I affirm the resolution resolved: the member nations of the World Trade Organization ought to reduce intellectual property protections for medicines

Because people cannot be happy when they are suffering, the value criterion ought to be **minimizing societal suffering**.

Prefer this value criterion for the following reasons:

First, minimizing suffering is a pre-requisite for all other human values.

In a society with high amounts of suffering, all other human values will cease to exist. This is because humans would lose the desire to uphold other human values, like generosity and kindness. For example, a person suffering of starvation would justify theft in order to reduce their suffering.

Second, Gary Woller[[1]](#footnote-1) of BYU explains in 97, just actors must act to the overall benefit of society:

Moreover, virtually all public policies entail some redistribution of economic or political resources, such that one group's gains must come at another group's expense. Consequently, **public policies** in a democracy **must be justified to the public,** and especially to those who pay the costs of those policies. Such justification cannot simply be assumed a priori by invoking some higher-order moral principle[s]. Appeals to **a priori** moral **principles**, such as environmental preservation, also often **fail to acknowledge that public policies inevitably entail trade-offs[.]** among competing values. Thus since policymakers cannot justify inherent value conflicts to the public in any philosophical sense, and **since** public **policies inherently imply winners and losers,** the policymakers' duty to the public interest requires them to demonstrate that the redistributive effects and value trade-offs implied by their polices **[they must be]** are somehow **to the overall advantage of society.**

For clarity, I am just running util

**C1: Contagious Diseases**

International property rights are key to help prevent contagious diseases.

Six links

1. IPR allows only a few companies with patents to legally make vaccines/medicine. However, one company can’t produce the supply to cover the entire world, leaving mass populations with shortages in medicine.

Gupta 2021 explains, stating that

The TRIPS waiver is critical to combating the COVID-19 pandemic around the world. Demand for the vaccine has already surpassed supply, with high-income countries taking a large share of reserved doses. Given that **no single vaccine manufacturer c[an]**ould **produce enough vaccines to meet the demand of the entire globe**, supporters of the waiver ponder the ethics of multinational manufacturers holding exclusive **[property] rights to information and technology,** **prevent[s]**ing **other companies from entering the markets** that are not being served—primarily in low- and middle-income countries. [with reduced IPRs] Sharing vaccine-related information will not only help get the pandemic[s] in check now [and], but it could also encourage firms to develop the next round of vaccines [for] that will be necessary to address new variants.

<https://www.healthaffairs.org/do/10.1377/hblog20210712.248782/full/>

1. IPRs forces the release of compulsory license in the case of health emergencies, which delays disaster response

Mullowney and Harris 13 state that

Furthermore, **under [international property protections]** TRIPS, **a compulsory license[, which allows non patent owners the right to produce patented medicine,] is not to be granted until [a period of]**“such efforts have not been successful within a reasonable period of time.”108 Here, we run into the similar situation where “reasonable period of time” is not defined. It has been suggested that a reasonable period of time is anywhere from **ninety days to six months.**109 **The timing problem, thus, becomes obvious: in the event of a bioterrorism attack or a public health emergency, waiting ninety days to six months before granting a compulsory license is simply unreasonable.** It appears, then, that **the patent holder could** [demand more money] bring suit for a better royalty determination or the patent holder could **delay negotiations [for more money]**; either situation ultimately delays the issue of a compulsory license, **potentially leaving the general public at risk of the effects of a bioterrorism attack [or public health emergency].**

https://sci-hubtw.hkvisa.net/10.1515/jbbbl-2012-0011

This is deadly, because new variants and exponential disease spread, means that even slight delays in pandemic response is devastating. Whiteaker 20 confirms, stating that countries with delayed covid response

