### 1

#### The standard is maximizing expected well-being – Prefer

#### [1] Actor specificity – state actors can only use util – outweighs since different actors have different obligations.

#### A – Aggregation – all policies benefit some and hurts others – only util can resolve these cuz it gives a clear weighing mechanism

#### B – Collectivism – States are composed of many actors who inevitably disagree about intent means they can only use consequentialism because they don’t have to agree

#### C – Bureaucrats aren’t philosophers – policymakers do not have experience with dense frameworks so they don’t understand how to apply them to specific instances but they do understand that pain is bad and pleasure is good because it’s intrinsic to existing.

#### [2] Extinction first –

#### a. Wager – if there is any chance of goodness existing, we ought to preserve our existence to maximize it.

#### b. Sequencing – if their framework is true, people dying is bad because it means those people can’t use their framework

#### c. Repugnance – if their framework cannot explain why people dying is bad – you should reject it because it cannot disavow of atrocities. You shouldn’t vote for a framework that can’t say the holocaust was a bad thing.

#### d. Performativity – us having a moral debate proves moral uncertainty because it means we are not certain about which framework is true - means we should preserve our ability to find the true framework

### 2

#### The California recall has given democrats optimal election strategy for the midterms to maximize gains – right-wing extremists winning primaries alienate moderates

Ronayne and Riccardi 9/15 (Kathleen Ronayne and Nicholas Riccardi; 9/15/21; AP News; *“Democrats see a midterm map in California recall success”*; accessed 9/19/21; <https://apnews.com/article/donald-trump-california-recall-california-campaigns-health-48a08f0362762dd53f8171c35c09f57b>; Kathleen Ronayne is a olitical reporter for The Associated Press with bylines from California to New Hampshire and swing states in between. Now covering the recall election of Gov. Gavin Newsom and California's influence on the national political debate; Nicholas is a political writer at the associated press) HB

Few Democrats were surprised to see Democratic Gov. Gavin Newsom swat down a Republican-driven recall campaign in bright-blue California. But they were pleased with how he did it. By making the race into a referendum on former President Donald Trump and his supporters’ “extreme” resistance to coronavirus precautions, Newsom offered a formula for survival that could translate to dozens of races in next year’s midterm elections, Democrats said. A healthy turnout, spurred by some late anxiety, showed Democrats remain eager to vote against the former president, even when he’s not on the ballot. California voters rejected the “Republican brand that is centered around insurrection and denying the pandemic,” said Rep. Sean Patrick Maloney, chairman of the Democratic Congressional Campaign Committee. Republicans said they saw nothing to worry about in the California results. Losing badly in a liberal stronghold isn’t much of a prediction of the party’s performance in battlegrounds like Florida or Georgia, they said. They argue they were saddled with a flawed candidate — talk radio host Larry Elder, the Republican frontrunner whom Democrats likened to a Trump clone in a state the former president lost by 30 percentage points and did little to appeal to moderate voters in swingy suburbs. But President Joe Biden and his party won’t have it as easy next year as Newsom did, said Ron Nehring, a former chairman of the California Republican Party who was harshly critical of Elder and worked for one of his rivals “Gavin Newsom had one opponent who he was able to define in the minds of enough swing voters,” he said. “No. 1, Biden himself is not going to be on the ballot and No. 2, he does not have a singular opponent.” On Wednesday, Biden embraced Newsom’s victory and his message. “This vote is a resounding win for the approach that he and I share to beating the pandemic: strong vaccine requirements, strong steps to reopen schools safely, and strong plans to distribute real medicines — not fake treatments — to help those who get sick,” Biden said in a statement. But there will be better test cases coming on how these messages play with voters. In November, voters in Virginia will choose between Democrat Terry McAuliffe, a former governor and longtime Democratic operative, and GOP businessman Glenn Youngkin. McAuliffe has been hammering Youngkin as too extreme for a state that has been growing more diverse, more suburban and more Democratic for years. California has similar demographic trends at play. In Orange County, long a GOP bastion, racial and ethnic diversity and the growing distaste higher-educated, wealthy voters have shown for Trump have opened the door to Democrats in the county — although the GOP won back two House seats there last year. The recall was failing in Orange County by 5 percentage points on Wednesday, although the vote count in California will go on for weeks and the final margins may change. Newsom and his Republican opponent John Cox essentially tied in the county in 2018. Even the incomplete the results buoyed Democrats. “We’re pretty excited about California, and it’s not because we thought we’re going to lose it — it’s because the margin is better than expected and it shows the Republican message is failing badly in swing districts,” Mahoney said. Still, it’s hard to draw too many conclusions from a single election in a state so liberal that Democrats held every statewide office even during Republican wave years of 2010 and 2014. “It’s like us boasting about beating a recall in Alabama,” quipped Matt Gorman, a former strategist with the National Republican Congressional Committee. Gorman said Democrats would only get so much mileage out of demonizing Republican nominees and trying to tie them to Trump. “Biden is the focus” of the midterms, Gorman said, noting how Republicans unsuccessfully tried to tie congressional Democrats to Nancy Pelosi in 2018, when she was only minority leader and didn’t control the House of Representatives. “It becomes less effective once they’re out of power.” “If inflation is high, gas prices are high and COVID is spiking, it’s going to be much harder” for Democrats to talk about Trump and Republican extremism in 2022, Gorman said. It will also be hard for Republicans not to talk about Trump. GOP primaries for Senate seats in Ohio, Georgia and Pennsylvania already are poised to be a competition for Trump’s base. House candidates have been clamoring for Trump’s endorsement. The former president hasn’t been shy about anointing favorites. Democrats are certain to use that against those candidates when they face a general election. “I think a sad reality of the modern GOP is that there are going to be a lot of Larry Elders on the ballot in 2022 because they’re going to win Republican primaries,” said Addisu Demissie, a Newsom campaign strategist. “When the alternative is extreme, you represent not just your base but the middle.”

