### T-Reduce

#### 1] Interpretation – Reduce means to cancel.

Black’s Law 90 Black’s Law Dictionary 2ND ED. “Reduce” <https://dictionary.thelaw.com/reduce/> //Elmer

In Scotch law. **To rescind or annul**.

#### That means the Aff has to annul IP protections in their entirety, they can’t just modify it.

#### 2] Violation – They “delay enforcement” which is a modification, not a complete annulment

#### 3] Standards –

#### a] Neg Ground – Core Neg Generics like Innovation and Biotech Heg are predicated on scope of effect – minor modifications in how long a patent lasts for or what it effects allows the 1AR to minimize our links to zero which destroys being Neg on a Topic w/ very little Generic Ground.

#### b] Limits – Allowing Affs to make patent modifications explodes Aff ground by three-fold because for all four intellectual property protections for every medicine MULTIPLIED by different time modifications, different scope modifications which makes predictable preparation and in-depth clash impossible.

#### 4] TVA – eliminate the enforcement of all cannabis patents – solves their offense.

#### 5] Paradigm Issues –

#### a] Topicality is Drop the Debater – it’s a fundamental baseline for debate-ability.

#### b] Use Competing Interps – 1] Topicality is a yes/no question, you can’t be reasonably topical and 2] Reasonability invites arbitrary judge intervention and a race to the bottom of questionable argumentation.

#### c] No RVI’s - 1] Forces the 1NC to go all-in on Theory which kills substance education, 2] Encourages Baiting since the 1AC will purposely be abusive, and 3] Illogical – you shouldn’t win for not being abusive.

1nc theory o/w’s 1ar theory

Reject 1ar theory 7-6 inf abuse blow up shells

### Innovation DA

#### Innovation is doing great now – answers all your warrants.

Lisa Jarvis, 1-17-2020, (Based in Chicago, Lisa has been covering the biotech and pharmaceutical industries at C&EN since 2006. She writes feature articles that weave together the business and science of developing drugs, while also serving as pharmaceuticals editor for the magazine. She has a particular interest in rare diseases, innovative models for drug discovery, and emerging technologies.) "The new drugs of 2019," Chemical &amp; Engineering News, <https://cen.acs.org/pharmaceuticals/drug-development/new-drugs-2019/98/i3> //Jay

Although pharmaceutical companies last year were unable to top the record-shattering [59 new drugs approved in the US in 2018](https://cen.acs.org/pharmaceuticals/drug-development/new-drugs-2018/97/i3), they were still on a roll. In 2019, the Food and Drug Administration green-lighted 48 medicines, a crop that includes myriad modalities and many new treatments for long-neglected diseases. Taken together, the past 3 years of approvals represent drug companies’ most productive period in more than 2 decades. Still, some analysts caution that the steady flow of new medicines could mask troubling indications about the health of the industry. The year brought several notable trends. The first was an uptick in the number of novel mechanisms on display in the new drugs. Roughly 42% of the medicines were first in class, meaning they had new mechanisms of action; this is a jump over the prior 4 years, when that portion ranged between 32 and 36%. Another trend was the influx of newer modalities. While small molecules continue to account for the lion’s share of new molecular entities (NMEs), making up 67% of overall approvals in 2019, the list also includes several antibody-drug conjugates, an antisense oligonucleotide therapy, and a therapy based on RNA interference (RNAi). Yet another encouraging trend was the influx of innovative therapies for underserved diseases. Standout approvals include two new drugs for sickle cell anemia (Global Blood Therapeutics’ Oxbryta and Novartis’s Adakveo), an antibiotic for treatment-resistant tuberculosis (Global Alliance for TB Drug Development’s pretomanid), and a therapy for women experiencing postpartum depression (Sage Therapeutics’ Zulresso). “The quality of the drugs over the last decade or so has steadily improved since the depths of the innovation crisis 10–12 years ago,” says Bernard Munos, a senior fellow at FasterCures, a drug research think tank. “We’re seeing stuff that frankly would have looked like science fiction back then.” Those futuristic new therapies include [Novartis’s Zolgensma](https://cen.acs.org/articles/97/i22/FDA-approves-second-gene-therapy.html), a gene therapy for spinal muscular atrophy; Alnylam Pharmaceuticals’ Givlaari, the company’s second marketed RNAi-based therapy; and several critical vaccines for infectious diseases, including Ebola, smallpox, and dengue fever. Not all those edgy therapies appear in C&EN’s list. We track approvals granted through the FDA’s main drug approval arm, the Center for Drug Evaluation and Research; drugs like vaccines and gene therapies are generally reviewed through the agency’s Center for Biologics Evaluation and Research. The new-approvals list also doesn’t include several therapies that made their way to patients for the first time, even though the FDA doesn’t consider them new drugs. For example, the agency gave its green light to Johnson & Johnson’s Spravato, making it the first new treatment option for people with major depressive disorder in more than 50 years. The drug is the S enantiomer of ketamine, an N-methyl-D-aspartate receptor antagonist that had been long approved as an anesthetic, gained notoriety as a club drug, and was used for years off label to treat severe depression ([see page 18](https://cen.acs.org/biological-chemistry/neuroscience/Ketamine-revolutionizing-antidepressant-research-still/98/i3)). Also notable in 2019 was a slight dip in the number of cancer drugs, which in recent years typically made up more than a quarter of all new medicines. Last year’s 11 cancer treatments accounted for roughly 23% of approvals.

