# R6 loyola neg

## 1nc

### 1NC – theory

#### interp: debaters, if they disclose open source docs on the ndca 2021-22 wiki, must disclose the full text of all substantive analytics violation: [insert ss] 1. strat skew and clash - not disclosing analytics can obscure entire positions or the bulk of their framework - they justify just writing "contention" or none of the justifications for their framework or not writing interp texts which disavdantages me bc they know my strategy but i don't know theirs -- also k2 education bc in depth engagement increase the quality of the debate

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### Framing

#### The standard is maximizing expected net well-being.

#### Prefer for actor specificity

#### A] Aggregation – every policy benefits some and harms others, which also means side constraints freeze action.

#### B] Pleasure and pain are intrinsically valuable. People consistently regard pleasure and pain as good reasons for action, despite the fact that pleasure doesn’t seem to be instrumentally valuable for anything.

Moen 16 [Ole Martin Moen, Research Fellow in Philosophy at University of Oslo “An Argument for Hedonism” Journal of Value Inquiry (Springer), 50 (2) 2016: 267–281] SJDI

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

#### C] Only consequentialism explains degrees of wrongness—if I break a promise to meet up for lunch, that is not as bad as breaking a promise to take a dying person to the hospital. Only the consequences of breaking the promise explain why the second one is much worse than the first.

#### Reject calc indicts:

#### A] Empirically denied—both individuals and policymakers carry out effective cost-benefit analysis which means even if decisions aren’t always perfect it’s still better than not acting at all

#### Util is a lexical pre-requisite to any other framework: Threats to life preclude the ability for moral actors to effectively utilize and act upon other moral theories since they are in a constant state of crisis – that inhibits the ideal moral conditions which other theories presuppose, which turns and outweighs their framework.

#### High magnitude, low probability first

Bostrom 13 [(Nick, Philosopher and professor (Oxford), Ph.D. (LSOE), director of The Future of Humanity Institute and the Programme on the Impacts of Future Technology), “Existential Risk Prevention as Global Priority,” Global Policy, Vol 4, Issue 1, http://www.existential-risk.org/concept.html] TDI

The maxipok rule 1.1. Existential risk and uncertainty An existential risk is one that threatens the premature extinction of Earth-originating intelligent life or the permanent and drastic destruction of its potential for desirable future development (Bostrom 2002). Although it is often difficult to assess the probability of existential risks, there are many reasons to suppose that the total such risk confronting humanity over the next few centuries is significant. Estimates of 10-20% total existential risk in this century are fairly typical among those who have examined the issue, though inevitably such estimates rely heavily on subjective judgment.1 The most reasonable estimate might be substantially higher or lower. But perhaps the strongest reason for judging the total existential risk within the next few centuries to be significant is the extreme magnitude of the values at stake. Even a small probability of existential catastrophe could be highly practically significant (Bostrom 2003; Matheny 2007; Posner 2004; Weitzman 2009). Humanity has survived what we might call natural existential risks for hundreds of thousands of years; thus it is prima facie unlikely that any of them will do us in within the next hundred.2 This conclusion is buttressed when we analyze specific risks from nature, such as asteroid impacts, supervolcanic eruptions, earthquakes, gamma-ray bursts, and so forth: Empirical impact distributions and scientific models suggest that the likelihood of extinction because of these kinds of risk is extremely small on a time scale of a century or so.3 In contrast, our species is introducing entirely new kinds of existential risk — threats we have no track record of surviving. Our longevity as a species therefore offers no strong prior grounds for confident optimism. Consideration of specific existential-risk scenarios bears out the suspicion that the great bulk of existential risk in the foreseeable future consists of anthropogenic existential risks — that is, those arising from human activity. In particular, most of the biggest existential risks seem to be linked to potential future technological breakthroughs that may radically expand our ability to manipulate the external world or our own biology. As our powers expand, so will the scale of their potential consequences — intended and unintended, positive and negative. For example, there appear to be significant existential risks in some of the advanced forms of biotechnology, molecular nanotechnology, and machine intelligence that might be developed in the decades ahead. The bulk of existential risk over the next century may thus reside in rather speculative scenarios to which we cannot assign precise probabilities through any rigorous statistical or scientific method. But the fact that the probability of some risk is difficult to quantify does not imply that the risk is negligible. Probability can be understood in different senses. Most relevant here is the epistemic sense in which probability is construed as (something like) the credence that an ideally reasonable observer should assign to the risk's materializing based on currently available evidence.4 If something cannot presently be known to be objectively safe, it is risky at least in the subjective sense relevant to decision making. An empty cave is unsafe in just this sense if you cannot tell whether or not it is home to a hungry lion. It would be rational for you to avoid the cave if you reasonably judge that the expected harm of entry outweighs the expected benefit. The uncertainty and error-proneness of our first-order assessments of risk is itself something we must factor into our all-things-considered probability assignments. This factor often dominates in low-probability, high-consequence risks — especially those involving poorly understood natural phenomena, complex social dynamics, or new technology, or that are difficult to assess for other reasons. Suppose that some scientific analysis A indicates that some catastrophe X has an extremely small probability P(X) of occurring. Then the probability that A has some hidden crucial flaw may easily be much greater than P(X).5 Furthermore, the conditional probability of X given that A is crucially flawed, P(X|¬A), may be fairly high. We may then find that most of the risk of X resides in the uncertainty of our scientific assessment that P(X) was small (figure 1) (Ord, Hillerbrand and Sandberg 2010).

