result." He asks me how we can "rid the world of extremist groups that sow the seeds of war." Kloor has his causation backwards. Just as war promotes poverty, tyranny, inequality and resource depletion at least as much as vice versa, so war promotes fanaticism. Once militarism seizes hold of a society, it can transform vast populations into virtual sociopaths. It turns decent, ethical, reasonable people into intolerant fanatics capable of the most heinous acts. Breaking out of what Kloor calls "spasmodic cycles of violence and death" can be extraordinarily difficult, but history offers many examples of societies that have done just that. Germany and France were bitter, bloody rivals for centuries. But it is now inconceivable that Germany and France—or any members of the European Union--would go to war against each other. One of my favorite examples of a nation that has renounced militarism is Costa Rica. Like many of its neighbors in Central American, Costa was once wracked by terrible violence. But after a bloody civil war in the 1940s, Costa Rica disbanded its army, freeing up more funds for education, health care, transportation and tourism. It is often ranked as one of the most peaceful, healthy, "happy" nations in the world.

### AT: Predictions

#### 1---Make them indict our internal links---their interp justifies arbitrarily lowering the risk of dropped args, which breaks the game and collapses into endless judge intervention based on how likely you think the DA is

#### 2---They have to win this creates a tiny risk of our impacts for you to disregard them entirely---even if they’re bad, ignoring ex risks is worse.

## Advantage

### 1NC – AT: Solvency

#### Lack of access is not a result of IP, but lack of infrastructure – rather IP is key to ensure high quality vaccines that pass regulatory hurdles, which means the plan actually reduces access

Stevens, Philip, and Mark Schultz 1/14. “Why Intellectual Property Rights Matter for COVID-19 - Geneva Network - Intellectual Property Rights and Covid-19.” Geneva Network, 14 Jan. 2021, geneva-network.com/research/why-intellectual-property-rights-matter-for-covid-19/. Philip Stevens in the Founder and Executive Director of Geneva Network. He is also a Senior Fellow at the Institute for Democracy and Economic Affairs, Malaysia.; Professor Mark F. Schultz is the Goodyear Tire & Rubber Company Endowed Chair in Intellectual Property Law, the Director of the Intellectual Property and Technology Law Program at the University of Akron School of Law. He was a professor at Southern Illinois University School of Law for 16 years and was co-founder and a leader of the Center for Protection of Intellectual Property (CPIP) at George Mason University in Washington, D.C., where he remains a non-resident Senior Scholar. He also serves as a Senior Fellow of the Geneva Network. //sid

