LD September/October 2021
Neg Case

DA: New Variants

New Variants can escape current vaccine protection.

Rubin 21 "COVID-19 Vaccines vs Variants—Determining How Much Immunity Is Enough"
https://jamanetwork.com/journals/jama/fullarticle/2777785

"The virus is telling us it's going to throw out a lot of mutations," infectious disease specialist Jesse Goodman, MD, MPH, who, as the-chief scientist at the US Food and Drug Administration (FDA), led the agency's response to the H1N1 influenza A pandemic, said in an interview. "Even if we don't have a critical situation right at the moment…there's a realistic possibility that variants will continue to evolve that have potential to avoid vaccine immunity." That's to be expected, Anthony Fauci, MD, director of the National Institute of Allergy and Infectious Diseases (NIAID), told *JAMA* Editor in Chief Howard Bauchner, MD, in a February 3 podcast. Regardless of the platform on which the vaccine is based, Fauci said, "you still have a fixed immunogen and a virus that's changing. Sooner or later, you're going to get a mutant that evades that." One reason SARS-CoV-2 is throwing out variants and will continue to do so is because relatively few people globally have been vaccinated, Norman Baylor, PhD, a former director of the FDA's Office of Vaccines Research and Review, noted in an interview. "This virus is like, 'Yep, I've got plenty of people I can infect, and the more I replicate, the more I can mutate,'" Baylor said. Some scientists have used the term *vaccine resistance* to describe the reduced efficacy of COVID-19 vaccines against some variants. But that confuses matters by suggesting vaccines are analogous to antibiotics, University of Washington biologist Carl Bergstrom, PhD, who studies evolution and medicine, said in an interview. "The key point for me is that in antibiotic resistance, the changes happen in people who are on antibiotics," he said, while antigenic escape by SARS-CoV-2 occurs in people who *haven't* been vaccinated. When viruses replicate, Penn State biologist David Kennedy, PhD, explained in an interview, the cycle is like a classic childhood game. "Viruses copying themselves, it's almost like a game of telephone," said Kennedy, who studies pathogen evolution. "They repeat what they thought they heard, so they make mistakes all the time." Despite those many mistakes, Kennedy noted, he's unaware of any vaccines against viral diseases other than seasonal flu that have had to be updated because of changes in the virus. Hepatitis B virus developed "vaccine escape mutations," but they posed no health risks, he said. Good Enough? Current COVID-19 vaccines are based on the SARS-CoV-2 spike protein, which the virus uses to bind to and infect host cells of the original Wuhan-hu-1. But the emerging "variants of concern"—deemed so because they appear to be more transmissible or deadlier than the wild-type SARS-CoV-2—contain mutations in the spike protein, spurring vaccine efficacy concerns. Trials of the Novavax, Janssen/Johnson & Johnson, and AstraZeneca vaccines in South Africa, where the B.1.351 variant of concern represents virtually all of the circulating SARS-CoV-2, seemed to justify those concerns. The South Africa trials found lower vaccine efficacy compared with trials in other countries where B.1.351 wasn't dominant. The pivotal trials of the Pfizer-BioNTech and Moderna vaccines, the first 2 authorized by the FDA, were conducted mainly in the US before any cases of infection by B.1.351 or other variants of concern had been detected in the country.

IP Protections are critical for developing new vaccines.

Blenkinsop 21 "What does waiving intellectual property rights for COVID-19 vaccines mean?
https://www.weforum.org/agenda/2021/05/could-the-world-be-about-to-waive-covid-19-vaccines/

Big drug companies oppose patent waivers, as do Britain and Switzerland. The main Western producers are Moderna (MRNA.O), Johnson & Johnson (JNJ.N), AstraZeneca (AZN.L) and jointly Pfizer (PFE.N) and BioNTech (22UAy.DE). They say vaccine development is unpredictable and costly and that strong IP protection helped provide the incentive for the development of vaccines in record time and will do so again in work on tackling new variants or in a future pandemic.

New Variants can only be tackled with innovative vaccines, which are protected by Intellectual Property Rights.

Steele 21 "The Biden administration supports waiving patents on coronavirus vaccines. Big Pharma won't be happy."

https://www.washingtonpost.com/politics/2021/05/05/biden-administration-supports-waiving-patents-coronavirus-vaccines-big-pharma-wont-be-happy/

Patent rights are a form of IP, and have become increasingly standardized over the past few decades, thanks to international agreements, most importantly including the Doha Declaration on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and Public Health at the World Trade Organization (WTO). At the insistence of rich countries, these rules set out minimal standards for the protection of IP rights in different sectors, including patent rights on drugs. However, governments have the power under TRIPS to issue "compulsory licenses" for pharmaceuticals, authorizing a domestic company to produce a generic version of a drug to be used domestically in response to a national health emergency, or turning to pharmaceutical companies elsewhere if they aren't able to make it at home. Developing countries have used compulsory licenses to produce drugs or bargain down pharmaceutical manufacturers. For example, in a highly publicized case, the Brazilian government used compulsory licenses to bargain down the cost of HIV/AIDS drugs to 90 percent less than the market price. This is why the current conflict has emerged. A handful of vaccines are now available to protect against the coronavirus, but they are in short supply worldwide, because of limited production capacities and preorders from countries such as the United States. Many countries want to use compulsory licensing to get vaccines sooner. **A proposal by India and South Africa** to waive some trade rules **would prioritize sharing information and enable WTO members to temporarily produce and export vaccines without requiring individual compulsory licenses,** as well as protecting members from WTO legal actions against compulsory licenses. Up to now, the United States, **European Union and pharmaceutical companies have strongly resisted the proposed waiver. Waiver skeptics argue that looser IP rules won't help much because it is technically extremely difficult to produce mRNA vaccines in particular, and that a waiver would make pharmaceutical firms less likely to want to develop new vaccines in the future.**

Variants can be more deadly.