### 1NC – CP

#### The member nations of the World Trade Organization should form an intellectual property system that uses patents, prizes, grants, and tax credits for medicines.

#### The counterplan solves the aff’s concerns with squo patent policy – the solution isn’t to waive patents, but to restructure IP programs.

Hemel and Ouellette 13 [Daniel Hemel received his J.D. from Yale Law School in 2012 and his M.Phil. from the University of Oxford in 2009. Lisa Larrimore Ouellette is a Visiting Fellow at the Yale Law School Information Society Project; she received her J.D. from Yale Law School in 2011 and her Ph.D. in Physics from Cornell University in 2008.) "Beyond the Patents–Prizes Debate," Texas Law Review, 4-7-2013] SM

Thus far, the patents-versus-prizes-versus-grants debate has generated useful insights regarding innovation policy choices. For instance, the patent system aggregates privately held information regarding the private costs and benefits of potential projects. Meanwhile, prizes and grants channel R&D efforts toward innovations that yield limited profits in the marketplace but significant benefits for society. Prizes and grants also avoid the deadweight losses associated with patent monopolies, although they correspondingly entail cross-subsidization of product users by nonusers. Finally, grants—unlike patents and prizes—deliver ex ante transfers and thus reduce the social costs of capital market frictions. However, by truncating the menu of policy options, the framing of the debate has led participants to overlook the potential benefits of tax incentives for innovation. For example, we show that even when market actors have superior information regarding R&D projects than government officials do, patents are not the only mechanism for aggregating this privately held information and allocating R&D expenditures accordingly: tax credits can achieve similar outcomes. Alternately, even if one believes that ex ante incentives are superior to ex post rewards because of capital market frictions, this belief does not necessarily suggest that government grants are the best option: refundable tax credits can replicate many of the advantages of government grants. And even if one favors user-pays systems over cross-subsidization, this preference does not necessarily require adoption of the patent mechanism: targeted sales taxes funding grants, prizes, or credits can mimic the user-pays features of patent law. This last dimension of the innovation policy debate—the distribution of costs—is all too often overlooked, and while we do not provide an exhaustive treatment of the moral and ethical issues associated with user- pays and cross-subsidization systems, we provide a preliminary analysis of the normative considerations that ought to inform innovation policy choices. Moreover, although our Article provides only a broad overview of the obstacles to innovation policy reform arising out of international treaties and domestic political configurations, we believe that this overview reveals that the obstacles to reform—while considerable—are not insurmountable. Ultimately, we do not argue that one innovation policy option strictly dominates the others in all instances. To the contrary, we sketch out the case for innovation policy pluralism—with patents, prizes, grants, and tax incentives all playing a role in efforts to encourage research and development. With a more nuanced understanding of the similarities and differences among patents, prizes, grants, and tax credits, scholars and policymakers will be better positioned to imagine new combinations of innovation incentives that improve upon the status quo.