Governments that hesitated to mount a broad containment response when the virus first emerged **ended up with eight times as many deaths per 100,000 citizens, on average, compared to those that sprung into action soon after**—or even before—confirming **their first [covid] case.**  That’s according to a Bloomberg News analysis of the Stringency Index—which measures the strictness of “lockdown style” policies tracked by Oxford University’s Blavatnik School of Government—and data on Covid-19 infections compiled by Johns Hopkins University. “If you’re slow, **[With a slow response] you have a much larger base number of infections and that’s much more difficult to control,**” according to Mark Dybul, a professor of global health at Georgetown University Medical Center and former head of the Global Fund to Fight AIDS, Tuberculosis and Malaria. “Even when you put really severe restrictions in place, you’ve already got spread happening at a level that’s very difficult to contain.” Every Day Counts Countries that reacted slower had higher death tolls, on average, regardless of how tough their restrictions were Avg. deaths per million people 3 Slow & Weak 2 Slow & Strong Fast & Weak 1 Fast & Strong 0 0 25 50 75 100 125 150 Days since first case Note: Data as of June 14. Deaths are shown as a seven-day rolling average. Sources: Johns Hopkins University Center for Systems Science and Engineering, Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, analysis by Bloomberg Fast responses were those where the full suite of containment measures went into effect within 35 days of reporting a first case—the average length of time for all countries analyzed. Slow responses entailed waiting to react—including the U.K.’s initial “herd immunity” strategy—or increasing restrictions gradually as infections rose. Strong responses included a broad array of measures related to everything from the size of gatherings to domestic travel, and restrictions were often mandated for the entire country. Weak responses utilized fewer measures, with only regional mandates or mere recommendations. That includes Japan, where the federal government recommended staying inside, working from home and canceling events, but didn’t place limits on gatherings nor on its infamously crowded metro lines, and let prefectures determine school closures. Almost all countries placed some limits on schools and international arrivals, but those with the strongest responses went far beyond that. Argentina earned the highest score on Oxford’s Stringency Index after bringing all semblance of normal daily life to a halt. Every school and non-essential business in the country was closed; all intercity buses, trains and domestic flights were suspended; international borders were sealed even for citizens; and checkpoints were set up on roads to catch those breaking quarantine—an offense punishable by up to two years in prison. Neighboring **[What’s why when]** **Brazil took** the opposite approach: **a delayed response[, it] led** by states and opposed by President Jair Bolsonaro, who encouraged people **to [a]** get back to work. Brazil’s **death toll [which] is more than 11 times higher than Argentina’s [who took a swift approach]**, per 100,000 people, and is still rising rapidly. Most countries started ramping up safety measures around the time the World Health Organization declared Covid-19 a pandemic in mid-March. By that time, dozens of countries had more than 100 cases.

https://www.bloomberg.com/graphics/2020-swift-covid-19-lockdowns-more-effective/

1. IPR allows companies to jack up prices, so most countries cannot afford them. Chaudry 20 finds that

This state of affairs could not exist without the government officials whom Big Pharma has lobbied successfully in wealthy countries. **Patents and other intellectual property rights allow [companies]** the multinationals **to capture rent by evading competition for years on end.** This global battle around pharmaceutical patents began in earnest with the founding of the World Trade Organization(WTO) in 1994. This included an annex agreement on intellectual property rights known as the Trade‑Related Aspects of Intellectual Property Rights. Many countries already allowed for patents before 1994, but only on “processes” of manufacture or synthesis. After 1994, WTO member countries were required to extend patents to the vital end products of such processes as well. For inhabitants of developing countries, whose greatest public health problems at the time derived from diseases like malaria, tuberculosis and HIV‑AIDS, this crystallized various questions of great import. Should the agreements enable Big Pharma’s monopoly‑like patent rights to trump the ability of the sick and dying to obtain generic versions of life savings medicines?

https://theconversation.com/a‑secret‑reason‑rx‑drugs‑cost‑so‑much‑a‑global‑web‑ofpatent‑laws‑protects‑big‑pharma‑122028

Because companies no longer have to fear competition after receiving a patent, they can jack up prices for all buyers for decades. Kwon 15 finds empirically that

There is growing evidence that stronger protection of IPR for pharmaceuticals may adversely impact medicine prices. Duggan and Goyal4 found a significant increase in the market share of patented drugs and an increase in average prices after the introduction of stronger product patents by exploring the effects of introducing product patents for central nervous system drugs. Borrell5 also found that patents shifted drug prices up, through his analysis of sales data on human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS) drugs in 34 developing countries between 1995 and mid-2000. Watal6 [they] simulated the maximum likely increase in pharmaceutical prices in India when product patents are introducedin the existing 22 patentable pharmaceutical markets after TRIPS agreement (Patentable pharmaceuticals are defined throughout this article as pharmaceuticals that are on product patents elsewhere where such patents are allowed. Following is the list of 22 patentable pharmaceuticals: Cefuroxime sodium, Cefaclor, Netilmicin, Albendazole, Fluoxetine, Aciclovir, Domperidone, Ranitidine, Cefotaxime Sodium, Ketorolac, Norfloxacin, Pefloxacin, Ketoconozole, Famotidine, Enalapril Maleate, Omeprazole, Astemizole, Ceftazidime, Ciprofloxacin, Ofloxacin, and Roxithromycin). **This price rise [caused by IPRs] was [estimated to be]** estimated from 26% **up to 242%,** depending on demand function. Maskus and Konan7 and Subramanian8 estimated maximum price increases up to 67% as a result of the introduction of pharmaceutical product patent rights

<https://sci-hubtw.hkvisa.net/10.1177/0020731415584560>

1. IPRs prevents companies from creating better medicine

Because IPR’s guarantee full monopoly for 20 years, innovation is halted, as companies no longer have an incentive to improve existing medicine. Boldrin and Levine 03 states that