Bollinger and Ray 21 "New Variants of Coronavirus: What You Should Know"
https://www.hopkinsmedicine.org/health/conditions-and-diseases/coronavirus/a-new-strain-of-coronavirus-what-you-should-know

Variants of viruses occur when there is a change — or mutation — to the virus's genes. Ray says it is the nature of RNA viruses such as the coronavirus to evolve and change gradually. "Geographic separation tends to result in genetically distinct variants," he says. Mutations in viruses — including the coronavirus causing the COVID-19 pandemic — are neither new nor unexpected. Bollinger explains: "All RNA viruses mutate over time, some more than others. For example, flu viruses change often, which is why doctors recommend that you get a new flu vaccine every year."

"**We** are **see**ing **multiple variants of** the SARS-CoV-2 **coronavirus that are different from the version first detected in China**," Ray says. He notes that one mutated version of the coronavirus was detected in southeastern England in September 2020. That variant, now known as alpha, quickly became the most common version of the coronavirus in the United Kingdom, accounting for about 60% of new COVID-19 cases by December. **Different variants have emerged in Brazil, California** and other areas. More infectious variants such as beta, which first appeared in **South Africa[and]**, may **have increased ability to re-infect people who have recovered from earlier versions of the coronavirus, and also be** somewhat **resistant to** some of the **coronavirus vaccines** in development. Still, vaccines currently used appear to offer significant protection from severe disease caused by coronavirus variants. Ray says, "There is evidence from laboratory studies that some **immune responses** driven **by current vaccines** could be **less effective against** some of these **variants**. The immune response involves many components, including B cells that make antibodies and T cells that can react to infected cells, and a reduction in one does not mean that the vaccines will not offer protection. "People who have received the vaccines should watch for changes in guidance from the CDC [Centers for Disease Control and Prevention], and continue with coronavirus safety precautions to reduce the risk of infection, such as mask wearing, physical distancing and hand hygiene." "We deal with mutations every year for flu virus, and will keep an eye on this coronavirus and track it," says Bollinger. "If there would ever be a major mutation, the vaccine development process can accommodate changes, if necessary," he explains. "**There are 17 genetic changes in the alpha variant from England**," Bollinger says. "**There's** some **preliminary evidence that this variant is more contagious.** Scientists noticed a surge of cases in areas where the new strain appeared." He notes that some of the mutations in the alpha version and some other variants seem to affect the coronavirus's spike protein, which covers the outer coating of SARS-CoV-2 and gives the virus its characteristic spiny appearance. These proteins help the virus attach to human cells in the nose, lungs and other areas of the body. "Researchers have preliminary evidence that some of the new variants, including alpha, seem to bind more tightly to our cells," Bollinger says. "This appears to make some of these new strains 'stickier' due to changes in the spike protein. Studies are underway to understand more about whether any of the variants are more easily transmitted." Bollinger says that some of **these mutations** may **enable the coronavirus to spread faster from person to person, and more infections** can **result in more people getting very sick or dying.** In addition, **there is** preliminary **evidence from Britain that some variants could be associated with more severe disease.** "Therefore, it is very important for us to expand the number of genetic sequencing studies to keep track of these variants," he says. Bollinger explains that it may be more advantageous for a respiratory virus to evolve so that it spreads more easily. On the other hand, mutations that make a virus more deadly may not give the virus an opportunity to spread efficiently. "If we get too sick or die quickly from a particular virus, the virus has less opportunity to infect others. However, **more infections from a faster-spreading variant will lead to more deaths,**" he notes.

S/O 21 Evergreen CP

1NC - One and Done

CP Text: The WTO ought to adopt a "one and done" system for pharmaceutical patent licensing that

- **Allots a drug only 1 patent or period of exclusivity and remove current patent thickets**
- **Prevents evergreening by forcing pharmaceutical companies to change multiple core aspects of a drug that changes its function before it is considered for a secondary patent**

Feldman 19 [Robin Feldman, professor of law and director of the Institute for Innovation Law at UC Hastings College of the Law in San Francisco and author of "Drugs, Money, and Secret Handshakes" (Cambridge University Press, March 2019)] Drug patent protection: it's time for a 'one-and-done' approach, 2-11-2019, STAT, accessed 8-26-2021 https://www.statnews.com/2019/02/11/drug-patent-protection-one-done///ramamurty