#### The problem is that squo patent law is too rigid – the counterplan solves.

Grimes 21 [Warren Grimes: Irving D and Florence Rosenberg Professor of Law, Southwestern Law School, Los Angeles, USA) "Perverse Results from Pharmaceutical Patents in the United States," International Review of Intellectual Property and Competition Law, 4-28-2021] SM

The Covid-19 pandemic points to a generalized weakness in the patent system as it relates to pharmaceuticals. Most patent systems invite bipolar results: either a patent is valid, or it is not valid. The period of patent protection is fixed and cannot be adjusted based on the value of the invention for society. Methods of exploiting the patent tend to be predetermined by existing statutory or case law. There is little room for a more flexible or nuanced system of rewarding valuable R&D.

When it comes to promoting drug research, governments have already moved away from exclusive reliance on the patent system. In the United States, the National Institutes of Health, a government agency, subsidizes certain medical research. These schemes, however, have been somewhat haphazard. Designing an overall system for rewarding medical R&D deserves more serious reflection and analysis. It is time to consider alternative ways of rewarding valuable R&D, such as a prize system, perhaps funded by nation states or by the WHO.Footnote22 Disinterested scientists or academics could be charged with awarding the prize funds for worthwhile research. Such a system might partially replace the patent system or be supplementary to it.

### 1NC – DA

#### Biotech R&D is set for high growth and investment now

NASDAQ 8/9 [NASDAQ is a stock market index that includes almost all stocks listed on the Nasdaq stock exchange. Along with the Dow Jones Industrial Average and S&P 500, it is one of the three most-followed stock market indices in the United States. This article was written by NASDAQ contributors and published on CNBC. The editorial staff of CNBC did not contribute to the creation of this study.) “Why the Nasdaq Biotechnology Index is poised for a run of sustainable growth” CNBC, NASDAQ, 8/9/2021, <https://www.cnbc.com/advertorial/2021/08/09/why-the-nasdaq-biotechnology-index-is-poised-for-a-run-of-sustainable-growth-.html>] RM

Between the recent bio innovation success stories in the battle against Covid-19 and the technology-driven advances ushering in new efficiencies for research and development (R&D), **the biotech industry has never been more relevant**.

As home to more than 265 companies, the pioneering Nasdaq Biotechnology Index (NBI) has long been committed to providing healthcare’s innovators with access to the capital they need to keep moving forward. Now, investors have access to the Index’s companies through a new ETF, the Invesco Nasdaq Biotechnology ETF (IBBQ).

Launched in 1993, in the wake of the original “biotech revolution” led by the discovery of recombinant DNA, NBI® remains the most representative index in the space. In fact, 98% of all U.S. listed biotech companies are listed on Nasdaq. When considering the massive growth taking place in the sector, it’s no surprise that NBI has outperformed both the S&P 500 (SPX) and Health Care Select Sector Index (IXVTR) in certain market environments.

According to Mark Marex, Index R&D Senior Specialist for Nasdaq who recently compiled an in-depth report on the NBI, global events and digital acceleration have contributed to the Index’s recent strong performance; and Nasdaq’s dedication to maintaining a true benchmark for technology-driven healthcare innovation has provided a framework for growth.

Building the ideal benchmark

Given the existence of pureplay biotech firms, hybrid biopharmaceutical companies, and less R&D-intensive pharmaceutical manufacturers, creating a single benchmark that truly captures the biotech sector and the symbiotic relationships among its players is no easy task.

One of the unique aspects of NBI, versus biotech-focused indexes created by other index providers, is its subsector classifications split between Biotechnology and Pharmaceuticals. As of June 30, 2021, ICB (FTSE Russell’s Industry Classification Benchmark) classified 222 NBI companies as Biotechnology and 47 as Pharmaceuticals. The resulting split by index weight is approximately 65% and 35%, respectively, which illustrates the major difference between the two groups: Pharmaceutical companies tend to be much larger than Biotechnology firms.