#### The plan is politically unpopular – voters are divided which means that plans passage flips the major thin margins – vaccines proves

The Hill 5/4 (The Hill; 5/4/21; The Hill; *“Poll: Majority oppose proposal to temporarily waive intellectual property rights on COVID-19 vaccines”*; accessed 8/27/21; <https://thehill.com/hilltv/what-americas-thinking/551797-poll-majority-oppose-proposal-to-temporarily-waive-intellectual>) HB

A majority of voters oppose the proposal to temporarily waive intellectual property rights on COVID-19 vaccines, a new Hill-HarrisX poll finds. The survey comes as the Biden administration faces mounting pressure to support a proposal led by India and South Africa that would waive an international intellectual property agreement that protects pharmaceutical trade secrets. Backers of the move argue it would enable lower-income countries to manufacture the vaccines themselves while those opposed say it could make the vaccine less safe and damper production in existing locations. Fifty-seven percent of registered voters in the May 3-4 survey said they oppose the proposal to waive intellectual property rights on COVID-19 vaccines. By contrast, 43 percent of respondents said they support the proposal. Sixty-four percent of Republican voters along with 52 percent of both Democratic and independent voters said they oppose waiving the intellectual property rights of vaccines. "This is a complex issue with a remarkably sophisticated understanding by the public. The tension is as follows: On one hand you have the need to protect the intellectual property rights of the scientists and companies that brought about the fastest vaccine in history, and will likely need to produce new versions of the shot even faster to battle evolving strains," Dritan Nesho, chief researcher and CEO of HarrisX, told Hill.TV. "On the other hand there’s the need to save lives, reaching global heard immunity and providing access to the vaccine as broadly and equitably as as possible," Nesho continued. "Today a majority of 57 percent of U.S. voters would like to protect the intellectual property of vaccine makers, but as more and more people are vaccinated in advanced economies, voter pressure for broader and more equitable distribution will rise," Nesho added. "Already we see Democrats and independents here split on the issue of whether or not to waive IP rights to provide greater access to the vaccines." President Biden is expected to weigh in on the proposal at a World Trade Organization meeting on Wednesday. The most recent Hill-HarrisX poll was conducted online among 939 registered voters. It has a margin of error of 3.2 percentage points.

#### **A Republican win in 2022 shuts out climate action for decades**

Silverman 8/24 (Ellie Silverman; 8/24/21; The Washington Post; *“Climate activists fear this is the last chance to pass meaningful legislation”*; accessed 8/27/21; <https://www.washingtonpost.com/dc-md-va/2021/08/24/climate-biden-congress-protest/>; Ellie Silverman covers protest movements, activism and local news. At The Post, she has also covered local crime and courts. She has previously reported on retail, breaking news and general assignment stories for the Philadelphia Inquirer, her hometown paper. She graduated from the University of Maryland, where she reported for the Diamondback) HB