I believe that one period of protection should be enough. We should make the legal changes necessary to prevent companies from building patent walls and piling up mountains of rights. This could be accomplished by a "one-and-done" approach for patent protection. Under it, a drug would receive just one period of exclusivity, and no more. The choice of which "one" could be left entirely in the hands of the pharmaceutical company, with the election made when the FDA approves the drug. Perhaps development of the drug went swiftly and smoothly, so the remaining life of one of the drug's patents is of greatest value. Perhaps development languished, so designation as an orphan drug or some other benefit would bring greater reward. The choice would be up to the company itself, based on its own calculation of the maximum benefit. The result, however, is that a pharmaceutical company chooses whether its period of exclusivity would be a patent, an orphan drug designation, a period of data exclusivity (in which no generic is allowed to use the original drug's safety and effectiveness data), or something else — but not all of the above and more. Consider Suboxone, a combination of buprenorphine and naloxone for treating opioid addiction. The drug's maker has extended its protection cliff eight times, including obtaining an orphan drug designation, which is intended for drugs that serve only a small number of patients. The drug's first period of exclusivity ended in 2005, but with the additions its protection now lasts until 2024. That makes almost two additional decades in which the public has borne the burden of monopoly pricing, and access to the medicine may have been constrained. Implementing a one-and-done approach in conjunction with FDA approval underscores the fact that these problems and solutions are designed for pharmaceuticals, not for all types of technologies. That way, one-and-done could be implemented through legislative changes to the FDA's drug approval system and would apply to patents granted going forward.

One-and-done would apply to both patents and exclusivities. A more limited approach, a baby step if you will, would be to invigorate the existing patent obviousness doctrine as a way to cut back on patent tinkering. Obviousness, one of the five standards for patent eligibility, says that inventions that are obvious to an expert or the general public can't be patented. Either by congressional clarification or judicial interpretation, many pile-on patents could be eliminated with a ruling that the core concept of the additional patent is nothing more than the original formulation. Anything else is merely an obvious adaptation of the core invention, modified with existing technology. As such, the patent would fail for being perfectly obvious. Even without congressional action, a more vigorous and robust application of the existing obviousness doctrine could significantly improve the problem of piled-up patents and patent walls. **Pharmaceutical** companies have become **adept at maneuvering through the system** of patent and non-patent rights to create mountains of rights that can be applied, one after another. This behavior lets drug companies keep competitors out of the market and beat them back when they get there. We shouldn't be surprised at this. Pharmaceutical companies are profit-making entities, after all, that face pressure from their shareholders to produce ever-better results. If we want to **change the system,** we must **change the incentives** driving the system. And right now, the incentives for creating patent walls are just too great.

1AC – Util

The standard is maximizing expected wellbeing. Prefer hedonistic act util:

1] Pleasure and pain are intrinsic value and disvalue – everything else regresses – robust neuroscience.

Blum et al. 18 Kenneth Blum, 1Department of Psychiatry, Boonshoft School of Medicine, Dayton VA Medical Center, Wright State University, Dayton, OH, USA 2Department of Psychiatry, McKnight Brain Institute, University of Florida College of Medicine, Gainesville, FL, USA 3Department of Psychiatry and Behavioral Sciences, Keck Medicine University of Southern California, Los Angeles, CA, USA 4Division of Applied Clinical Research & Education, Dominion Diagnostics, LLC, North Kingstown, RI, USA 5Department of Precision Medicine, Geneus Health LLC, San Antonio, TX, USA 6Department of Addiction Research & Therapy, Nupathways Inc., Innsbrook, MO, USA 7Department of Clinical Neurology, Path Foundation, New York, NY, USA 8Division of Neuroscience-Based Addiction Therapy, The Shores Treatment & Recovery Center, Port Saint Lucie, FL, USA 9Institute of Psychology, Eötvös Loránd University, Budapest, Hungary 10Division of Addiction Research, Dominion Diagnostics, LLC. North Kingston, RI, USA 11Victory Nutrition International, Lederach, PA., USA 12National Human Genome Center at Howard University, Washington, DC., USA, Marjorie Gondré-Lewis, 12National Human Genome Center at Howard University, Washington, DC., USA 13Departments of Anatomy and Psychiatry, Howard University College of Medicine, Washington, DC US, Bruce Steinberg, 4Division of Applied Clinical Research & Education, Dominion Diagnostics, LLC, North Kingstown, RI, USA, Igor Elman, 15Department Psychiatry, Cooper University School of Medicine, Camden, NJ, USA, David Baron, 3Department of Psychiatry and Behavioral Sciences, Keck Medicine University of Southern California, Los Angeles, CA, USA, Edward J Modestino, 14Department of Psychology, Curry College, Milton, MA, USA, Rajendra D Badgaiyan, 15Department Psychiatry, Cooper University School of Medicine, Camden, NJ, USA, Mark S Gold 16Department of Psychiatry, Washington University, St. Louis, MO, USA, "Our evolved unique pleasure circuit makes humans different from apes: Reconsideration of data derived from animal studies", U.S. Department of Veterans Affairs, 28 February 2018, accessed: 19 August 2020, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6446569/, R.S.