This split within a single index provides advantages for investors: While offering some exposure to more established pharmaceutical companies, it also includes R&D-heavy biotech firms that over time may transition into biotech-driven pharma companies. That’s exactly what happened this year when NBI’s largest company, Amgen (AMGN / $144Bn), was reclassified by ICB from Biotechnology to Pharmaceuticals. By retaining firms as they straddle the two classifications over the course of their lifecycle, NBI presents potential growth advantages when compared with index providers that focus rigidly on one classification versus the other.

Home to world-changing breakthroughs

Nasdaq’s vision for the Index has served it well, **both in terms of its longevity and its current role as a champion of the companies paving the way for a post-pandemic world through their technological advances and life-saving treatments**. The broad reach of NBI constituents across multiple fronts in the fight against Covid-19, for example — from diagnosis to vaccines and treatment —demonstrates the strength of its core approach.

NBI companies including Gilead and Regeneron made headlines for their successes during the pandemic with antiviral therapeutics and antibody-based therapeutics for high-risk patients. But it’s the stunning success of m-RNA vaccine technology from Moderna and BioNTech, two NBI companies, that most clearly showcase the home run potential among the biotech entrepreneurs in the space.

And while NBI is currently up 8.2% YTD on a price-return basis (as of June 30) **versus a broader market gain of 14.4% by SPX**, the S&P Biotechnology Select Industry Index (SPSIBI) is down 3.7%.

It’s worth noting that in 2020, NBI outperformed SPX with a price gain of 25.7% versus 16.3%, respectively. This shows the resilience of the NBI and the inherent strength of its current mix of companies.

The possibilities of accelerated R&D

As a whole, the life-changing work being done by NBI constituents requires enormous amounts of R&D. In 2020, R&D expenses for the entire group totaled $68.5Bn, nearly 31% of these companies’ revenue totals. Two-thirds of NBI’s firms reported R&D expenses that exceeded their revenues

For several NBI companies, however, these massive investments provided tangible benefits in the fight against Covid-19. Undoubtedly, years of back-end work and minimal profits ultimately helped deliver the very products that are now driving historic returns. Psychologically, their breakthroughs demonstrated the enormous potential of science and technology to serve humankind.

Looking ahead, **revolutions in Mapping and Engineering processes, boosted by rapid advancements in Machine Learning and Artificial Intelligence, are fostering a true fusion of Biology and Technology that could transform the traditionally costly and labor-intensive R&D function**. Some research estimates these advances could reduce the failure rate of drugs by up to 45% and shorten drug trials by up to 50%. The result could be even more breakthroughs, performed much more efficiently, greatly increasing the returns on biopharmaceutical R&D.

Even a conservative interpretation of the above numbers would significantly reduce R&D costs and boost the market capitalization of therapeutics companies from the current $2Tn up to $9Tn as soon as 2024, according to estimates from ARK Financial.

Meanwhile, increasingly cost-effective human genomics could revolutionize several other industries, from agriculture to biofuels.

By any measure, there is much to be excited about across the spectrum of biotech — especially coming out of a global pandemic. And while no person, nor index, can truly predict what the future holds, chances are strong that companies sitting within NBI will have a hand in leading the way.

“**For investors**, the Index already serves as a fascinating lens through which to view human society’s scientific and technological advancements,” says Mark Marex. “To me, it’s very exciting to ponder what the researchers, scientists, and business leaders in this space will accomplish next.”

#### IPR protections are key to sustain healthcare investments and manufacturing. Independently, it’s key to broader vaccine production.

Roberts 6/25/21 [James M. Roberts is a Research Fellow for Economic Freedom and Growth at the Heritage Foundation. Roberts' primary responsibility as one of The Heritage Foundation's lead experts in economic freedom and growth is to edit the Rule of Law and Monetary Freedom sections of [Index of Economic Freedom](https://www.heritage.org/index/). An influential annual analysis of the economic climate of countries throughout the world, the Index is co-published by Heritage and The Wall Street Journal.) “Biden’s OK of Global Theft of America’s Intellectual Property is Wrong, Dangerous.” 6/25/2021, The Heritage Foundation, Commentary—Public Health] RM

Last month, President Biden advocated removing international intellectual property rights (IPR) protections for American-made COVID-19 vaccines.