#### **Reducing IP protections chills future investment – even the perception of wavering commitment scares off companies.**

Grabowski et al. ’15 (Harry; Professor Emeritus of Economics at Duke, and a specialist in the intersection of the pharmaceutical industry and government regulation of business; February 2015; “The Roles Of Patents And Research And Development Incentives In Biopharmaceutical Innovation”; Health Affairs; <https://www.healthaffairs.org/doi/10.1377/hlthaff.2014.1047>; Accessed: 8-31-2021; AU)

Patents and other forms of **intellectual property** **protection** play **essential roles** in encouraging innovation in biopharmaceuticals. As part of the “21st Century Cures” initiative, Congress is reviewing the policy mechanisms designed to accelerate the discovery, development, and delivery of new treatments. Debate continues about how best to balance patent and intellectual property incentives to encourage innovation, on the one hand, and generic utilization and price competition, on the other hand. We review the current framework for accomplishing these dual objectives and the important role of patents and regulatory exclusivity (together, the patent-based system), given the lengthy, costly, and risky biopharmaceutical research and development process. We summarize existing targeted incentives, such as for orphan drugs and neglected diseases, and we consider the pros and cons of proposed voluntary or mandatory alternatives to the patent-based system, such as prizes and government research and development contracting. We conclude that patents and regulatory exclusivity provisions are likely to remain the core approach to providing incentives for biopharmaceutical research and development. However, prizes and other voluntary supplements could play a useful role in addressing unmet needs and gaps in specific circumstances. Technological innovation is widely recognized as a key determinant of economic and public health progress. 1,2 Patents and other forms of intellectual property protection are generally thought to play essential roles in encouraging innovation in biopharmaceuticals. This is because the process of developing a new drug and bringing it to market is **long, costly, and risky**, and the costs of imitation are low. After a new drug has been approved and is being marketed, its **patents protect it** from competition from chemically identical entrants (or entrants infringing on other patents) for a period of time. **For firms** to have an **incentive** to **continue to invest** in innovative development efforts, they must have an **expectation** that they can **charge enough** during this period to **recoup** costs and make a profit. After a drug’s patent or patents expire, **generic rivals** can enter the market at **greatly reduced development cost** and prices, providing added consumer benefit but **eroding** the **innovator drug** company’s revenues. The Drug Price Competition and Patent Term Restoration Act of 1984 (commonly known as the Hatch-Waxman Act) was designed to balance innovation incentives and generic price competition for new drugs (generally small-molecule chemical drugs, with some large-molecule biologic exceptions) by extending the period of a drug’s marketing exclusivity while providing a regulatory framework for generic drug approval. This framework was later changed to encompass so-called biosimilars for large-molecule (biologic) drugs through the separate Biologics Price Competition and Innovation Act of 2009. Other measures have been enacted to provide research and development (R&D) incentives for antibiotics and drugs to treat orphan diseases and neglected tropical diseases. Discussion continues about whether current innovation incentives are optimal or even adequate, given evolving public health needs and scientific knowledge. For instance, the House Energy and Commerce Committee recently embarked on the “21st Century Cures” initiative, 3 following earlier recommendations by the President’s Council of Advisors on Science and Technology on responding to challenges in “propelling innovation in drug discovery, development, and evaluation.” 