Pleasure is not only one of the three primary reward functions but it also **defines reward.** As homeostasis explains the functions of only a limited number of rewards, **the** principal **reason why particular stimuli**, objects, events, situations, and activities **are rewarding** may be **due to pleasure.** This applies first of all to sex and to the primary homeostatic rewards of food and liquid and extends to money, taste, beauty, social encounters and nonmaterial, internally set, and intrinsic rewards. **Pleasure**, as the primary effect of rewards, drives the prime reward functions of learning, approach behavior, and decision making and **provides the basis for hedonic theories of reward** function. We are attracted by most rewards and exert intense efforts to obtain them, just because they are enjoyable [10]. Pleasure is a passive reaction that derives from the experience or prediction of reward and may lead to a long-lasting state of happiness. The word happiness is difficult to define. In fact, just obtaining physical pleasure may not be enough. One key to happiness involves a network of good friends. However, it is not obvious how the higher forms of satisfaction and pleasure are related to an ice cream cone, or to your team winning a sporting event. Recent multidisciplinary research, using both humans and detailed invasive brain analysis of animals has discovered some critical ways that the brain processes pleasure [14]. Pleasure as a hallmark of reward is sufficient for defining a reward, but it may not be necessary. A reward may generate positive learning and approach behavior simply because it contains substances that are essential for body function. When we are hungry, we may eat bad and unpleasant meals. A monkey who receives hundreds of small drops of water every morning in the laboratory is unlikely to feel a rush of pleasure every time it gets the 0.1 ml. Nevertheless, with these precautions in mind, we may define any stimulus, object, event, activity, or situation that has the potential to produce pleasure as a reward. In the context of reward deficiency or for disorders of addiction, homeostasis pursues pharmacological treatments: drugs to treat drug addiction, obesity, and other compulsive behaviors. The theory of allostasis suggests broader approaches - such as re-expanding the range of possible pleasures and providing opportunities to expend effort in their pursuit. [15]. It is noteworthy, the first animal studies eliciting approach behavior by electrical brain stimulation interpreted their findings as a discovery of the brain's pleasure centers [16] which were later partly associated with midbrain dopamine neurons [17–19] despite the notorious difficulties of identifying emotions in animals. Evolutionary theories of pleasure: The love connection BO:D Charles Darwin and other biological scientists that have examined the biological evolution and its basic principles found various mechanisms that steer behavior and biological development. Besides their theory on natural selection, it was particularly the sexual selection process that gained significance in the latter context over the last century, especially when it comes to the question of what makes us "what we are," i.e., human. However, the capacity to sexually select and evolve is not at all a human accomplishment alone or a sign of our uniqueness; yet, we humans, as it seems, are ingenious in fooling ourselves and others–when we are in love or desperately search for it. It is well established that modern biological theory conjectures that **organisms are the result of evolutionary competition.** In fact, Richard Dawkins stresses gene survival and propagation as the basic mechanism of life [20]. Only genes that lead to the fittest phenotype will make it. It is noteworthy that the phenotype is selected based on behavior that maximizes gene propagation. To do so, the phenotype must survive and generate offspring, and be better at it than its competitors. Thus, the ultimate, distal function of **rewards** is to **increase** evolutionary **fitness** by ensuring the survival of the organism and reproduction. It is agreed that learning, approach, economic decisions, and positive emotions are the proximal functions through which phenotypes obtain other necessary nutrients for survival, mating, and care for offspring. Behavioral reward functions have evolved to help individuals to survive and propagate their genes. Apparently, people need to live well and long enough to reproduce. Most would agree that homo-sapiens do so by ingesting the substances that make their bodies function properly. For this reason, foods and drinks are rewards. Additional rewards, including those used for economic exchanges, ensure sufficient palatable food and drink supply. Mating and gene propagation is supported by powerful sexual attraction. Additional properties, like body form, augment the chance to mate and nourish and defend offspring and are therefore also rewards. Care for offspring until they can reproduce themselves helps gene propagation and is rewarding; otherwise, many believe mating is useless. According to David E Comings, as any small edge will ultimately result in evolutionary advantage [21], additional reward mechanisms like novelty seeking and exploration widen the spectrum of available rewards and thus enhance the chance for survival, reproduction, and ultimate gene propagation. These functions may help us to obtain the benefits of distant rewards that are determined by our own interests and not immediately available in the environment. Thus the distal reward function in gene propagation and evolutionary fitness defines the proximal reward functions that we see in everyday behavior. **That is why foods, drinks, mates, and offspring are rewarding.** There have been theories linking pleasure as a required component of health benefits salutogenesis, (salugenesis). In essence, under these terms, pleasure is described as a state or feeling of happiness and satisfaction resulting from an experience that one enjoys. Regarding pleasure, it is a double-edged sword, on the one hand, it promotes positive feelings (like mindfulness) and even better cognition, possibly through the release of dopamine [22]. But on the other hand, pleasure simultaneously encourages addiction and other negative behaviors, i.e., motivational toxicity. It is a complex neurobiological phenomenon, relying on reward circuitry or limbic activity. It is important to realize that through the "Brain Reward Cascade" (BRC) endorphin and endogenous morphinergic mechanisms may play a role [23]. While natural rewards are essential for survival and appetitive motivation leading to beneficial biological behaviors like eating, sex, and reproduction, crucial social interactions seem to further facilitate the positive effects exerted by pleasurable experiences. Indeed, experimentation with addictive drugs is capable of directly acting on reward