IP has underpinned the research and development that has led to the arrival of several game-changing vaccines. But the challenge does not end there. Perhaps the biggest hurdle is manufacturing billions of doses or new antibody treatments while maintaining the highest quality standards. There’s more to it than starting a global manufacturing free for all by overriding or ignoring patents. A spokesperson for Regeneron, a manufacturer of a novel COVID-19 antibody treatment explained to [The Lancet](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)32581-2/fulltext): “Manufacturing antibody medicines is incredibly complex and transferring the technology takes many months, as well as significant resources and skill. Unfortunately, it is not as simple as putting a recipe on the internet and committing to not sue other companies during the pandemic”. [John-Arne Røttingen](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)32581-2/fulltext), chair of the WHO COVID-19 Solidarity trial, explains that technology transfer will be crucial to scaling up production, but voluntary mechanisms are better: “If you want to establish a biological production line, you need a lot of additional information, expertise, processes, and biological samples, cell lines, or bacteria” to be able to document to regulatory agencies that you have an identical product, he explains. The TRIPS waiver, he says, is the “wrong approach” because COVID-19 therapeutics and vaccines are complex biological products in which the main barriers are production facilities, infrastructure, and know-how. “IP is the least of the barriers”, [he says](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)32581-2/fulltext). Then there is the problem of distributing the vaccines to billions of people in every country. Even with plentiful supplies, a [range of issues](https://www.statnews.com/2020/12/15/dont-repeat-mistakes-past-vaccine-supply-chains/) need to be considered such as regulatory bottlenecks; supply chain, transport and storage; maintenance of the cold chain; adequately trained staff; data tracking; and vaccine hesitancy amongst the population. The costs of the vaccine itself is only a small component of the total cost of delivering doses to millions of people. The UK, for example, has spent around £2.9bn on procuring vaccines, far less than the official [estimate](https://www.ft.com/content/58b11945-71b1-4f96-b389-695e162642fb) of £8.8bn to be spent on distributing and delivering them. Comparable costs will exist for all other countries, even if they are subsidised by Overseas Development Assistance. Even then, the combined costs of vaccination are dwarved by the other economic costs of the pandemic. IP is part of the solution Far from being a problem, IP has repeatedly proven itself to be part of the solution in fighting disease. It allows innovators to manage production scale-up by selecting and licensing technology to partners who have the skills and capacity to reliably manufacture large quantities of high-quality products, which they distribute at scale in low and middle-income countries. It would make no sense for IP owners to use it to withhold access, when they can profit from supplying all demand. IP licensing is the way this is done. This is the model unfolding for COVID-19, with new manufacturing licensing deals such as those between AstraZeneca and the Serum Institute in India (1bn doses), China’s [BioKangtai](https://www.fiercepharma.com/manufacturing/astrazeneca-takes-covid-19-vaccine-to-china-biokangtai-deal-for-200m-dose-capacity-by) (200m doses), Brazil’s FioCruz, Russia’s R-Pharm and South Korea’s SK Bioscience. Collectively, such deals will see the manufacture of [2 billion doses](https://www.fiercepharma.com/manufacturing/astrazeneca-takes-covid-19-vaccine-to-china-biokangtai-deal-for-200m-dose-capacity-by) by the end of 2021. The Serum Institute has also entered into manufacturing licenses with a number of developers of yet to be approved COVID-19 vaccines, as have several other [Indian vaccine manufacturers](https://www.contractpharma.com/content-microsite/covid-19/2020-10-20/india-emerges-as-hot-spot-for-manufacturing-covid-19-vaccines). Many of these doses will be procured on a non-profit basis by new collective procurement bodies such as COVAX, for distribution to low and middle-income countries. IP is important because it allows the innovator to control which partners manufacture the product, ensuring the quality of supplies, while maximising low-cost access for low and middle-income countries. It also allows the innovator to preserve its ability to recoup costs from richer markets, meaning the preservation of incentives for future R&D investment. Voluntary licensing has worked well in the past, particularly for low and middle-income countries. A recent academic analysis of hepatitis C voluntary licenses published by The [Lancet Global Health](https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(19)30266-9/fulltext#seccestitle150)concluded that they have increased access to medicines at a considerably faster pace than alternative access models, by avoiding the need for lengthy patent disputes and bringing to bear inter-company competition and economies of scale.

### 1NC – AT: Minorities

#### Empirics prove that low quality vaccines cause vaccine hesitancy, particularly among minority communities, which flips the aff impacts.

Cunningham 5/6, Paige Winfield. “Analysis | the HEALTH 202: The Johnson & Johnson Pause Did Hurt Vaccine Acceptance, a Poll Finds.” The Washington Post, WP Company, 6 May 2021, www.washingtonpost.com/politics/2021/05/06/health-202-johnson-johnson-pause-did-hurt-vaccine-acceptance-poll-finds/. //sid

Some experts predicted the Biden administration’s temporary pause on use of Johnson & Johnson’s [coronavirus](https://www.washingtonpost.com/coronavirus/?itid=lk_inline_manual_2) vaccine would worsen vaccine hesitancy. Now a new poll indicates it did result in fewer Americans being willing to get that vaccine and the shots made by Pfizer and Moderna. Nearly 1 in 5 unvaccinated adults say they changed their minds about getting vaccinated because of the pause. In a new Kaiser Family Foundation [poll](https://www.kff.org/coronavirus-covid-19/poll-finding/kff-covid-19-vaccine-monitor-april-2021/), 9 percent of unvaccinated adults said the pause made them less likely to want the Johnson & Johnson vaccine. Seven percent said it made them less likely to want any of the vaccines. And 4 percent said it changed their thoughts about the vaccines in some other way. The findings seem to support concerns that suspending use of the vaccine for a week and a half in April would undermine public confidence in it. Federal health agencies were initially reacting to six cases of severe blood clots among 7 million Americans who had received the single-dose shot. Ten days later, after ultimately reviewing 15 cases in which people developed clots, an advisory panel to the Centers for Disease Control and Prevention voted to resume the shots. But some vaccine experts questioned the decision to pause use of Johnson & Johnson’s vaccine at all, considering how extremely rare the cases were. [As we noted at the time](https://www.washingtonpost.com/politics/2021/04/14/health-202-some-experts-are-criticizing-decision-pause-johnson-johnson-vaccine/?itid=lk_inline_manual_12), even younger people in their 20s and 30s were far, far more likely to die of covid-19 than of complications from the vaccine. The Johnson & Johnson pause had a particular effect on Hispanic women. The Kaiser Family Foundation poll found that 39 percent of Hispanic women said the pause changed their thinking on vaccines, with 15 percent saying that the pause made them less likely to want the Johnson & Johnson vaccine and 18 percent saying that it made them less likely to want any vaccine. ‘