4 In this context, we discuss the importance of patents and other forms of intellectual property protection to biopharmaceutical innovation, given the unique economic characteristics of drug research and development. We also review the R&D incentives that complement patents in certain circumstances. Finally, we consider the pros and cons of selected voluntary (“opt-in”) or mandatory alternatives to the current patent- and regulatory exclusivity–based system (such as prizes or government-contracted drug development) and whether they could better achieve the dual goals of innovation incentives and price competition. The essential rationale for patent protection for biopharmaceuticals is that long-term benefits in the form of continued future innovation by pioneer or brand-name drug manufacturers outweigh the relatively short-term restrictions on imitative cost competition associated with market exclusivity. Regardless, the entry of other branded agents remains an important source of therapeutic competition during the patent term. Several economic characteristics make patents and intellectual property protection **particularly important** to **innovation incentives** for the biopharmaceutical industry. 5 The R&D process often takes more than a decade to complete, and according to a recent analysis by Joseph DiMasi and colleagues, per new drug approval (including failed attempts), it involves more than a **billion** dollars in out-of-pocket costs. 6 Only approximately one in eight drug candidates survive clinical testing. 6 As a result of the high risks of failure and the high costs, research and development must be funded by the **few successful, on-market products** (the top quintile of marketed products provide the dominant share of R&D returns). 7,8 Once a new drug’s patent term and any regulatory exclusivity provisions have expired, competing manufacturers are allowed to sell generic equivalents that require the investment of only several million dollars and that have a high likelihood of commercial success. **Absent intellectual property protections** that allow marketing exclusivity, innovative firms would be **unlikely** to make the costly and risky investments needed to bring a new drug to market. Patents confer the right to exclude competitors for a limited time within a given scope, as defined by patent claims. However, **they do not guarantee demand**, nor do they prevent competition from nonidentical drugs that treat the same diseases and fall outside the protection of the patents. New products may enter the same therapeutic class with common mechanisms of action but different molecular structures (for example, different statins) or with differing mechanisms of action (such as calcium channel blockers and angiotensin receptor blockers). 9 Joseph DiMasi and Laura Faden have found that the time between a first-in-class new drug and subsequent new drugs in the same therapeutic class has been dramatically reduced, from a median of 10.2 years in the 1970s to 2.5 years in the early 2000s. 10 Drugs in the same class compete through quality and price for preferred placement on drug formularies and physicians’ choices for patient treatment. Patents play an **essential role** in the economic “ecosystem” of **discovery and investment** that has developed since the 1980s. Hundreds of start-up firms, often backed by venture capital, have been launched, and a robust innovation market has emerged. 11 The value of these development-stage firms is largely determined by their proprietary technologies and the candidate drugs they have in development. As a result, the **strength of intellectual property protection** plays a **key role** in funding and partnership opportunities for such firms. Universities also play a key role in the R&D ecosystem because they conduct basic biomedical research supported by sponsored research grants from the National Institutes of Health (NIH) and the National Science Foundation (NSF). The Patent and Trademark Law Amendments Act of 1980 (commonly known as the Bayh-Dole Act) gave universities the right to retain title to patents and discoveries made through federally funded research. This change was designed to encourage technology transfer through industry licensing and the creation of start-up companies. Universities received only 390 patents for their discoveries in 1980, 12 compared to 4,296 in 2011, with biotechnology and pharmaceuticals being the top two technology areas (accounting for 36 percent of all university patent awards in 2012). 13

#### Cannabis wipes out superbugs and kills developing mutations, but further research and investments are required.

Sample ’20 [Ian; journalist at New Scientist and worked at the Institute of Physics as a journal editor, PhD in biomedical materials; 1-19-2020; "Cannabis compound could be weapon in fight against superbugs", Guardian; https://www.theguardian.com/society/2020/jan/19/cannabis-compound-could-be-weapon-in-fight-against-superbugs, accessed 4-16-2021]