pathways and causing deterioration of these systems promoting hypodopaminergia [24]. Most would agree that pleasurable activities can stimulate personal growth and may help to induce healthy behavioral changes, including stress management [25]. The work of Esch and Stefano [26] concerning the link between compassion and love implicate the brain reward system, and pleasure induction suggests that social contact in general, i.e., love, attachment, and compassion, can be highly effective in stress reduction, survival, and overall health. Understanding the role of neurotransmission and pleasurable states both positive and negative have been adequately studied over many decades [26–37], but comparative anatomical and neurobiological function between animals and homo sapiens appear to be required and seem to be in an infancy stage. Finding happiness is different between apes and humans As stated earlier in this expert opinion one key to happiness involves a network of good friends [38]. However, it is not entirely clear exactly how the higher forms of satisfaction and pleasure are related to a sugar rush, winning a sports event or even sky diving, all of which augment dopamine release at the reward brain site. Recent multidisciplinary research, using both humans and detailed invasive brain analysis of animals has discovered some critical ways that the brain processes pleasure. Remarkably, there are pathways for ordinary liking and pleasure, which are limited in scope as described above in this commentary. However, there are many brain regions, often termed hot and cold spots, that significantly modulate (increase or decrease) our pleasure or even produce the opposite of pleasure— that is disgust and fear [39]. One specific region of the nucleus accumbens is organized like a computer keyboard, with particular stimulus triggers in rows— producing an increase and decrease of pleasure and disgust. Moreover, the cortex has unique roles in the cognitive evaluation of our feelings of pleasure [40]. Importantly, the interplay of these multiple triggers and the higher brain centers in the prefrontal cortex are very intricate and are just being uncovered. Desire and reward centers It is surprising that many different sources of pleasure activate the same circuits between the mesocorticolimbic regions (Figure 1). Reward and desire are two aspects pleasure induction and have a very widespread, large circuit. Some part of this circuit distinguishes between desire and dread. The so-called pleasure circuitry called "REWARD" involves a well-known dopamine pathway in the mesolimbic system that can influence both pleasure and motivation. In simplest terms, the well-established mesolimbic system is a dopamine circuit for reward. It starts in the ventral tegmental area (VTA) of the midbrain and travels to the nucleus accumbens (Figure 2). It is the cornerstone target to all addictions. The VTA is encompassed with neurons using glutamate, GABA, and dopamine. The nucleus accumbens (NAc) is located within the ventral striatum and is divided into two sub-regions—the motor and limbic regions associated with its core and shell, respectively. The NAc has spiny neurons that receive dopamine from the VTA and glutamate (a dopamine driver) from the hippocampus, amygdala and medial prefrontal cortex. Subsequently, the NAc projects GABA signals to an area termed the ventral pallidum (VP). The region is a relay station in the limbic loop of the basal ganglia, critical for motivation, behavior, emotions and the "Feel Good" response. This defined system of the brain is involved in all addictions –substance, and non –substance related. In 1995, our laboratory coined the term "Reward Deficiency Syndrome" (RDS) to describe genetic and epigenetic induced hypodopaminergia in the "Brain Reward Cascade" that contribute to addiction and compulsive behaviors [3,6,41]. Furthermore, ordinary "liking" of something, or pure pleasure, is represented by small regions mainly in the limbic system (old reptilian part of the brain). These may be part of larger neural circuits. In Latin, hedus is the term for "sweet"; and in Greek, hodone is the term for "pleasure." Thus, the word Hedonic is now referring to various subcomponents of pleasure: some associated with purely sensory and others with more complex emotions involving morals, aesthetics, and social interactions. The capacity to have pleasure is part of being healthy and may even extend life, especially if linked to optimism as a dopaminergic response [42]. Psychiatric illness often includes symptoms of an abnormal inability to experience pleasure, referred to as anhedonia. A negative feeling state is called dysphoria, which can consist of many emotions such as pain, depression, anxiety, fear, and disgust. Previously many scientists used animal research to uncover the complex mechanisms of pleasure, liking, motivation and even emotions like panic and fear, as discussed above [43]. However, as a significant amount of related research about the specific brain regions of pleasure/reward circuitry has been derived from invasive studies of animals, these cannot be directly compared with subjective states experienced by humans. In an attempt to resolve the controversy regarding the causal contributions of mesolimbic dopamine systems to reward, we have previously evaluated the three-main competing explanatory categories: "liking," "learning," and "wanting" [3]. That is, dopamine may mediate (a) liking: the hedonic impact of reward, (b) learning: learned predictions about rewarding effects, or (c) wanting: the pursuit of rewards by attributing incentive salience to reward-related stimuli [44]. We have evaluated these hypotheses, especially as they relate to the RDS, and we find that the incentive salience or "wanting" hypothesis of dopaminergic functioning is supported by a majority of the scientific evidence. Various neuroimaging studies have shown that anticipated behaviors such as sex and gaming, delicious foods and drugs of abuse all affect brain regions associated with reward networks, and