Second, while **awarding a monopoly to an innovator** increases the payoff to the original innovator, by giving her control over subsequent uses of the innovation, it **reduces the incentive for future innovation.** This point has been strongly emphasized by Scotchmer [1991]. In our setting, we show how **indivisibility** may **lead monopoly to innovate less than competition.** Hence, we argue, our analysis has normative implications for those markets in which innovative activity satisfies the assumptions of the model presented here. As a further application of our positive theory, we consider the impact of more efficient technologies for the reproduction of ideas on the large rents that may accrue to superstars, even in the absence of monopoly. Historically, then, we believe that the theory of innovation under competition is important for understanding growth and development, since government intervention in the market for ideas is a relatively recent development. Since we establish that there are economies in which competition without patents and copyright achieves the first best, the issue of whether government grants of monopolies over ideas is second best is an empirical rather than theoretical issue. There are few **empirical[ly,]** studies that shed light on this question. There is a great deal of less formal evidence that shows that innovation can thrive under competition; and that government grants of monopoly power **[intellectual property rights] are more prone to lead to socially costly rent-seeking behavior than to foster innovation and growth**

http://www.dklevine.com/papers/pci23.pdf

This has empirically been proven by Insulin in America. According to Belluz 19

Older insulins have been successively replaced with newer, incrementally improved products covered by numerous additional patents.” The result is that more than 90 percent of privately insured patients with Type 2 diabetes in America are prescribed the latest and costliest versions of insulin. But soaring prices for these newer formulations is out of step with how much they improve treatment for patients, said Yale endocrinologist Kasia Lipska. For Type 1 diabetes, newer formulations appear to be more effective at controlling blood sugar than older formulations. “For Type 2 diabetes, it’s less clear — the benefits are not as strong.” So, Lipska asked, “Are [the new insulins] 20 times better? I’m not sure.” Luo, the Lancet paper’s lead author, doesn’t find the “cost of innovation” argument very convincing. In his research, he’s come across many examples of the same **insulin products that have been continuously available for years without improvements,** yet their price tags have gone up at a much higher rate than inflation. “The list price of these products are already out of reach for most Americans

<https://www.vox.com/2019/4/3/18293950/why-is-insulin-so-expensive>

1. Patents exclude innovation, by giving companies the legal authority to hide information. As a result, scientist can’t access past researchers, disallowing them to “stand on the shoulders of giants” and forcing them to start anew. Gubby 19

Scientists have voiced concern that what is often patented has not so much been produced but rather discovered, and is human genetic information rather than an invention (see for a summary of some of these arguments Bergel, 2015). These **developments in patent law have created a very real danger: researchers could be barred from accessing fundamental research, which in turn could hinder new knowledge and further innovation.** Back in 1998, Heller and Eisenberg warned policy makers to be alert: more upstream rights could block downstream innovation. In this way, the private ownership of biomedical research could lead to fewer useful products for improving human health (Heller and Eisenberg, 1998). **If genes and DNA sequences are patent protected, then the patent owner has the right to exclude all others from using that technology. This** breach of the discovery/invention distinction **is symptomatic of** the expansion of patentable subject matter at a global level, extending property claims deep into biology and **limiting the scope for accessible treatment and future research** (David and Halbert, 2017).

<https://onlinelibrary.wiley.com/doi/10.1111/1758-5899.12730>

Further, Gupta 2021 explains, stating that

The TRIPS waiver is critical to combating the COVID-19 pandemic around the world. Demand for the vaccine has already surpassed supply, with high-income countries taking a large share of reserved doses. Given that no single vaccine manufacturer c[an]ould produce enough vaccines to meet the demand of the entire globe, supporters of the waiver ponder the ethics of multinational manufacturers holding exclusive [property] rights to information and technology, prevent[s]ing other companies from entering the marketsthat are not being served—primarily in low- and middle-income countries. [with reduced IPRs] **Sharing vaccine-related information will** not only **help get the pandemic[s] in check now [and]**, but it could **also encourage firms to develop the next round of vaccines [for]** that will be necessary to address **new variants.**

<https://www.healthaffairs.org/do/10.1377/hblog20210712.248782/full/>

1. Patent trolling leaves innovations companies terrified of innovating in the medical field.

In international law and business, **patent trolling** or patent hoarding **is [when] a** categorical or pejorative term applied to a person or **company** that **attempts to enforce patent rights against accused infringers far beyond the patent's actual value** or contribution to the prior art, often through hardball legal tactics.