### 1NC – AT: Plan

#### The first piece of Vanni evidence has no warrants for IP being the cause – rather it’s saying that lack of access to healthcare is what is causing disproportionate minority deaths.

#### 1AC solvency is contingent on winning that a vaccine waiver would solve COVID

### 1NC – AT: Distribution

#### TRIPs waiver is a symbolic gesture that prevents vaccine production and distribution

Ikenson 6/25 [(Dan, former director of the Cato Institute's Herbert A. Stiefel Center for Trade Policy Studies, MA in economics from George Washington University) “Stop Blaming Patents For The World’s Low Vaccination Rates,” Forbes, 6/25/2021] JL

The premise of the need for a TRIPS waiver is simply absurd. It serves to divert attention from the failures of governments to protect their citizens with smart public health policies and, importantly, to demonize intellectual property protections more broadly. Governments are already free to waive IP protections and to engage in compulsory licensing in times of health crises but have not done so because patents are not the bottleneck. The bottlenecks result from limited global expertise in the highly technical process of producing the vaccine, the dearth of production facilities and capacity to ramp up production at existing facilities, the tight supply of crucial pharmaceutical ingredients (including vials, bags, and other components), and the limited distribution channels through which the proper handling of vaccines at proper temperatures can be assured.

To be sure, global health officials and biopharmaceutical companies have been working to resolve these real bottlenecks—a process that has benefited significantly from the fact that U.S. officials have more bandwidth to devote more attention and other resources to these matters precisely because U.S. vaccination efforts have been successful. And why have they been successful? In large measure, they have been successful because intellectual property protections have bred expectations of future intellectual property protections, which has invited and enabled an accumulation of R&D investment, infrastructure, and expertise in the United States.

The effort to surmount these real impediments to producing, distributing, and injecting vaccines is not made any easier by a symbolic waiver of IP protections—and may be made more difficult. The volume of vaccines necessary to ending the pandemic requires governments and public health officials to coordinate and focus on ramping up the capacity to produce and distribute, and to safeguard against the squandering of pharmaceutical ingredients by ensuring those inputs are channeled to producers with expertise in manufacturing and distribution. On the contrary, suspending IP protection might encourage novice firms with no expertise to end up wasting limited, essential ingredients.

### 1NC – AT: Production

#### Waivers antagonize drug-makers and manufacturers which reduces vaccine production

Furlong 4/21 [(Ashleigh, health care reporter for POLITICO, based in London, former reporter at the science policy publication Research Fortnight who covered biomedical research policy) “Why waiving patents might not boost global access to coronavirus vaccines,” Politico EU, 4/21/2021] JL

Lifting IP rules may make it pretty straightforward to make some types of drugs where technology transfer isn’t important, said ‘t Hoen. For example, during the pandemic, both Hungary and Russia have issued compulsory licenses for remdesivir, with both countries then producing the drug. But that’s not true for vaccines.

A vaccine patent prevents another company from producing the same product. But even without a patent in the way, the company that produced the vaccine holds an enormous amount of relevant know-how that it's not going to turn over for free. So when drugmakers make deals with other manufacturers to produce their vaccine, they transfer this knowledge along under strict agreements. For example, AstraZeneca reached a licensing agreement with the Serum Institute of India last June that ensured that SII treats AstraZeneca as a priority customer in return for access to the technology behind the Oxford/AstraZeneca vaccine.

Compulsory licensing may also be an over-hyped solution, aside from removing the possibility of being sued for patent infringement, says Guilherme Cintra, director of innovation policy at the International Federation of Pharmaceutical Manufacturers and Associations, a pharma lobby. It could actually be "an antagonistic move," he added. "In a way it removes trust, and undermines the possibility of engaging in good faith to build up manufacturing."