may not be unidirectional. Drugs of abuse enhance dopamine signaling which sensitizes mesolimbic brain mechanisms that apparently evolved explicitly to attribute incentive salience to various rewards [45]. Addictive substances are voluntarily self-administered, and they enhance (directly or indirectly) dopaminergic synaptic function in the NAc. This activation of the brain reward networks (producing the ecstatic "high" that users seek). Although these circuits were initially thought to encode a set point of hedonic tone, it is now being considered to be far more complicated in function, also encoding attention, reward expectancy, disconfirmation of reward expectancy, and incentive motivation [46]. The argument about addiction as a disease may be confused with a predisposition to substance and nonsubstance rewards relative to the extreme effect of drugs of abuse on brain neurochemistry. The former sets up an individual to be at high risk through both genetic polymorphisms in reward genes as well as harmful epigenetic insult. Some Psychologists, even with all the data, still infer that addiction is not a disease [47]. Elevated stress levels, together with polymorphisms (genetic variations) of various dopaminergic genes and the genes related to other neurotransmitters (and their genetic variants), and may have an additive effect on vulnerability to various addictions [48]. In this regard, Vanyukov, et al. [48] suggested based on review that whereas the gateway hypothesis does not specify mechanistic connections between "stages," and does not extend to the risks for addictions the concept of common liability to addictions may be more parsimonious. The latter theory is grounded in genetic theory and supported by data identifying common sources of variation in the risk for specific addictions (e.g., RDS). This commonality has identifiable neurobiological substrate and plausible evolutionary explanations. Over many years the controversy of dopamine involvement in especially "pleasure" has led to confusion concerning separating motivation from actual pleasure (wanting versus liking) [49]. We take the position that animal studies cannot provide real clinical information as described by self-reports in humans. As mentioned earlier and in the abstract, on November 23rd, 2017, evidence for our concerns was discovered [50] In essence, although nonhuman primate brains are similar to our own, the disparity between other primates and those of human cognitive abilities tells us that surface similarity is not the whole story. Sousa et al. [50] small case found various differentially expressed genes, to associate with pleasure related systems. Furthermore, the dopaminergic interneurons located in the human neocortex were absent from the neocortex of nonhuman African apes. Such differences in neuronal transcriptional programs may underlie a variety of neurodevelopmental disorders. In simpler terms, the system controls the production of dopamine, a chemical messenger that plays a significant role in pleasure and rewards. The senior author, Dr. Nenad Sestan from Yale, stated: "Humans have evolved a dopamine system that is different than the one in chimpanzees." This may explain why the behavior of humans is so unique from that of non-human primates, even though our brains are so surprisingly similar, Sestan said: "It might also shed light on why people are vulnerable to mental disorders such as autism (possibly even addiction)." Remarkably, this research finding emerged from an extensive, multicenter collaboration to compare the brains across several species. These researchers examined 247 specimens of neural tissue from six humans, five chimpanzees, and five macaque monkeys. Moreover, these investigators analyzed which genes were turned on or off in 16 regions of the brain. While the differences among species were subtle, **there was** a **remarkable contrast in** the neocortices, specifically in an area of the brain that is much more developed in humans than in chimpanzees. In fact, these researchers found that a gene called tyrosine hydroxylase (TH) for the enzyme, responsible for the production of dopamine, was expressed in the neocortex of humans, but not chimpanzees. As discussed earlier, dopamine is best known for its essential role within the brain's reward system; the very system that responds to everything from sex, to gambling, to food, and to addictive drugs. However, dopamine also assists in regulating emotional responses, memory, and movement. Notably, abnormal dopamine levels have been linked to disorders including Parkinson's, schizophrenia and spectrum disorders such as autism and addiction or RDS. Nora Volkow, the director of NIDA, pointed out that one alluring possibility is that the neurotransmitter dopamine plays a substantial role in humans' ability to pursue various rewards that are perhaps months or even years away in the future. This same idea has been suggested by Dr. Robert Sapolsky, a professor of biology and neurology at Stanford University. Dr. Sapolsky cited evidence that dopamine levels rise dramatically in humans when we anticipate potential rewards that are uncertain and even far off in our futures, such as retirement or even the possible alterlife. This may explain what often motivates people to work for things that have no apparent short-term benefit [51]. In similar work, Volkow and Bale [52] proposed a model in which dopamine can favor NOW processes through phasic signaling in reward circuits or LATER processes through tonic signaling in control circuits. Specifically, they suggest that through its modulation of the orbitofrontal cortex, which processes salience attribution, dopamine also enables shilting from NOW to LATER, while its modulation of the insula, which processes interoceptive information, influences the probability of selecting NOW versus LATER actions based on an individual's physiological state. This hypothesis further supports the concept that disruptions along these circuits contribute to diverse pathologies, including obesity and addiction or RDS.