A compound made by cannabis plants has been found to wipe out drug-resistant bacteria, raising hopes of a new weapon in the fight against superbugs. Scientists screened five cannabis compounds for their antibiotic properties and found that one, cannabigerol (CBG), was particularly potent at killing methicillin-resistant Staphylococcus aureus (MRSA), one of the most common hospital superbugs. Tests in the lab showed that CBG, which is not psychoactive, killed common MRSA microbes and “persister” cells that are especially resistant to antibiotics and that often drive repeat infections. The compound also cleared up hard-to-shift “biofilms” of MRSA that can form on the skin and on medical implants. Having seen how effective the substance was against bacteria in the lab, the researchers decided to test CBG’s ability to treat infections in animals. In a study that has not yet been published, they found that CBG cured mice of MRSA infections as effectively as vancomycin, a drug widely considered to be the last line of defence against drug-resistant microbes. The study is under review at the ACS Infectious Diseases journal. Eric Brown, a microbiologist who led the work at McMaster University in Hamilton, Ontario, said cannabinoids were “clearly great drug-like compounds”, but noted it was early days in assessing the compounds for use in the clinic. “There is much work to do to explore the potential of the cannabinoids as antibiotics from the safety standpoint,” he said. Antibiotic resistance has become a major threat to public health. England’s former chief medical officer Dame Sally Davies has said the loss of effective antibiotics would lead to “apocalyptic scenarios”, with patients dying from routine infections and many operations becoming too risky to perform. In the study, the researchers describe how the rapid global spread of drug resistance, caused by microbes developing mutations that protect them against antibiotics, has driven an urgent need to explore new sources of drugs. Among antibiotics in use today, the newest date back to discoveries made more than 30 years ago.

#### Only CBD solves superbugs.

Stevens ’21 [Kylie; reporter covering medical breakthrough by Researchers at University of Queensland’s Institute for Molecular Bioscience and the peer-reviewed Communications Biology journal; 1-19-2021; Mail Online; https://www.dailymail.co.uk/news/article-9165415/Medical-breakthrough-revealed-cannabis-kill-superbugs-save-10million-lives-year.html, accessed 4-16-2021; RG]

Laboratory studies have shown synthetic cannabidiol, the main nonpsychoactive component of cannabis better known as CBD can kill bacteria in diseases such as gonorrhea, a sexually transmissible infection. The research has been hailed as a potential world medical breakthrough, amid predictions drug-resistant infections could result in 10 million deaths worldwide a year by 2050 unless an alternate treatment is found. The research, recently published in the Communications Biology journal is part of a collaboration between Queensland researchers and Botanix Pharmaceuticals, which lead to the first new class of antibiotics for resistant bacteria in 60 years. 'This is the first time CBD has been shown to kill some types of Gram-negative bacteria. These bacteria have an extra outer membrane, an additional line of defence that makes it harder for antibiotics to penetrate,' Institute for Molecular Bioscience director Dr Mark Blaskovich said in a statement. Researchers also discovered cannabidiol is effective in killing off superbug MRSA found in golden staph bacteria. It may also be used to treat infected diabetic ulcers and wounds. 'Cannabidiol showed a low tendency to cause resistance in bacteria even when we sped up potential development by increasing concentrations of the antibiotic during 'treatment,' Dr Blaskovich added. 'We think that cannabidiol kills bacteria by bursting their outer cell membranes, but we don't know yet exactly how it does that, and need to do further research.'

## Midterms DA

#### Dems win now – republican retirements, lack of true battle ground states, and the general progression of life in the pandemic sets them up to retain control

Shapiro 8/16 (Walter Shapiro; 8/16/21; The News Republic; *“Can Biden Defy History in 2022?”*; accessed 8/17/21; <https://newrepublic.com/article/163086/can-biden-defy-history-2022-midterms>; Walter Shapiro is a staff writer at The New Republic. He is also a fellow at the Brennan Center for Justice and a lecturer in political science at Yale.) UNT-HB