**Foreign companies may take the president’s policy as a green light to produce reverse-engineered, counterfeit substitutes**.

The best way to prevent and treat new diseases is to ensure that private American pharmaceutical companies continue their innovative research and vaccine production.

Three U.S. companies—Pfizer, Moderna, and Johnson & Johnson—created and manufactured the world’s most effective mRNA COVID vaccines in record time. An increasing majority of Americans have now been inoculated, but much of the developing world remains in desperate need of vaccines. Americans naturally want to help. The question is how.

Last month, President Biden advocated removing international intellectual property rights (IPR) protections for American-made COVID-19 vaccines. This, he said, would help make the vaccines more plentiful and available in needy countries. **It’s a short-sighted approach and doomed to fail.**

Mr. Biden wants to waive the World Trade Organization’s “Trade-Related Aspects of Intellectual Property Rights” (TRIPS) agreement for U.S. vaccines and let foreign countries issue “compulsory licenses“ allowing their domestic pharmaceutical companies to manufacture the medicines without adequately compensating the companies that invented them.

Practically speaking, countries such as India and South Africa are unlikely to manufacture the vaccines. They lack an advanced infrastructure for cold supply-chain distribution and many other crucial resources required by these products’ capital-intensive, state-of-the-art manufacturing process.

But the Biden policy is bad for many other reasons.

Developing breakthrough medications takes tremendous ingenuity and immense financial investments. **It’s an extraordinarily high-risk endeavor, and the prospect of making a profit is what convinces private companies to undertake those risks.**

Signaling that the United States will not fight to defend their intellectual property rights **actively undermines innovation and manufacturing** in American health care and medicines.

It also erodes patient protections by undermining quality control. Foreign companies may take the president’s policy as a green light to produce reverse-engineered, counterfeit substitutes. Already there are reports of ineffective and even dangerous counterfeit COVID-19 vaccines being sold around the world.

Those pushing to break U.S. pharmaceutical patents say they want to do so for altruistic reasons. Consequently, they also insist that the prices for the medications be set far below their actual value.

But history shows us that forcing private companies to provide vaccines at an “affordable price,” regardless of the cost to the companies, actually impedes the manufacture of high-quality vaccines. Moreover, it inhibits the **future development of vaccines** needed to meet as-yet-unknown diseases.

Washington first imposed vaccine price controls as part of Hillary Clinton’s 1993 healthcare-for-all crusade. As the Wall Street Journal later noted, it was a body blow to the U.S. vaccine industry. Ironically, government-decreed prices left the companies unable to produce enough vaccines to meet Mrs. Clinton’s admittedly admirable goal of universal immunization of children. Since then, U.S. firms have largely eschewed the vaccine market because they could not recoup their R&D and manufacturing costs and earn enough profit to fund future innovation.

Ultimately, **compulsory licensing legalizes the theft of intellectual property**. Recognizing this, senators from both sides of the aisle have joined with other government officials and industry leaders to call on the administration to reverse this bad decision.

The U.S. patent protection system has served the nation well since its founding.  **It is and has been a bulwark of American prosperity**, but the strength of that protection has been weakening in the past few decades. **Compulsory licensing contributes to the erosion** of that protection.

As the U.S. and the rest of the world emerge from the pandemic, it is clear that more innovative medicines and vaccines will be needed for future protection from viruses and other emerging biological threats.

**The best way to prevent and treat those new diseases is to ensure that private American pharmaceutical companies continue their innovative research and vaccine production**.

That way, U.S.-manufactured vaccines can be made available to all Americans quickly. And governments can subsidize their export and sale to other countries far more effectively and less expensively than through compulsory licensing schemes.

Meanwhile, let’s hope Mr. Biden listens to the more reasonable and less-agenda driven voices in this debate and reverses course on the TRIPS waiver.