That outweighs---bindingness---if I put my hand on a hot stove, I'd pull it back before a signal is sent to my brain---pleasure and pain always guide action, anything else regresses

2] Actor spec—governments must use util because they don't have intentions and are constantly dealing with tradeoffs

3] Use epistemic modesty for clash---disincentives debaters going all in for framework

4] Utilitarianism should be used in the context of public health emergencies---this framework avoids abuses while ensuring just outcomes at the tail end of disease risks.

Kirkwood 9 **School of Health Studies, Faculty of Health Sciences, University of Western Ontario. 06/01/2009. "In the Name of the Greater Good?" Emerging Health Threats Journal, vol. 2, no. 0. CrossRef, doi:10.3402/ehtj.v2i0.7092.**

Public health authorities in many economically advantaged nations are bracing themselves to face **future pandemics** that will harm **large numbers of citizens**. Modern medical horrors such as Monkeypox or the much-feared future mutations of Avian Influenza (H5N1) are mentioned in the same breath as virulent strains of influenza, as a danger to our 'way of living.' Far beyond sickness and large numbers of death, an outbreak of one of these pandemics poses a real threat to long-term health, as well as to the social and economic well being of significant percentages of our surviving population.1 While confronting issues brought forth by a pandemic, the fundamental nature of 'public health' and its focus on the welfare of a population demands special attention to **util**itarian **considerations** of promotion of the **greatest good**—in this case, health—as well as the limitation of **illness and death in the 'worst-case' scenarios posed by the most lethal of pandemics**. Of particular interest to this paper are questions related to the obligation of health-care workers (HCWs) to report to work in the face of heightened immunological threat and whether those same workers should have greater access to immunizations and treatments than should non-HCWs. Utilitarianism within public health ethics The fundamental feature of the ethical theory of utilitarianism states that moral behavior is that which **promotes good and minimizes harm**.2 In writings based on public health, **utilitarianism** is widely recognized as a fragment in the ethical 'scheme' of public health,3 but it is not afforded a stronger role for two primary reasons: first, considering its **extreme position**, utilitarianism is **morally problematic**,4 as it could **literally permit anything** in the name of the 'greatest good to the greatest number,' and second it is virtually **impossible to live a moral life** under the most extreme forms of utilitarianism, because the obligations are too **difficult to discern** (the 'what' of promoting the good) and impossible to **execute** (the 'how').5 Utilitarianism, in a **moderate form**, used in public health ethics, means that our actions and policies should be focused on **increas**ing **the total 'net' goodness** rather than an average 'net' good for each person. The institutions of individual rights and the recognition of patient autonomy are **not contradictory** to this, but are believed to **serve the overall good**, as individual benefit increases the total good, and serves as a preventative measure of unjustified majoritarian actions against smaller groups. This model of utilitarianism is evident in many aspects of public healthFnot only through health-promotion projects that encourage the otherwise illness-free individuals to take up a more healthful diet and exercise regimen but also through harm-reduction programs, in which people with negative health behaviors such as abuse of drugs or dietary fats are aided to eliminate, or at least minimize the harm they cause to those around them. In everyday practice, the force of this utilitarian aspect has a **supportive role** along with other ethical elements of public health practice, and presents a **balanced moral justification** for all actions undertaken in accordance with this practice.6 However, I contend that there must be an **'escalator clause'** in the utilitarian aspect that suggests that in the event of an **extensive threat to the existence of a population**, the force of this utilitarian aspect becomes the **primary consideration** in proportion to the threat. Therefore, the greater the threat, the **greater the moral force of util**itarianism in making public health decisions. This also entails that the greater the threat, the greater the **moral impetus to minimize the harm to the population.** On duty, outbreaks, and distribution of resources Obligations to minimize harm and promote the goods of public health are not particularly controversial in times of relatively stable 'good-health' measures among the populace. The more troubling question emerges from the scenario in which promoting health and minimizing illness and death demands more from HCWsFhow can, or should, we compel HCWs to attend to their duties in the event that a highly lethal form of communicable disease should start spreading?7 Although current debates focus on questions of duty, and how much personal risk invalidates that commitment, utilitarian aspects of that obligation are not given enough weight in the debate. In many of the debates, the question of risk is posed in terms of how we do not expect a trained 'first responder' to recklessly endanger his or her life to save the life of another. The classic story of the lifeguard is offered as exemplar: a lifeguard is not expected to rescue a drowning swimmer if a shark is clearly present.8 Although this statement seems reasonable, it does not justify itself. By contrast, the consideration of the utilitarian aspect makes the point that in attempting to save a life, two are likely to be lost, thus propagating a greater total harm. The same holds true for the example of firefighters rushing into a house badly damaged by an active fire. Although there may be a life on that second floor to save, we do not expect any number of firefighters to sacrifice their lives for the doomed soul because the loss of many, including the original life in peril, is a maximization of harm, when harm should be minimized. When you control for the risks involved, such as using precautions to assure a level of safety for the rescuers, such as shark nets for the lifeguard, or safety gear for the firefighters, then the obligation to assist comes back into full force, as the potential for greater harm is manageable.9 It is the variable of risk, which creates variable demands on those whose duty it is to care for the population in times of crisis. We consider not only the risk to the obligated but also a question of the scope of risk to the population. In academic and public debates regarding the compulsion to attend to duty in the face of danger, one fallacy has been allowed to stand: the notion that exposure to a pandemic can be avoided if one simply does not come to his or her job as a HCW. Although it is true that working in a hospital during times of influenza outbreak puts one at a greater risk for contracting the illness,10 the more widespread the outbreak, the more people become sick, and the more likely the 'stayat-home' HCW will become sick even after having avoided contact in the course of his or her duties. We could reasonably state that, by virtue of staying home during a time of need for his or her service, the HCW improves the odds that he or she will contract this illness outside professional practice as part of the greater number who will be exposed. Another feature of the argument offered to defend dereliction of duty is to suggest that this risk that the HCW takes with his or her own health is a fixed variable, and thus should be considered as an exception to duty. On the contrary, it is a common feature of the infection-control literature that states that doctors and nurses are overwhelmingly neglectful toward their own basic infection-control protocols.11 Therefore, the threat is not a fixed variable, but one that is actually quite within the scope of the control of a HCW. Ethically, one cannot willfully or negligently enhance the exceptions to duty. At the same time, it is an obligation of the management to ensure that diligent HCWs are equipped to do all they can to reduce their risks. During the SARS crisis in Toronto, health-care administrators did not effectively communicate which precautions should be undertaken by HCWs to protect themselves.12 It bears mentioning that once clear direction could be given about the type and execution of masking procedures, the intrahospital transmission of SARS decreased to 0%.13 This fact speaks to the issue of risk, as the non-transmission of SARS correlated with the increased attentions of management and staff to infection-control precautions and the provision and use of proper equipment.14 When we speak in terms of risk and pandemics from the utilitarian perspective discussed herein, we recognize that it is completely nonsensible to sacrifice highly trained HCWs by rushing them ill equipped into dangerous situations. Much as with the example of firefighters and the unsafe burning house, we find it morally unacceptable to treat them as disposable, because of the singularity of their lives and their right to exist as individuals. There is also the detriment we would cause in an event such as a pandemic by losing the people trained to save us to the very threat they were trained to save us from. By that same logic, it could be argued that HCWs should have first access to available and medically accepted vaccinations by virtue of the fact that those HCWs are absolutely essential to our survival. The fear of an Avian Influenza outbreak brought with it much debate about scarce Tamiflu supplies and giving HCWs preferential access.15 However, the added value of a HCW is the fact that he or she will be facing the greater risk by virtue of faithful and responsible execution of his or her duty, and if this is trueFand we have seen from the example of SARS that it is not always the case that HCWs exercise due diligence or face unmanageable risks of infection simply by being 'on-site'Fthen we should do more to protect them. Nevertheless, if the claim is that they can excuse themselves from duty because of risk, then we excuse ourselves from privileging their protection, through the preferential access to measures such as Tamiflu. The same