There is a rising frustration among many of those organizers, who say they helped turn out the vote in 2020 but are not seeing climate pledges translate into meaningful changes. They are worried that the opportunity to push through ambitious climate legislation will soon be gone — and that they may not have another chance. “He said he was the climate president,” Peltier — an Anishinaabe citizen of the Turtle Mountain Band of Chippewa and a member of the Indigenous environmental justice organization Honor the Earth — said outside the White House on Monday. “Now he doesn’t care.” Many climate activists have described an escalating sense of urgency to implement the sweeping changes needed to slow Earth’s warming, highlighted by the recent landmark report from the Intergovernmental Panel on Climate Change. U.N. Secretary General António Guterres called the report a “code red for humanity.” The pace of emissions shows the planet is on track to warm more than two degrees Celsius above preindustrial levels, which could trigger irreversible damage, according to the IPCC report. The Greenland ice sheet could collapse, and sea levels could rise more than six feet. There will be more of the climate-fed fires of this summer, deadly heat waves and devastating floods. Natalie Mebane read the IPCC report and thought of how much ground the climate movement in this country lost under President Donald Trump, whose administration allowed more pollution and weakened protections for wildlife. She worries Republicans will regain power in the 2022 midterms and thinks the slim window from now until then may be the final opportunity to see climate priorities passed through Congress. If not, it could be years before Democrats are in control — wasted time that Mebane fears could cause permanent devastation. “If the Democrats lose a single seat in the Senate, it’s over,” said Mebane, the associate director of U.S. policy for 350.org, an international climate group. “These years that we have right now is the last time that we can even make an impact and influence on climate change before it becomes runaway climate change that we have zero control over.” Biden has tackled greenhouse-gas emissions by proposing new federal goals and mandates to begin shifting the country toward electric cars, rejoined the Paris climate accord and revoked a federal permit for the Keystone XL oil pipeline. But activists point out Biden is still supporting Line 3, a tar-sands oil-pipeline expansion project that will be able to carry 760,000 barrels a day from Canada across northern Minnesota and into Wisconsin. They have called for him to revoke the permit, as he did with Keystone XL, and have protested for months, including on construction sites, chaining themselves to equipment and risking arrest. The White House did not respond to a request for comment. Earlier this month, the Senate approved the $1.2 trillion infrastructure bill with funding to tackle climate change, but many activists said the legislation has fallen short of dramatically addressing goals as lofty as this crisis demands. That does not mean Democrats should pass just any climate legislation, activists say — it has to include the right policies. Compromising on climate, they said, is not good enough. Though the bipartisan infrastructure bill apportions billions of dollars toward funding new public transit and electric-car charging stations, measures that are meant to cut climate-warming emissions, environmental organizations say it does not go far enough. They want to see legislation supporting Biden’s stated goal of replacing 100 percent of lead pipes and the replacement of all diesel school buses with clean electric ones. “It’s hard to square the scale of the problem with the solutions being discussed,” said Lukas Ross, program manager for the Climate and Energy Justice program at Friends of the Earth, another environmental group. “This is not the moment to bargain away the store in the name of passing anything.” Climate groups are focusing on the passage of a second bill through budget reconciliation, a process that would allow Democrats to pass more dramatic climate legislation without Republican support. Democrats in Congress are hoping to work in a clean-energy standard that would compel power providers to shift to wind, solar and other low-emission sources of energy to achieve 80 percent clean electricity by the end of the decade.

#### **US climate action is key to world wide action**

Beeler 19 (Carolyn Beeler; 9/18/19; PRI; *“Top US leadership is 'missing ingredient' in climate change action”*; accessed 8/27/21; <https://www.pri.org/stories/2019-09-18/top-us-leadership-missing-ingredient-climate-change-action>; Carolyn Beeler leads environment coverage for The World. She reports and edits stories focused on the people and places most impacted by climate change, and what they're doing to address it. She has reported from all seven continents and won national and regional awards for her breaking news and in-depth feature reporting. Before joining The World, Carolyn helped pilot the weekly health and science show, The Pulse, at WHYY in Philadelphia, and reported from Berlin for a year as a Robert Bosch Foundation fellow. She studied journalism at Northwestern University and got her start in radio as a Kroc fellow at NPR.) HB

World leaders will meet in New York next week for the United Nations Climate Summit, an event called by the Secretary-General to push for more and faster cuts to global greenhouse gas emissions. Notably missing at the summit: American leadership. Five years ago, a joint climate policy announcement from the US and China paved the way for the Paris climate accord to come to fruition after decades of failed attempts at an international climate pact. Then in June 2017, President Donald Trump announced that he would withdraw the US from the very same agreement his country had helped broker just a few years before. Under the rules of the accord, countries can announce the intention to leave, but must wait two years before being allowed to do so. Two years later, what impact has this policy whiplash had on the climate? Inside the US, that answer is relatively simple to quantify. Across the country, some 4,000 state and local governments, institutions and businesses have declared that, though the federal government intends to withdraw from the Paris climate agreement, they’re still on board with cutting emissions. One of those local governments is in Arlington, Massachusetts, where the town hall was illuminated green after Trump’s 2017 Paris withdrawal announcement. “We’ve come to the realization that if the federal government’s not going to do it, it’s going to fall to the local level,” said Adam Chapdelaine, Arlington’s town manager. “Somebody has to step up and be a leader.” Even before the Paris Agreement, the town has long worked to reduce its greenhouse gas emissions, from switching its street lights to LED bulbs to buying electric vehicles for its official fleet. Residents can opt-in to 100% renewable energy in their homes and the town is advocating for all-electric heating and cooling systems. Since the US federal government reversed its climate change policies, Arlington has gotten perhaps more ambitious: The town’s new high school is being designed to run on geothermal and solar energy and the whole town aims to go carbon-neutral by 2050. These state and local actions are being highlighted as “answering the global call to combat the climate crisis” by a coalition of sub-national actors formed by New York Mayor Michael Bloomberg and former California Gov. Jerry Brown. But these actions have only partly counteracted sweeping federal changes under the Trump administration. Trump has slashed regulations on emissions from power plants, air conditioners and refrigerators, and oil and gas drilling nationwide. He moved to revoke California’s ability to set its own strict vehicle emission rules on Wednesday, highlighting the limits of state-based action on climate change. So how does the emissions balance sheet tally up today, two years after the US backed away from the Paris agreement? Kate Larsen, a director at the independent research firm the Rhodium Group, said US carbon emissions are a few percentage points higher than they would have been if former President Barack Obama-era policies were in place. Projected forward five years, that gap will just grow. “Under the current set of Trump administration policies, the US is on track to achieve only about 14 to 17% emission reductions below 2005 levels in 2025,” Larsen said. That’s about half of the 26 to 28% emission reductions that the US promised in the climate accord. “[It's] a long way from the commitment that Obama reached in Paris,” Larsen said. Scientists say that to limit warming to 1.5 degrees Celsius and avoid the worst impacts of climate change, global emissions must be cut nearly in half by 2030. Inside the US, local action is partly, but not wholly, counteracting federal policies. The bigger question is how much global ambition to tackle the climate crisis will flag if the world’s largest historic emitter is no longer leading the push. Will countries, seeing the US doing less on climate change, do the same themselves? Under Obama, the US put its full diplomatic muscle into getting countries signed on to the Paris Agreement. “If you were a head of state from India, from China, or from anywhere and you were going to meet with the United States, you knew that you'd have to be prepared to speak about climate change and the Paris Agreement,” said Elan Strait, a former climate negotiator on the Paris Agreement who now works at the World Wildlife Foundation. By 2020, countries are requested to announce new carbon cuts as part of the Paris process. Those cuts have to be more ambitious if countries hope to meet the Paris Agreement goal of keeping warming “well below” 2 degrees Celsius and pursue efforts to limit warming to the scientist-recommended 1.5 degree Celsius. “I completely believe that the missing ingredient this time around is the United States leadership driving climate as a head-of-state agenda,” Strait said. Only when those 2020 climate pledges start rolling in will the international community start to see the full impact of the US climate policy reversal.