Because current IPR’s allow companies to sue far outside the patents actual power, other companies are terrified of innovating anything new in fear of being sued. Tucker 11

There was no such significant change in sales of imaging software for firms that were not the target of litigation. Further, there was an increase in sales proposal requests for both textual and imaging software by hospitals in this period, suggesting that these results do not reflect a suppression of demand. Instead, it appears the drop in sales was linked to a drop in incremental product in21 novation. No new variations of existing products or new models of imaging software were released by the affected vendors during the period of litigation. **An explanation for** this **lack of innovation is that the [companies do]** vendors did **not want to run the risk of being found guilty of ‘wilful infringement’ in the patent suit and being held liable for treble damages.** Therefore, one explanation of the slow‑down in sales is that the product release and attendant sales cycle was halted as a result of litigation. This emphasizes that **even if patent‑assertion entities do not prevail in the courtroom, their actions can have significantly negative consequences for incremental innovation** while litigation is ongoing.

Ie: just look at copyright for music. It’s getting ridiculous

Reducing IPR’s is key to medicine

There are two impacts

1. Covid and pandemics

IPR reduction is key to releasing enough vaccines for the entire population, and to develop vaccines fast enough to keep up with variants.

Removing IPRs key. According to Lennard 21

When it comes to the Covid-19 pandemic, the G7 nation-states reaffirmed their commitment to global vaccine apartheid through neoliberal governance, only slightly obscured under a guise of charitable offerings. The concessions are insufficient at best. Amnesty International condemned the G7’s pledge to provide 1 billion doses to middle- and low-income countries as a “drop in the ocean.” G7 leaders failed to agree to waive vaccine intellectual property rules and commit to knowledge and technology sharing. **Under the current medicine monopoly regime, it is projected to take until 2078 for the world’s poorest countries to vaccinate their populations.** G7 countries are expected to vaccinate their populations by January 2022.

<https://theintercept.com/2021/06/17/vaccine-g7-covid-internationalism-summit/>

New variants are devastating, as new variants risk being more lethal and contagious, with the probability of a less lethal variants being highly improbably. Haseltime 21 of Forbes states that, if the world can’t effectively combat Covid on time,

The report outlines four scenarios:

Scenario one: **The Delta variant [would] mutate**s **to a point of increased lethality.** Under this scenario, the virus has the potential to **kill[ing] between 10 and 35% of people infected**, as did SARS-CoV and MERS-CoV, up from the 1 to 2% lethality, characteristic of the current strains. Scenario two: The Delta variant **[it would also]** **mutate**s **to evade vaccines [and].** Scenario three: The Delta variant mutates to a point of multi-drug resistance, challenging **antiviral treatments designed to prevent and treat disease.** Scenario four: The Delta variant mutates to become less harmful, similar to the four coronaviruses circulating today, such as the common cold. Before dissecting these scenarios, it is important to recognize the basis of their conclusions. The report is cognizant of the behavioral patterns of viruses and coronaviruses in particular. They can alter their genetic structures by mutation and recombination, leading to substantial changes in fundamental characteristics, including replication rate, transmission efficiency, and pathogenesis. Wisely, the SAGE report considers the entire viral genome in its analysis, not just the potential changes in the Spike (S) protein, as is common in many other discussions on the topic. They note that the efficiency of transmission and evasion from immune surveillance is largely driven by the S protein. However, they also recognize that many other regions of the virus may contribute to both pathogenesis and transmission. In considering how much more transmissible the virus can be, we note a [study](https://www.biorxiv.org/content/10.1101/2021.01.06.425392v1.full) by Schreiber et al. that indicates that certain S mutations can increase avidity between the ACE2 receptor of the host cell and the virus by 600-fold, creating a far more transmissible variant. The progression from the original Wuhan virus to Alpha and then Delta seems to be following a path of increased avidity, as well as increased immune evasion. So far, the avidity appears to be increased by only four to eight-fold, far from the range that is theoretically possible. In what follows, we provide a detailed summary and analysis of each scenario. Scenario One: Increased Lethality The SAGE report considers the development of strains with increased lethality a realistic possibility. The Delta variant has driven a rise in cases to levels we have not [observed](https://www.nytimes.com/interactive/2021/us/covid-cases.html) in the United States since mid-February, and recent data shows a surge in deaths related to Delta variant infection in the [UK](https://coronavirus.data.gov.uk/), their highest rates since mid-March. The SAGE report highlights the possibility of recombination between two aggressive variants, resulting in a new, substantially more lethal and virulent virus. Specifically, the report highlights the possibility of an alpha and beta variant recombination. Were these variants to recombine, the variant could be comprised of the best of both worlds, forming a variant of dangerous transmission and immune evasion. The report highlights another likely origin of a more pathogenic virus through the current advent of antigenic drift. Orf and structural proteins are particularly important in the suppression of host immune responses. Orf9b, for example, [suppresses](https://www.nature.com/articles/s41467-021-23118-8) innate immunity by targeting mitochondria and the mitochondrial antiviral signaling protein (MAVS), TNF receptor-associated factor 3 (TRAF3), and TRAF6. In the alpha variant, a single amino acid mutation in the latter portion of the genome enabled the virus to replicate Orf9b mRNA to [80-fold](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8202424/) greater amounts than in non-alpha variant samples. As the report notes, the “likelihood of genotypic change in internal genes...is high.” So long as infections continue, the virus will continue to mutate to better adapt to its host environment: us. If a single amino acid outside the S protein could enhance an immune suppression function by 80-fold, imagine the evolutionary capacity of dozens of other fine-tuned mutations down the line. Scenario Two: Evading Vaccines The SAGE report considers the possibility that the virus will develop into what I call “vaccine-busting variants” to be an almost certainty. Influenza is an effective model for their concern. In addition to successive antigenic mutations that avoid immune suppression, a coronavirus has the evolutionary capability of antigenic shift, which involves substituting one or more genomic segments from a prevalent strain to an unrelated strain of animal origin. Such antigenic shifts of Influenza have occurred three times over the past century, each time giving rise to a new strain of flu, which evades existing prior immunity. We note that a number of human and other animal retroviruses make use of the same ACE2 receptor as SARS-CoV-2, and given that hundreds of millions of people around the world have been and will be infected with SARS-CoV-2, it is highly likely that such a recombination event could take place. At present, we are witnessing real-time antigenic drift, which could also result in “vaccine-busting variants.” Each variant, as they arise, contains a series of point mutations in the exterior spike protein, which serve to reduce the potency of extant vaccines and monoclonal antibodies. [Observations](https://www.biorxiv.org/content/10.1101/2020.12.17.423313v1.full.pdf) based on the annual recurrence of cold-causing coronaviruses indicate that the virus has nowhere near exhausted its capacity to reduce recognition by antibodies produced by previous infection or vaccine. Scenario Three: Anti-Viral Drug Resistance The SAGE report considers the possibility that the virus will develop antiviral drug resistance to be likely. The development of potent small-molecule antiviral drugs has been slower than originally anticipated. A problem plaguing the development of antiviral drugs is a long asymptomatic period prior to the onset of symptoms. By the time symptoms typically appear, the concentration of the virus has rapidly dropped in infected people and further treatment by anti-viral drugs yields limited efficacy. There are two strategies to counter. One is much more vigorous, which is the early identification of the infected, contact tracing, and use of antiviral drugs for prophylaxis. That has been a successful approach with monoclonal antibodies. The Regeneron combination monoclonal antibody was recently approved by the United States for preventing infections in nursing homes and other congregate living settings. Resistance to single and, in some cases, multiple monoclonal antibodies is already apparent. Many of the variants can no longer be neutralized by monoclonal antibodies that were produced early in the pandemic. Reports from separate laboratory studies show that single combinations of small molecule drugs also result in rapid adaptation and resistance. The lessons learned from successful treatment and prophylaxis of HIV show that combinations of antiviral drugs are critical for both the prevention and treatment of HIV infections. Combination treatment with two or more drugs dramatically reduces the possibility that the virus would rapidly develop resistance. Currently, there are more than 25 drugs, focusing on at least five or five to six different HIV targets that are used in combination. It is likely that a successful program for chemoprevention and treatment of coronaviruses requires a similar large pharmacopeia to cope with the virus’s propensity for developing resistance. The report urges dramatically increased research on the development of antiviral drugs. The model could be the recent drug, [Xofluza](https://www.ema.europa.eu/en/documents/assessment-report/xofluza-epar-public-assessment-report_en.pdf" \o "https://www.ema.europa.eu/en/documents/assessment-report/xofluza-epar-public-assessment-report_en.pdf" \t "_blank), which was developed to prevent household transmission and length of influenza, and has been shown to reduce infection duration by 80% when administered promptly post-exposure to active Influenza infection.  Scenario Four: Decreased Virulence The SAGE report considers the possibility that the virus will develop decreased virulence to be a realistic possibility, only in the long term. It is possible, but by no means certain, that over time the virus could mutate through a form that is highly transmissible but far less lethal. This may have been the case for the four coronaviruses currently in circulation, although there is no hard evidence to support this speculation. The report mentions that it is unlikely that the virus will mutate to become less lethal in the near future. They suggest that if the virus does mutate to a less lethal form, such mutations may occur over a period of many years to many decades.

https://www.forbes.com/sites/williamhaseltine/2021/08/04/a-warning-about-the-future-of-covid-19-from-the-scientific-advisory-group-for-emergencies-of-the-united-kingdom/

Pandemics kill millions, and the probability of future pandemics is increasing. Dhillon 17 quantifies that

In 2003 a doctor with SARS unknowingly infected several guests while staying at a Hong Kong hotel, and overnight the virus reached across the globe. China is currently battling a bird flu that kills nearly half of the people infected. If Ebola, which transmits through fluids, were spread by air, or if Zika, which has reached over 50 countries, were as deadly as Ebola, we would be facing an unprecedented catastrophe. **An uncontrolled outbreak or bioterror attack could result in a contagion that kills over 30 million people.** We fear **it is only a matter of time before we face a deadlier and more contagious pathogen, yet the threat of a deadly pandemic remains dangerously overlooked. Pandemics now occur with greater frequency, due to factors such as climate change, urbanization, and international travel.** **Other factors, such as a weak World Health Organization and potentially massive cuts to funding for U.S. scientific research and foreign aid**, including funding for the United Nations, **stand to deepen our vulnerability.** We also face the specter of novel and mutated pathogens that could spread and kill faster than diseases we have seen before. With the advent of genome-editing technologies, bioterrorists could artificially engineer new plagues, a threat that Ashton Carter, the former U.S. secretary of defense, thinks could rival nuclear weapons in deadliness.