should be true for access to vaccines or treatments: those who are compelled into service to defend the overall health of a society at tremendous risk should be first in line, as their opportunity for infectionFand to act as a vector for infection both within and outside their health-care facilitiesFmeans that the greater good is served by privileging their access to prophylaxis. A common objection to this comes from the perspective of social justice. The objection would point out that those who are least able to prevent their own infection, such as those from the lower socioeconomic classes, retirees and pensioners, and other vulnerable groups, would be denied access to the protections and treatments that are going to HCWs whoFto varying degreesFenjoy more comfortable socioeconomic positions. Although this question of access is valid in questions of many public health interventions, the preference of HCWs in questions of preferential access to vaccines and treatments is not unjust in these terms. Fundamentally, justice addresses unjustified imbalances in treatment. Aristotle famously mandated that equals should be treated as equals, and unequals as unequals.16 The key point of justice is that there should be a valid justification for differential treatment, and in that light, in this context, we are describing pandemics that pose a unique and credible threat to the public in a manner that could **fundamentally undermine our way of life**. Preferential treatment of HCWs, in this limited context, is a just and defensible practice. It is this same special status that we afford those who can save us from the most lethal and dangerous illnesses in times of public health emergency that also places **greate**r **demands** on those same people. The **greater the risk to society**, the **greater the responsibilities on those who can reduce the body count**. The relationship between the duty of a HCW and the lethality of a disease is **proportional—danger and obligation increase in step with each other**, as opposed to other conceptions that suggest a threshold of exception as the risk of illness becomes too great. The fundamental flaw with this suggestion is that a negation of duty in such an outbreak simply allows the outbreak to pose an even greater threat to the populationFincluding that same derelict HCWFrather than confronting the illness in the relatively controlled environment of a hospital. Conclusions Utilitarianism in the form of promoting the good and diminishing the bad is a **key moral belief** in the realm of public health. It is one view in concert with others, all working to counterbalance each view to achieve a tenable moral equilibrium. In the **extreme cases** under consideration herein, such equilibrium dictates that the moral force of health promotion and harm minimization **increases in relation to the threat posed** to the well being of a **larger society**. In the case of widespread death or disability caused by a pandemic, this paper contended that an increased threat generates a **heightened obligation** on the part of HCWs, while also creating a reasonable expectation that those same HCWs will have preferential access to vaccines and treatments.

5] Extinction first under any framework

Pummer 15 [Theron, Junior Research Fellow in Philosophy at St. Anne's College, University of Oxford. “Moral Agreement on Saving the World” Practical Ethics, University of Oxford. May 18, 2015] brett

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)

Must do the same with vaccines in general

1. Waiving IP Rights During Times of COVID: A 'False Good Idea' 2. https://thehill.com/business-a-lobbying/552638-biontech-ceo-patent-waivers-are-not-needed
block to standard aff not spec

Un over wto implementation process cp

https://www.ipinst.org/wp-content/uploads/publications/ipi_e_pub_small_states_at_un.pdf

https://itif.org/publications/2019/04/25/way-forward-intellectual-property-internationally

https://www.nature.com/articles/d41586-021-01242-1

Based on this, un p

Another cp could be pic only vaccines instead of all medicines, and this should probably be permanent because allowing countries to get the vaccines (especially developing ones) early on can stop pandemics early on and not let them continue, not even pandemics just any virus or sickness. Look into permanent or just temporary.

XT

First contention:

1. **Extend new variants. Extend rubin 21 New variants of covid will escape the current vaccine protection, making the vaccine practically useless. Over time, the variants have a higher chance of being able to evade the protection of the vaccine**
2. **Next, extend Steele 21. We prove that IP is key to developing these new vaccines against variants of covid. The only way to make these new vaccines is through innovating, and IP is essential to innovate.**
3. **No vaccines against these new variants will lead to more deaths, explained in Bollinger and Ray 21. These variants can be even more deadly than the original version of covid.**
4. **Thus, we o/w on timeframe and scope**
    a. **1. We o/w on timeframe because we prepare for critical situations in the future against mutants of covid.**
    b. **2. We o/w on scope because we save lives that could be potentially lost due to these variants.**

Second Contention:

1. **Extend stock market. Extend Dass 15 that shows how ipr decreases stock investment. TRIPs allows for protection of the firms and increased stock liquidity by preventing stock crashes**
2. **Stock crashes lead to depression of the economy because of the shocks sent through the value of our currency and industries**
3. **Depression leads to bad livelihoods and extinction**