**Climate change causes extinction – ocean acidification, water and resource wars, econ collapse, and regional conflicts.**

Pachauri and Meyer 15 (Rajendra K. Pachauri Chairman of the IPCC, Leo Meyer Head, Technical Support Unit IPCC were the editors for this IPCC report, “Climate Change 2014 Synthesis Report” <http://epic.awi.de/37530/1/IPCC_AR5_SYR_Final.pdf> IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp)

SPM 2.3 Future risks and impacts caused by a changing climate Climate change will amplify existing risks and create new risks for natural and human systems. Risks are unevenly distributed and are generally greater for disadvantaged people and communities in countries at all levels of development. {2.3} Risk of climate-related impacts results from the interaction of climate-related hazards (including hazardous events and trends) with the vulnerability and exposure of human and natural systems, including their ability to adapt. Rising rates and magnitudes of warming and other changes in the climate system, accompanied by ocean acidification, increase the risk of severe, pervasive and in some cases irreversible detrimental impacts. Some risks are particularly relevant for individual regions (Figure SPM.8), while others are global. The overall risks of future climate change impacts can be reduced by limiting the rate and magnitude of climate change, including ocean acidification. The precise levels of climate change sufficient to trigger abrupt and irreversible change remain uncertain, but the risk associated with crossing such thresholds increases with rising temperature (medium confidence). For risk assessment, it is important to evaluate the widest possible range of impacts, including low-probability outcomes with large consequences. {1.5, 2.3, 2.4, 3.3, Box Introduction.1, Box 2.3, Box 2.4} A large fraction of species faces increased extinction risk due to climate change during and beyond the 21st century, especially as climate change interacts with other stressors (high confidence). Most plant species cannot naturally shift their geographical ranges sufficiently fast to keep up with current and high projected rates of climate change in most landscapes; most small mammals and freshwater molluscs will not be able to keep up at the rates projected under RCP4.5 and above in flat landscapes in this century (high confidence). Future risk is indicated to be high by the observation that natural global climate change at rates lower than current anthropogenic climate change caused significant ecosystem shifts and species extinctions during the past millions of years. Marine organisms will face progressively lower oxygen levels and high rates and magnitudes of ocean acidification (high confidence), with associated risks exacerbated by rising ocean temperature extremes (medium confidence). Coral reefs and polar ecosystems are highly vulnerable. Coastal systems and low-lying areas are at risk from sea level rise, which will continue for centuries even if the global mean temperature is stabilized (high confidence). {2.3, 2.4, Figure 2.5} Climate change is projected to undermine food security (Figure SPM.9). Due to projected climate change by the mid-21st century and beyond, global marine species redistribution and marine biodiversity reduction in sensitive regions will challenge the sustained provision of fisheries productivity and other ecosystem services (high confidence). For wheat, rice and maize in tropical and temperate regions, climate change without adaptation is projected to negatively impact production for local temperature increases of 2°C or more above late 20th century levels, although individual locations may benefit (medium confidence). Global temperature increases of ~4°C or more 13 above late 20th century levels, combined with increasing food demand, would pose large risks to food security globally(high confidence). Climate change is projected to reduce renewable surface water and groundwater resources in most dry subtropical regions (robust evidence, high agreement), intensifying competition for water among sectors (limited evidence, medium agreement). {2.3.1, 2.3.2} Until mid-century, projected climate change will impact human health mainly by exacerbating health problems that already exist (very high confidence). Throughout the 21st century, climate change is expected to lead to increases in ill-health in many regions and especially in developing countries with low income, as compared to a baseline without climate change (high confidence). By 2100 for RCP8.5, the combination of high temperature and humidity in some areas for parts of the year is expected to compromise common human activities, including growing food and working outdoors (high confidence). {2.3.2} In urban areas climate change is projected to increase risks for people, assets, economies and ecosystems, including risks from heat stress, storms and extreme precipitation, inland and coastal flooding, landslides, air pollution, drought, water scarcity, sea level rise and storm surges (very high confidence). These risks are amplified for those lacking essential infrastructure and services or living in exposed areas. {2.3.2} Rural areas are expected to experience major impacts on water availability and supply, food security, infrastructure and agricultural incomes, including shifts in the production areas of food and non-food crops around the world (high confidence). {2.3.2} Aggregate economic losses accelerate with increasing temperature (limited evidence, high agreement), but global economic impacts from climate change are currently difficult to estimate. From a poverty perspective, climate change impacts are projected to slow down economic growth, make poverty reduction more difficult, further erode food security and prolong existing and create new poverty traps, the latter particularly in urban areas and emerging hotspots of hunger (medium confidence). International dimensions such as trade and relations among states are also important for understanding the risks of climate change at regional scales. {2.3.2} Climate change is projected to increase displacement of people (medium evidence, high agreement). Populations that lack the resources for planned migration experience higher exposure to extreme weather events, particularly in developing countries with low income. Climate change can indirectlyincrease risks of violent conflicts by amplifying well-documented drivers of these conflicts such as poverty and economic shocks (medium confidence). {2.3.2} 2010 )