<https://hbr.org/2017/03/the-world-is-completely-unprepared-for-a-global-pandemic>

1. Bioweapons

In the status quo, Covid has exposed countries’ weaknesses to extremely contagious diseases. Clauncy 20 states

Whilst non-state armed actors could be burdened by significant technical hurdles related to the weaponisation of deadly pathogens or dissemination of lethal biological agents, it could be argued than more than ever, today,**[Rogue states and] terrorist organisations are likely to** seek to **obtain and use a biological weapon** rather than a nuclear weapon**in the foreseeable future.** We Need a Clear Plan **The current global pandemic has affected [all] countries** from all corners of the world **and has radically impacted governments’ confidence in their capacity to respond to biological threats as they struggle to contain the virus and save lives. Rogue States and terrorist organisations are most certainly taking note of world powers’ inability to respond [bio]vulnerabilities**, biological agents or simply by the intentional spread of a virus. One may argue that despite the risk posed by biological weapons, the probability of a bioterror attack remains low due to the likelihood of severe reprisals and because of the risk of self-contamination. This could explain why Rogue States such as North Korea, Syria and Iran which allegedly possess biological weaponry have so far not used them. However this situation could change as governments involved in biological weapons programs join a “bio arms race”, relying on artificial intelligence, biology and latest genetic technologies to create a biotechnology which could discriminate and target specific groups of people. No more procrastination; we need to be better prepared next time, not only for a naturally occurring pandemic, but most importantly for the possibility of the deliberate and calculated spread of a biological agent aimed at killing thousands or millions of people and seriously impacting the global economy. While the threat of such attacks might seem low for many world leaders and experts, biological weapons are an emerging serious threat to peace, security and stability. We can no longer afford to treat them as a remote possibility that does not require immediate attention. **The coronavirus pandemic has exposed our weaknesses and our inability to respond to biological emergencies from which we previously thought we were safe.**

<https://www.esjnews.com/the-threat-of-biological-terrorism-post-corona>

Biological weapons are extremely cheap and easy to use. Clauncy 20 goes on to state that

**Biological weapons** have the advantage of being secret and silent killers. These weapons **are not only easy to use but are also cost-effective** as they remain relatively affordable compared to other weapons of mass destruction in terms of acquisition and/or manufacture and financially within the reach of smaller nations and even possibly non state armed groups. In 1969, **a United Nations chemical and biological expert panel determined that [bio weapons are 800 times more effective then nuclear weapons and 2000 times for effective then conventional weapons for their cost]** the cost of mass casualties per square kilometre was only $1 for a biological weapon against $600 for a chemical weapon, $800 for a nuclear weapon and $2,000 for a conventional weapon.

<https://www.esjnews.com/the-threat-of-biological-terrorism-post-corona>

Oriola 07 quantifies that

Using highly plausible, worst‑case scenarios of bioterrorism attacks, this Article argues that **vast swathes of the population could become simultaneously vulnerable to deadly bioweapons, exposing millions of people to inevitable deaths, in a comparatively shorter time span than naturally‑occurring diseases like HIV/AIDS or tuberculosis.**

http://illinoisjltp.com/journal/wp‑content/uploads/2013/10/05‑05‑08\_Oriola\_AHW\_Formatted\_FINAL.pdf

(optional) Bioweapons cause extinction. Sandberg 08 finds that

The risks from anthropogenic hazards appear at present larger than those from natural ones. Although great progress has been made in reducing the number of nuclear weapons in the world, humanity is still threatened by the possibility of a global thermonuclear war and a resulting nuclear winter. We may face even greater risks from emerging technologies. **Advances in synthetic biology** might **make it possible to engineer pathogens capable of extinction-level pandemics.** The knowledge, equipment, and materials needed to engineer pathogens are more accessible than those needed to build nuclear weapons. And unlike other weapons, pathogens are self-replicating, allowing a small arsenal to become exponentially destructive. **Pathogens have been implicated in the extinctions of many wild species.** Although most pandemics "fade out" by reducing the density of susceptible populations, pathogens with wide host ranges in multiple species can reach even isolated individuals. The intentional or unintentional pathogens **release of [bioweapons] engineered with high transmissibility**, latency,**and lethality might be capable of causing human extinction.** While such an event seems unlikely today, the likelihood may increase as biotechnologies continue to improve at a rate rivaling Moore's Law.