#### COVID was a precursor to deadlier pandemics—vaccine production will determine everything.

Lander 8/4/21 [Eric Lander, President Biden’s Science Advisory and Director of the White House Office of Science and Technology Policy) “Opinion: As bad as Covid-19 has been, a future pandemic could be even worse—unless we act now” 8/4/21, The Washington Post] RM

[Coronavirus](https://www.washingtonpost.com/coronavirus/?itid=lk_inline_manual_3) vaccines can end the current pandemic if enough people choose to protect themselves and their loved ones by getting vaccinated. But in the years to come, we will still need to defend against a pandemic side effect: collective amnesia.

As public health emergencies recede, societies often quickly forget their experiences — and **fail to prepare for future challenges**. For pandemics, such a course would be disastrous.

**New infectious diseases have been emerging at an accelerating pace,** and they are spreading faster.

Our federal government is responsible for defending the United States against future threats. That’s why President Biden has asked Congress to fund his plan to build on current scientific progress to keep new infectious-disease threats from turning into pandemics like covid-19.

As the president’s science adviser, I know what’s becoming possible. For the first time in our history, we have an opportunity not just to refill our stockpiles but also to transform our capabilities. However, **if we don’t start preparing now for future pandemics, the window for action will close.**

Covid-19 has been a catastrophe: The toll in the United States alone is [more than 614,000 lives](https://www.washingtonpost.com/graphics/2020/national/coronavirus-us-cases-deaths/?itid=lk_inline_manual_11) and has been estimated to exceed [$16 trillion](https://jamanetwork.com/journals/jama/fullarticle/2771764), with disproportionate impact on vulnerable and marginalized communities.

But a future pandemic could be even worse — unless we take steps now.

It’s important to remember that the virus behind covid-19 is far less deadly than the 1918 influenza. The virus also belongs to a well-understood family, coronaviruses. It was possible to design vaccines within days of knowing the virus’s genetic code because 20 years of [basic scientific research](https://science.sciencemag.org/content/372/6538/109.full) had revealed which protein to target and how to stabilize it. And while the current virus spins off variants, its mutation rate is slower than that of most viruses.

**Unfortunately, most of the 26 families of viruses that infect humans are less well understood or harder to control**. We have a great deal of work still ahead.

The development of [mRNA vaccine technology](https://www.washingtonpost.com/health/2020/12/06/covid-vaccine-messenger-rna/?itid=lk_inline_manual_17) — thanks to more than a decade of foresighted basic research — was a game-changer. It shortened the time needed to design and test vaccines to less than a year — far faster than for any previous vaccine. And it’s been surprisingly effective against covid-19.

Still, there’s much more to do. We don’t yet know how mRNA vaccines will perform against other viruses down the road. And **when the next pandemic breaks out, we’ll want to be able to respond even faster.**

Fortunately, the scientific community has been developing a bold plan to keep future viruses from becoming pandemics.

Here are a few of the goals we should shoot for:

The capability to design, test and approve safe and effective vaccines within 100 days of detecting a pandemic threat (for covid-19, that would have meant May 2020); manufacture enough doses to supply the world within 200 days; and speed vaccination campaigns by replacing sterile injections with skin patches.

Diagnostics simple and cheap enough for daily home testing to limit spread and target medical care.

Early-warning systems to spot new biological threats anywhere in the world soon after they emerge and monitor them thereafter.

We desperately need to strengthen our public health system — from expanding the workforce to modernizing labs and data systems — including to ensure that vulnerable populations are protected.

And we need to coordinate actions with our international partners, because pandemics know no borders.

These goals are ambitious, but they’re feasible — provided the work is managed with the seriousness, focus and accountability of NASA’s Apollo Program, which sent humans to the moon.

Importantly, these capabilities won’t just prepare us for future pandemics; they’ll also improve public health and medical care for infectious diseases today.

Preparing for threats is a core national responsibility. That’s why our government invests heavily in missile defense and counterterrorism. We need to similarly protect the nation against biological threats, which range from the ongoing risk of pandemics to the possibility of deliberate use of bioweapons.

Pandemics cause massive death and disruption. From a financial standpoint, they’re also astronomically expensive. If, as might be expected from [history](https://www.cfr.org/timeline/major-epidemics-modern-era) and current trends, we suffered a pandemic of the current scale every two decades, the annualized cost would exceed $500 billion per year. Investing a much smaller amount to avert this toll is an economic and moral imperative.