## On

### FW

#### Struct vio collapses to util bc it says actions cause pain than pleasure is infinitely regressive as some amount of action will cause pleasurable results and minimize pain

#### Their framework is justified circularly/impx justified since they say “x is bad bc of struct vio, and struct vio is bad bc its struct vio”

#### Slow violence can only be done by policymaking action that regress into util, that proves the first point

#### Only util allows for equal weighing from both sides otherwise debates would result in impossible affirmative cases to interact without claiming our performativity is oppressive

lbl

#### At Johnson – people can create oppression that operate systems – such as racism to black people were perpetuated by white people or homophobia to queer folk prove that Johnson can’t prove the syllogism of oppression – only action from system can address oppression which resolves to util to max. wellbeing

#### Indict Duquette – nowhere in the card does it mention the tagline read in the 1AC – this means that the syllogism can’t be proved to undermine structural violence – affirming uses the structure which means inherently structural violence absolves as actions are made to produce pleasurable effects

#### At Nixon – the warrant is infinitely regressive under struct vio since there will always be one problem being pushed away that the fw can’t address – err util first as it explains problems represented by underrepresented can minimize pain

AT Teehan 14 – This ev indicts their own fw because their own fw can’t explain how structural violence is justified

### 1N – Biowar Turn

#### Eliminating IPR greenlights access to dangerous information which could allow rogue actors to develop bioweapons immune to vaccines – viral vaccines in particular are high risk

Sandbrink et. al ’21

Sandbrink & Koblentz, 2021, Jonas B. Sandbrink, Future of Humanity Institute, University of Oxford, Trajan House, Mill St, Oxford, OX2 0AN, UK, Medical Sciences Division, University of Oxford, Medical Sciences Office, John Radcliffe Hospital, Headley Way, Oxford OX3 9DU, UK, Gregory D. Koblentz, cSchar School of Policy and Government, George Mason University, Van Metre Hall, 678 3351 Fairfax Drive Arlington, VA 22201, USA, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7904460/> rc Phoenix

There are three dimensions of biological dual-use risks: 1) misuse of ostensibly civilian facilities, 2) misuse of equipment and agents, and 3) generation and dissemination of scientific knowledge with risk of misuse [34]. Historically, the dual-use potential of vaccines was tied to the dual-use potential of vaccine production facilities and equipment for production of threat agents for traditional inactivated or attenuated vaccines. This dual-use potential is illustrated by the historical example of Iraq repurposing fermenters from a veterinary vaccine production plant for botulinum toxin production in 1988.[34], [35] The Soviet Union also planned to use ostensibly civilian vaccine production facilities to produce biological warfare agents in the event of a war with the United States [36].

While over recent decades dual-use risks have generally been considered a niche concern in vaccine development, the focus of dual-use risk from vaccine research has shifted from the misuse of civilian facilities to the generation and dissemination of scientific insights with dual-use potential. One prominent example of vaccine research leading to the dissemination of dual-use insights was the synthesis of horsepox virus and its publication in 2018. This research was directed at the development of a better smallpox vaccine. However, as this was the first account of the synthesis of an orthopoxvirus, a virus in the same family and closely related to variola virus, the agent that causes smallpox, this research has lowered the barrier for individuals seeking to acquire the variola virus which has been eradicated from nature and is only known to exist at two secure repositories in the United States and Russia [37].

The increased concern around dual-use knowledge is driven by the fact that rapid advances in molecular biology, including DNA synthesis and gene-editing, continue to lower the barrier for viral engineering and synthesis [34]. Therefore, the risk from dissemination of dual-use insights on the modification of viral properties like transmissibility and immune evasion is amplified, as such insights might allow actors to create transmissible agents posing global or even existential threats. In comparison, the ability to produce large batches of toxins and non-transmissible viruses could be used to create harm at large but limited scale. While large-scale production has long been considered a key barrier to the weaponisation of existing viruses on the basis of knowledge on historical biological weapons programs, the potential for misuse of production technology would be limited to the proprietor of the facility in question [38], [39]. In contrast, once released into the public, scientific knowledge may inform malicious actors around the globe.