<http://www.thebulletin.org/web-edition/features/how-can-we-reduce-the-risk-of-human-extinction>

Oriola 07 concludes that

This Article proposes the inclusion of a bioterrorism‑specific pharmaceutical patents appropriation clause in national and international patent regimes. The thesis is predicated on the impropriety of the current bureaucracy‑prone access to medicines paradigms in international and national patent regimes for **bioterrorism‑induced public health** crises situations. Using highly plausible, worst‑case scenarios of bioterrorism attacks, this Article argues that vast swathes of the population could become simultaneously vulnerable to deadly bioweapons, exposing millions of people to inevitable deaths, in a comparatively shorter time span than naturally‑occurring diseases like HIV/AIDS or tuberculosis. In this circumstance, time is of utmost essence in saving as many lives as possible. This **makes it imperative for authorities to override [and reduce] patents on crucial drugs or vaccines** without the consent of patent holders, thus avoiding lengthy negotiations that might be destined for failure. Moreover, this Article deems a bioterrorism‑specific appropriation clause in global patents regimes expedient, in light of the pervasive and dominant propatents forces intent on a stronger intellectual property regime.

|  |  |
| --- | --- |
| 600 bc | Solon uses the purgative herb hellebore during the siege of Krissa |
| 1155 | Emperor Barbarossa poisons water wells with human bodies in Tortona, Italy |
| 1346 | Tartar forces catapult bodies of plague victims over the city walls of Caffa, Crimean Peninsula (now Feodosia, Ukraine) |
| 1495 | Spanish mix wine with blood of leprosy patients to sell to their French foes in Naples, Italy |
| 1675 | German and French forces agree to not use “poisones bullets” |
| 1710 | Russian troops catapult human bodies of plague victims into Swedish cities |
| 1763 | British distribute blankets from smallpox patients to Native Americans |
| 1797 | Napoleon floods the plains around Mantua, Italy, to enhance the spread of malaria |
| 1863 | Confederates sell clothing from yellow fever and smallpox patients to Union troops during the US Civil War |
| World War I | German and French agents use glanders and anthrax |
| World War II | Japan uses plague, anthrax, and other diseases; several other countries experiment with and develop biological weapons programs |
| 1980–1988 | Iraq uses mustard gas, sarin, and tabun against Iran and ethnic groups inside Iraq during the Persian Gulf War |
| 1995 | Aum Shinrikyo uses sarin gas in the Tokyo subway system |

Quigley 16

https://www.thenation.com/article/archive/corporations-killed-medicine-heres-how-to-take-it-back/

The history of pharmaceutical innovations, especially vaccine developments and life-saving treatments for infectious and chronic diseases, shows that the critical research behind these developments was created outside the patent system. Even in the current post-TRIPS era, patent-seeking private industry still looks to governments to provide funding for pharmaceutical research, especially for essential medicines. The U.S. National Institutes of Health alone provides $30 billion annually for medical research; governments provide tax credits to support corporate research; and government health programs are bulk purchasers of patented medicines priced far above the costs of production. When it comes to medicines, the taxpayers of the United States and other research-supporting countries are the very opposite of free riders: They pay to build the bus, fill it with fuel, and hire the driver. But they’re still asked to pay a steep fare if they wish to take a seat. In fact, a decade ago, U.S. economist Dean Baker crunched the numbers and estimated that the U.S. could save over $140 billion a year if its health systems could provide medicines without the artificial mark-up imposed by monopoly patents. That money could fund the replacement of all private industry research and development several times over, while still leaving billions of dollars in remaining public benefit. A significant source of those savings derives from eliminating the for-profit pharmaceutical companies’ expenses on marketing, a cost that exceeds their investment in research and development. As it happens, there are more efficient uses of resources than funding television ads for erectile dysfunction drugs. The enclosed medicine system inflicts additional damage beyond the artificially inflated cost of patented medicines. **The resources of for-profit corporations are inevitably concentrated on the development and promotion of medicines that can be sold at a high mark-up to wealthy consumers.** “Lifestyle” drugs that address male pattern baldness or sexual performance are exhaustively researched and marketed, yet the past half-century has seen just one drug developed to treat tuberculosis, which kills more than a million people each year. A landmark study published by the British medical journal The Lancet showed that of the 1,556 new chemical entities marketed between 1975 and 2004, only 21 were for tropical diseases. When corporations do develop a new drug, it more than likely doesn’t provide much value to society. **Remarkably, a full 70 percent of the medicine brought to market by the industry in the past 20 years provided no therapeutic benefit over the products already available.** Instead, these “me too” drugs were put forward in order to grab a share of an existing lucrative market. The inefficiency of the enclosed medicine is paired with the creation of real barriers to medicine innovation across the board. By definition, **a reward system based on artificial exclusivity will wall off knowledge from being shared.**For-profit pharmaceutical corporations are known for discouraging innovations by creating voluminous “packet thickets” and seeking extended protection for their monopolies in a process known as “evergreening” their patents. Seen through the lens of a pharmaceutical corporation, all of these approaches are fully rational: The industry is one of the most profitable in recent history. The rest of us are not faring as well. Law professor Michael Heller has labeled the costs associated with over-enclosure and lack of knowledge sharing as the “tragedy of the anti-commons.” It is an economic theory, of course. But, for the millions of people who die each year from diseases neglected by the current medicine system, the tragedy is not the least bit theoretical.