The White House will put forward a detailed plan this month to ensure that the United States can fully prepare before the next outbreak. It’s hard to imagine a higher economic or human return on national investment.

#### Ecosystem sensitivity from climate change means future pandemics will cause extinction—assumes COVID

Supriya 4/19 [Lakshmi Supriya got her BSc in Industrial Chemistry from IIT Kharagpur (India) and a Ph.D. in Polymer Science and Engineering from Virginia Tech (USA). She has more than a decade of global industry experience working in the USA, Europe, and India. After her Ph.D., she worked as part of the R&D group in diverse industries starting with semiconductor packaging at Intel, Arizona, where she developed a new elastomeric thermal solution, which has now been commercialized and is used in the core i3 and i5 processors. From there she went on to work at two startups, one managing the microfluidics chip manufacturing lab at a biotechnology company and the other developing polymer formulations for oil extraction from oil sands. She also worked at Saint Gobain North America, developing various material solutions for photovoltaics and processing techniques and new applications for fluoropolymers. Most recently, she managed the Indian R&D team of Enthone (now part of MacDermid) developing electroplating technologies for precious metals.) “Humans versus viruses - Can we avoid extinction in near future?” News Medical Life Sciences, 4/19/21, https://www.news-medical.net/news/20210419/Humans-versus-viruses-Can-we-avoid-extinction-in-near-future.aspx] RM

Expert argues that human-caused changes to the environment can lead to the emergence of pathogens, not only from outside but also from our own microbiome, which can pave the way for large-scale destruction of humans and **even our extinction**.

Whenever there is a change in any system, it will cause other changes to reach a balance or equilibrium, generally at a point different from the original balance. Although this principle was originally posited by the French chemist Henry Le Chatelier for chemical reactions, this theory can be applied to almost anything else.

In an essay published on the online server Preprints\*, Eleftherios P. Diamandis of the University of Toronto and the Mount Sinai Hospital, Toronto, argues that changes caused by humans, to the climate, and everything around us will lead to changes that may have a dramatic impact on human life. Because our ecosystems are so complex, we don’t know how our actions will affect us in the long run, so humans generally disregard them.

Changing our environment

Everything around us is changing, from living organisms to the climate, water, and soil. Some estimates say about half the organisms that existed 50 years ago have already become extinct, and about 80% of the species may become extinct in the future.

As the debate on global warming continues, according to data, the last six years have been the warmest on record. Global warming is melting ice, and sea levels have been increasing. The changing climate is causing more and more wildfires, which are leading to other related damage. At the same time, increased flooding is causing large-scale devastation.

One question that arises is how much environmental damage have humans already done? A recent study compared the natural biomass on Earth to the mass produced by humans and found humans produce a mass equal to their weight every week. This human-made mass is mainly for buildings, roads, and plastic products.

In the early 1900s, human-made mass was about 3% of the global biomass. Today both are about equal. Projections say by 2040, the human-made mass will be triple that of Earth’s biomass. But, slowing down human activity that causes such production may be difficult, given it is considered part of our growth as a civilization.

Emerging pathogens

Although we are made up of human cells, we have almost ten times that of bacteria just in our guts and more on our skin. These microbes not only affect locally but also affect the entire body. There is a balance between the good and bad bacteria, and any change in the environment may cause this balance to shift, especially on the skin, the consequences of which are unknown.

Although most bacteria on and inside of us are harmless, gut bacteria can also have viruses. If viruses don’t kill the bacteria immediately, they can incorporate into the bacterial genome and stay latent for a long time until reactivation by environmental factors, when they can become pathogenic. They can also escape from the gut and enter other organs or the bloodstream. Bacteria can then use these viruses to kill other bacteria or help them evolve to more virulent strains.

An example of the evolution of pathogens is the cause of the current pandemic, the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Several mutations are now known that make the virus more infectious and resistant to immune responses, and strengthening its to enter cells via surface receptors.