Dual-use aspects of research on novel platform vaccine technologies, which leverage recent advances in viral and nucleic acid synthesis and modification, have not been evaluated sufficiently to date. Hence, we here assess and compare the dual-use risk of different novel and traditional vaccine approaches (Table 1) and propose strategies to minimise biosecurity risks posed by vaccine platform technologies.

Compared to other vaccine approaches, we identify research on viral vector-based platforms as exhibiting relatively high dual-use potential. This is in particular due to the high concern we associate with the generation of knowledge on the modification of viral properties. As we discuss in more detail below, research on viral vector-based vaccines involves viral engineering which may inform modification of concerning agents such as variola virus and creates incentives for the generation of potentially concerning insights on conferring viral immune evasion. We classify research on rational attenuation approaches, which aims to create live attenuated viral vaccines with better genomic stability, as exhibiting medium to high dual-use potential. Research on synonymous codon replacement may not only lead to potential insights on enhancement of virulence, but importantly generates the synthetic biology tools necessary to conduct such enhancement, for example the ability to introduce many mutations simultaneously with high precision [26].

In the following section, we examine the dual-use potential of virally vectored vaccines to identify which particular lines of research raise concerns and how these concerns may be mitigated. Virally vectored vaccines may increase biosecurity risk through two routes: (1) generating particular insights with more direct dual-use potential and (2) spreading viral engineering capabilities which could enable misuse. Assessing this danger means looking at the incremental risk of further research into virally vectored vaccines, but also at the pre-existing margin of similar work and research. If vaccine platforms are a small part of all viral engineering or all immune-evasive work, the additional risk is commensurately less.

The foremost source of biosecurity risk from research on virally vectored vaccines is the creation of insights and knowledge with dual-use potential. For instance, work on virally vectored vaccines may lead to insights into the evasion of pre-existing anti-vector immunity. Such knowledge may be leveraged to engineer pathogens to evade pre-existing, potentially vaccine-induced, immunity.

Pre-existing anti-vector immunity is one of the major limitations of viral vector-based vaccines and therapeutics. Pre-existing vector-specific antibodies may neutralise viral vectors before their entry of host cells and hence may prevent the induction of immune responses against the encoded antigens [[12]](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7904460/#b0060), [[13]](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7904460/#b0065). Such pre-existing immunity may be induced by natural infection or by previous administration of a vector-based vaccine or therapeutic, therefore limiting the reusability of a given vector-based platform [[14]](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7904460/#b0070). Accordingly, there exists a strong incentive to overcome this limitation, and many different approaches to circumventing pre-existing anti-vector immunity have been explored [[40]](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7904460/#b0200). For instance, while adenovirus serotype 5 (Ad5) features desirable properties as a vaccine vector with regard to immunogenicity, there is a high prevalence of pre-existing anti-Ad5 immunity in the human population [[41]](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7904460/#b0205). In order to circumvent this immunity, chimeric vectors have been created where hypervariable regions of Ad5 hexon protein are replaced with those from a less seroprevalent adenovirus serotype such as Ad48 ([Fig. 2](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7904460/figure/f0010/) ) [[15]](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7904460/#b0075). One could readily imagine how experience with and knowledge of the creation of chimeric vectors to evade pre-existing anti-vector immunity could be leveraged to create pathogens able to evade vaccine-induced immunity. The example of the creation of chimeric Ad5 may only be of limited concern from a dual-use perspective as adenovirus is a relatively less concerning pathogen and this approach of creating chimeric vectors is relatively pathogen specific. However, similar modifications of attenuated versions of highly pathogenic viruses may be readily translatable to modifying pathogenic versions of these viruses for evasion of pre-existing or vaccine-induced immunity. For instance, Miest et al created a recombinant oncolytic measles virus capable of evading pre-existing neutralising antibodies through exchange of envelope glycoproteins with those of canine distemper virus [[42]](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7904460/#b0210). Similar insights into the creation of new “serotypes” of pathogenic viruses may emerge from research on overcoming anti-vector immunity in the context of virally vectored vaccines. Furthermore, efforts to overcome pre-existing anti-vector immunity may lead to more universal insights into strategies for evading pre-existing immunity that are applicable and translatable to a wide range of pathogens.

#### Modified bioweapons cause Extinction.

Millett and Snyder-Beattie 17 (Piers Millett and Andrew Snyder-Beattie; 2017; Health Security, Volume 15, Number 4; *“Existential Risk and Cost-Effective Biosecurity”*; accessed 8/13/21; <https://www.liebertpub.com/doi/pdf/10.1089/hs.2017.0028>; Piers Millett, PhD, is a Senior Research Fellow, and Andrew Snyder-Beattie, MS, is Director of Research; both at the University of Oxford, Future of Humanity Institute, Oxford, England.; page 374) HB rc // Phoenix