BACK UP CARDS

Bio Weapons can’t be used for deterrence. Read if they read a Nuke war impact, so you can run MAD and not double bind yourself. Koblentz 2015 states:

Third, **biological weapons have limited value as strategic deterrents due to the need for states to shroud their biological weapons programs in strict secrecy. This need for secrecy is driven by normative, legal, and strategic considerations.** In the strategic context, the availability of defenses against biological weapons places a premium on the attacker achieving surprise. This undermines the ability of a state to use biological weapons as a deterrent in two ways. First**, the secrecy required to retain the element of surprise in a biological attack reduces a state’s ability to issue credible threats to** inflict unacceptable damage against an **adversary.** To make a deterrent threat credible, a state would not only have to admit that it was violating international norms and laws but it would also have to reveal details about its offensive biological warfare capabilities such as the types of agents it has developed and their means of delivery.

https://books.google.com/books?id=VMjIHwf03U4C&pg=PA41&lpg=PA41&dq=Third,+biological+weapons+have+limited+value+as+strategic+deterrents+due+to+the+need+for+states+to+shroud+their+biological+weapons+programs+in+strict+secrecy.+This+need+for+secrecy+is+driven+by+normative,+legal,+and+strategic+considerations.+In+the+strategic+context,+the+availability+of+defenses+against+biological+weapons+places+a+premium+on+the+attacker+achieving+surprise.+This+undermines+the+ability+of+a+state+to+use+biological+weapons+as+a+deterrent+in+two+ways.+First,+the+secrecy+required+to+retain+the+element+of+surprise+in+a+biological+attack+reduces+a+state%E2%80%99s+ability+to+issue+credible+threats+to+inflict+unacceptable+damage+against+an+adversary.+To+make+a+deterrent+threat+credible,+a+state+would+not+only+have+to+admit+that+it+was+violating+international+norms+and+laws+but+it+would+also+have+to+reveal+details+about+its+offensive+biological+warfare+capabilities+such+as+the+types+of+agents+it+has+developed+and+their+means+of+delivery.&source=bl&ots=aB-0NaOpWT&sig=ACfU3U22mG1YI-t2CGs9t2VBmCRyL51yrg&hl=en&sa=X&ved=2ahUKEwiYkt768ObyAhXCds0KHfD5CrAQ6AF6BAgCEAM#v=onepage&q=Third%2C%20biological%20weapons%20have%20limited%20value%20as%20strategic%20deterrents%20due%20to%20the%20need%20for%20states%20to%20shroud%20their%20biological%20weapons%20programs%20in%20strict%20secrecy.%20This%20need%20for%20secrecy%20is%20driven%20by%20normative%2C%20legal%2C%20and%20strategic%20considerations.%20In%20the%20strategic%20context%2C%20the%20availability%20of%20defenses%20against%20biological%20weapons%20places%20a%20premium%20on%20the%20attacker%20achieving%20surprise.%20This%20undermines%20the%20ability%20of%20a%20state%20to%20use%20biological%20weapons%20as%20a%20deterrent%20in%20two%20ways.%20First%2C%20the%20secrecy%20required%20to%20retain%20the%20element%20of%20surprise%20in%20a%20biological%20attack%20reduces%20a%20state%E2%80%99s%20ability%20to%20issue%20credible%20threats%20to%20inflict%20unacceptable%20damage%20against%20an%20adversary.%20To%20make%20a%20deterrent%20threat%20credible%2C%20a%20state%20would%20not%20only%20have%20to%20admit%20that%20it%20was%20violating%20international%20norms%20and%20laws%20but%20it%20would%20also%20have%20to%20reveal%20details%20about%20its%20offensive%20biological%20warfare%20capabilities%20such%20as%20the%20types%20of%20agents%20it%20has%20developed%20and%20their%20means%20of%20delivery.&f=false

1. Gary Woller (Brigham Young University) “A Forum On The Role of Environmental Ethics in Restructuring Environmental Policy and Law for the Next Century,” University of New Mexico, June 1997. [↑](#footnote-ref-1)