The brain

There is evidence that the SARS-CoV-2 can also affect the brain. The virus may enter the brain via the olfactory tract or through the angiotensin-converting enzyme 2 (ACE2) pathway. Viruses can also affect our senses, such as a loss of smell and taste, and there could be other so far unkown neurological effects. The loss of smell seen in COVID-19 could be a new viral syndrome specific to this disease.

Many books and movies have described pandemics caused by pathogens that wipe out large populations and cause severe diseases. In the essay, the author provides a hypothetical scenario where a gut bacteria suddenly starts producing viral proteins. Some virions spread through the body and get transmitted through the human population. After a few months, the virus started causing blindness, and within a year, large populations lost their vision.

Pandemics can cause other diseases that can threaten humanity’s entire existence. **The COVID-19 pandemic brought this possibility to the forefront**. If we continue disturbing the equilibrium between us and the environment, we don’t know what the consequences may be and **the next pandemic could lead us to extinction.**

## Case

**Util is universalizable because it would require any agent to make the choice that maximizes utility.**

R. M. Hare [White's Professor of Moral Philosophy at the University of Oxford from 1966 until 1983. “Universal Prescriptivism.” Originally published in Peter Singer, A Companion to Ethics (Blackwell Publishers, 1991)] **AJ**A possible move for one who is looking for the necessary constraints on moral thinking is to say that **unless I treat the person,** in **who**se place **I am imagining myself being**, **on equal terms with myself,** showing him equal concern, **I am not really imagining him as being me. This entails treating his preferences as of equal weight with my own** present preferences, and thus forming preferences for the hypothetical situation in which I am he, equal in strength to those which he actually has. This is what is involved in following the Golden Rule, doing to others as we wish others to do to us, and loving our neighbours as ourselves. It is also implicit in Bentham's maxim 'Everybody to count for one, nobody for more than one' (cited in Mill, 1861, Ch. 5 s.f.). The Kantian method we have been outlining is consistent with a form of utilitarianism (though not, we must add, exactly Bentham's form, because that is put in terms of pleasure, whereas Kant's theory is put in terms of will). It is wrong to think, as many do, that Kantianism and utilitarianism have to be at odds. **To treat a person** 'never simply as a means but always at the same time **as an end' requires, as Kant** himself **says** on the next page, **that 'the ends of a subject** who is an end in himself **must,** if this conception is to have its full effect [46] in me, **be also,** as far as possible**, my ends’** (1785, BA 69=430 f.). An end is what is willed for its own sake; **so we are,** according to Kant, **to give equal respect to everybody's** wills-for-**ends**, including our own; and **this is** what **util**itarianism also binds us do. **This involves,** in a harmless sense**, treating the ends of many people as if they were the ends of** one person **(myself).** But this does not involve failing to 'take seriously the distinction between persons' (Rawls, 1971,pp. 27, 187)- a distinction of which Kant and the utilitarians are well aware.

### Offense

#### Turn—reducing pharmaceutical patents treats pharma companies as a mere means for national interests.

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The second counter argument to the principle of utilitarianism is deontology. Deontologists such as Kant suggest that morality **should be based on the set of universal normative principles** that impose a categorical imperative on moral agents.[xiii] In evaluating a course of ethical action, one has to adhere to universal principle akin to a call to duty such that anyone, anytime, and anywhere may make the same ethical decision. As Kant summarizes: When I think of a categorical imperative I know at once what it contains. For, since the imperative contains, beyond the law, only the necessity that the maxim be in conformity with this law, while the law contains no condition to which it would be limited, nothing is left with which the maxim of action is to conform but the universality of a law as such ... There is, therefore, only a single categorical imperative and it is this: **act only in accordance with that maxim through which you can** at the same time will that it **become a universal law**.[xiv] In addition, the principle of deontology imposes an obligation on all people to **never use another human being as a means** to attain an end. In other words, the end does not justify the means. Hence, in dire humanitarian crises such as the HIV case, by **breaking the patent**, the government of these countries **“used” the intellectual property** of these patents **to attain their own local or national needs**. One cannot use the larger interest of the population to the exclusion of the investors or **patent holders** who **have rights as well**.[xv]

#### Healthcare and medicine are hypothetical imperatives because they serve as a means for something else, i.e. being alive and are thus not duties under the categorical imperative.