In the modern context, no single disease currently exists that combines the worst-case levels of transmissibility, lethality, resistance to countermeasures, and global reach. But many diseases are proof of principle that each worst-case attribute can be realized independently. For example, some diseases exhibit nearly a 100% case fatality ratio in the absence of treatment, such as rabies or septicemic plague. Other diseases have a track record of spreading to virtually every human community worldwide, such as the 1918 flu,10 and seroprevalence studies indicate that other pathogens, such as chickenpox and HSV-1, can successfully reach over 95% of a population.11,12 Under optimal virulence theory, natural evolution would be an unlikely source for pathogens with the highest possible levels of transmissibility, virulence, and global reach. But advances in biotechnology might allow the creation of diseases that combine such traits. Recent controversy has already emerged over a number of scientific experiments that resulted in viruses with enhanced transmissibility, lethality, and/or the ability to overcome therapeutics.13-17 Other experiments demonstrated that mousepox could be modified to have a 100% case fatality rate and render a vaccine ineffective.18 In addition to transmissibility and lethality, studies have shown that other disease traits, such as incubation time, environmental survival, and available vectors, could be modified as well.19-21 Although these experiments had scientific merit and were not conducted with malicious intent, their implications are still worrying. This is especially true given that there is also a long historical track record of state-run bioweapon research applying cutting-edge science and technology to design agents not previously seen in nature. The Soviet bioweapons program developed agents with traits such as enhanced virulence, resistance to therapies, greater environmental resilience, increased difficulty to diagnose or treat, and which caused unexpected disease presentations and outcomes.22 Delivery capabilities have also been subject to the cutting edge of technical development, with Canadian, US, and UK bioweapon efforts playing a critical role in developing the discipline of aerobiology.23,24 While there is no evidence of staterun bioweapons programs directly attempting to develop or deploy bioweapons that would pose an existential risk, the logic of deterrence and mutually assured destruction could create such incentives in more unstable political environments or following a breakdown of the Biological Weapons Convention.25The possibility of a war between great powers could also increase the pressure to use such weapons—during the World Wars, bioweapons were used across multiple continents, with Germany targeting animals in WWI,26 and Japan using plague to cause an epidemic in China during WWII.27 Non-state actors may also pose a risk, especially those with explicitly omnicidal aims. While rare, there are examples. The Aum Shinrikyo cult in Japan sought biological weapons for the express purpose of causing extinction.28 Environmental groups, such as the Gaia Liberation Front, have argued that ‘‘we can ensure Gaia’s survival only through the extinction of the Humans as a species. we now have the specific technology for doing the job. several different [genetically engineered] viruses could be released’’(quoted in ref. 29). Groups such as R.I.S.E. also sought to protect nature by destroying most of humanity with bioweapons.30 Fortunately, to date, non-state actors have lacked the capabilities needed to pose a catastrophic bioweapons threat, but this could change in future decades as biotechnology becomes more accessible and the pool of experienced users grows.31,3

### No Solvency

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**1] Patent access assumes infrastructure that doesn’t exist**

Hotez 5/10

Peter J. Hotez, Maria Elena Bottazzi, and Prashant Yadav. "Producing a Vaccine Requires More Than a Patent," Foreign Affairs, 5-10-2021, accessed 9-18-2021, <https://www.foreignaffairs.com/articles/united-states/2021-05-10/producing-vaccine-requires-more-patent> HWIC rc // Phoenix

On May 5, President Joe Biden announced that the United States would support an international bid to waive intellectual property rights to vaccines for the duration of the coronavirus pandemic, thereby ostensibly allowing other countries to ramp up production even of the sophisticated technology behind the Pfizer-BioNTech and Moderna vaccines against COVID-19. Many in the global health community and developing world welcomed the decision as a victory for greater equity in vaccine distribution, in which middle- and low-income countries are lagging far behind wealthy ones. But the jubilation may be premature. The drive for intellectual property waivers originates in part from the world’s experience fighting the last war, against HIV/AIDS. Patent pools, intellectual property waivers, and other liberalizing mechanisms were urgent in assuring equity of access to lifesaving drugs during that epidemic. But these tools are better suited to medicines and other pharmaceuticals than to vaccines. Producing vaccines—particularly those as technologically complex as the messenger RNA (mRNA) inoculations against COVID-19—requires not only patents but an entire infrastructure that cannot be transferred overnight. The sharing of patents is an important and welcome development for the long term, but it may not even be the most pressing first step. JUST OPEN THE SPIGOT At the turn of the millennium, multinational pharmaceutical companies were charging $10,000 per patient for a daily drug regimen that could keep those infected with HIV/AIDS alive. Those in low- and middle-income countries in Africa and elsewhere could access this cocktail only under limited circumstances. Then, in 2001, the Indian drug manufacturer Cipla Limited began producing versions of a triple antiretroviral drug cocktail for a mere $350. Cipla, in collaboration with Médecins Sans Frontières (Doctors Without Borders), helped usher in a new era of global access to essential medicines—one that justified relaxing or even ignoring international patents and other property rights to produce and distribute an important and lifesaving drug as a generic. Since that time, global health advocacy organizations have found increasingly sophisticated ways to work with multinationals in ensuring access to essential medicines for low- and middle-income countries. In the 2010s, the global health initiative Unitaid helped create a Medicines Patent Pool, in which pharmaceutical companies from all over the world offered antiretroviral drug licenses, thereby creating a path for developing generic versions so long as the patent holders received royalties. The mechanism supplied voluntary licenses to new producers even while protecting the legal rights of the drugs’ original manufacturers. Companies such as Gilead, for example, have supplied voluntary licenses for their antivirals directly to generic manufacturers, allowing for tiered pricing across countries. Barely any COVID-19 vaccines have been administered in the African continent or in low- or middle-income countries in Asia and Latin America. Global health professionals have understandably sought to ascertain whether a similar approach could help make the distribution of COVID-19 vaccines less lopsided. More than one billion vaccine doses have now been administered—but overwhelmingly to people living in just a few countries. More than half have been administered in the United States (250 million) and China (290 million) alone, followed by India (160 million), the United Kingdom (51 million), and Germany (32 million). In contrast, for all practical purposes, barely any COVID-19 vaccines have been [administered](https://www.nytimes.com/interactive/2021/world/covid-vaccinations-tracker.html) in the African continent or in low- or middle-income countries in Asia and Latin America. Global health advocates have responded to this inequity by seeking to apply the lessons they learned from antiretroviral drugs and demanding patent pools or other intellectual property waivers for COVID-19 vaccines. In March 2021, Médecins Sans Frontières organized protests at the World Trade Organization (WTO) headquarters in Geneva, unfurling a banner that read, “No COVID Monopolies—Wealthy Countries Stop Blocking TRIPS Waiver,” referring to the organization’s Agreement on Trade-Related Aspects of Intellectual Property Rights. The assumption underlying such demands is that intellectual property is a crucial barrier blocking vaccine developers, especially in low- and middle-income countries, from producing COVID-19 vaccines to scale—particularly the high-performing mRNA vaccines that Pfizer-BioNTech and Moderna currently produce. These vaccines elicit more than 90 percent protective immunity against both symptomatic illness and documented infection, including asymptomatic infection, with COVID-19. They are successfully driving the recovery of the United States, Israel, and other nations. But so far, mRNA vaccines are mostly invisible to Africa, Latin America, and low- and middle-income countries in other regions. The hope of those pushing for TRIPS waivers and patent pools is that these will unleash the technology to make the recovery global. IT TAKES A WHOLE ECOSYSTEM Intellectual property sharing may be helpful in the long term. But producing complicated biologics, especially innovative ones such as mRNA or adenovirus-vectored vaccines, is not solely a matter of patent access. Small-molecule antiviral drugs are comparatively straightforward: the multistep chemical processes through which they are synthesized are often fully detailed in published patents or scientific papers. Chemists and formulation experts can often synthesize and scale up production just from knowing the drug structure. But vaccines are different. Producing and manufacturing lipid-encased mRNA molecules, recombinant adenoviruses, or even the proteins or whole inactivated viruses used in older-generation vaccines requires a far higher level of sophistication than is needed for producing small-molecule drugs. Moreover, vaccine production must meet stringent requirements for quality control, quality assurance, and regulatory oversight. The **effective transfer of such complex technology requires a receiving ecosystem that can take years, sometimes decades, to build**. Countries seeking to ramp up vaccine production will need to train staff scientists and technicians. They will also need scientific administrators versed not only in basic research and development but also in detailed record keeping, including specific documentation practices such as batch production records. Moreover, they will need strong quality control systems and regulatory guardrails. Building such an infrastructure requires intensive training and often considerable financial investment and risk. It also takes time—by some estimates, vaccine development requires at least 11 years, and even then the probability that such efforts will result in bringing a vaccine to market is less than ten percent. Consider that the COVID-19 vaccines were themselves the outcome of decades of research and development. Few nations are prepared to take such risks. Only a handful of low- or middle-income countries currently have the capacity to produce new vaccines. Only a handful of low- or middle-income countries currently have the capacity to produce new vaccines. The most notable and largest is India, which currently makes the adenovirus-vectored vaccines developed by Janssen and by Oxford and AstraZeneca, as well as an older-technology recombinant protein vaccine and a whole inactivated virus vaccine. Manufacturers in Brazil, Cuba, and some Southeast Asian countries have experience producing childhood vaccines and may be able to develop the capacity to make COVID-19 vaccines as well. Other possibilities may develop elsewhere, including in the Middle East and Africa. But in the near term, such manufacturers will require financing, access to very large amounts of raw materials and supplies (possibly including relaxation of export controls), and some technical expertise in manufacturing and quality control if they are to produce the existing vaccines against COVID-19. Vaccinating India alone will require almost two billion doses, and more than 12 billion doses will be required to vaccinate the world. The emergence of new variants and the need for booster doses may increase demand even further. Whether mRNA vaccine technology can be scaled to produce billions of doses in 2021, or even by early 2022, remains entirely unknown, but the goal is worth pursuing. To this end, some kind of patent relaxation may be necessary, but far from sufficient. Would-be producers will need technical know-how, regulatory controls, and components that are currently in very short supply, such as nucleotides and lipids.

### LBL

At Human Rights Campaign 21 – treatment of HIV gets reversed under midterms which means even if the aff plan passes, the midterms get triggered that spills over and causes a slew of problems to queer/LGBTQ+ folk – proven by republican stances of LGBTQ+ folk

Group both contentions – no impact to these – there is no specific evidence within the 1AC that says pandemics cause mass death and they were not able to provide an answer – the only impact that is somewhat warranted is from drug prices – there is no reason to vote for anything on their c2

Turn Hassan – waiving patents creates a bigger brunt felt by lower and middle income as more companies throughout the world become interested in procuring medicine