Since 2008, Gallup has been asking online panels to rate how they feel about their lives (on a 0–10 scale) and how they envision their lives in five years. A June survey found that Americans reported higher life satisfaction now and in the future than in any prior Gallup survey—a sharp jump from a historic low point during the Covid spring of 2020 and a significant improvement over the mixed ratings at time of Biden’s inauguration. To put it in the simplest possible terms: With Joe Biden in the White House, life is getting better for most Americans, and they anticipate that the good times will continue. As the Gallup write-up of the survey notes, “Beyond the vaccination rollout and improving economic conditions, though, is the critical psychological benefit of renewed social interaction. Reuniting in person with family and friends and joining in large gatherings of people such as at sporting events is a crucial part of social wellbeing.” (Full Disclosure: I have been part of an online Gallup panel for years. While I cannot recall if my upbeat post-vaccination assessment was part of the June survey, I do know that the question in the past has caused me to seriously ponder in a way that I do not with queries on political preferences and policy issues. Why as a journalist do I participate in such surveys? Much as conscience-stricken hedge funders give back by donating wings to major hospitals and buildings to Ivy League universities, I give back as a political reporter by honestly answering questions from reputable pollsters.) Many left-wing Democrats believe that the 2022 elections will pivot around a lengthy legislative to-do list on Capitol Hill. This line of thought suggests that unless Biden delivers on epic climate-change legislation, immigration reform, voting rights, and a CVS-receipt–size list of other pet issues, the Democrats will be viewed as failures. But activists with these unrealistic expectations fail to appreciate that Biden has already accomplished far more than most presidents going into the midterm elections. Consider his $1.9 trillion stimulus package, his vaccination rollout, and the dramatic change of tone in Washington. As the Democratic pollster Mark Mellman told me, “People are not going to evaluate Joe Biden on the number of bills that he passed, but on the direction of the country.” This far in advance, the list of senators and House members who are retiring in 2022 can serve as a rough proxy for each party’s prospects for holding a majority. The assumption is that the frustrations of serving in the minority make the life (and the paycheck) of a lobbyist far more alluring than running for another term with diminished power. That is why it is telling that so far only a handful of House Democrats have announced plans to run for other offices or leave elective politics. In contrast, five Senate Republicans whose seats are on the ballot in 2022 have already announced their retirements, with the future plans of Trump toady Ron Johnson in Wisconsin and 87-year-old Chuck Grassley in Iowa still undetermined. Unlike 2018, when the Democrats had to defend Senate seats in such flaming red Trump states as North Dakota, West Virginia, Montana, and Missouri, the 2022 map gives the party reason for optimism. This time around, the rough consensus is that the most endangered Democratic incumbent is New Hampshire’s Maggie Hassan, since popular Governor Chris Sununu (a 68 percent approval rating) may well be her formidable Republican challenger. When the Democrats’ toughest state is New Hampshire, which last opted for a GOP presidential candidate in 2000, it is a far cry from even 2020, when the party knew from the outset that Doug Jones was doomed to defeat in Alabama. In 2022, no Senate Democrat will be on the ballot in a state that Trump carried in the last election. But Raphael Warnock in Georgia and Mark Kelly in Arizona—two states where Biden’s 2020 margins were somewhere between an eyelash and a whisker—are running again after being elected to just partial terms. It is premature to give Daily Racing Form rundowns of key Senate races. But the Democrats are well-positioned to make gains with open GOP-held seats in Pennsylvania and North Carolina, as well as in Wisconsin, whether or not Johnson runs for a third term. Perhaps the biggest Senate advantage the Democrats will have in 2022 is the likelihood of divisive Republican primaries in battleground states. In 2017–2018, the Democrats won six key Senate races (Alabama, Arizona, Michigan, Montana, West Virginia, and Wisconsin) following scorched-earth GOP primaries. The most enduring joke in politics—a joke that has launched enough memes to sustain Twitter for a century—is that “it all comes down to turnout.” It may be a laugh line, much like Infrastructure Week under Trump, but it is also the biggest unknown about 2022. Nancy Pelosi is speaker for a simple reason: Democratic turnout in 2018 was the highest for an off-year election in more than a century and produced a 40-seat pickup in the House that sustains the party’s narrow majority today. But will Democrats and Democratic-leaning independents again vote in record numbers in 2022 without Trump in the White House or on the ballot? A strong argument can be made that Tip O’Neill’s dictum has been reversed, and these days “all politics are national,” as ticket-splitting appears to be going the way of the Prohibition Party. True, the Republicans have been adept at locating forgotten pockets of rural white voters. But the Democrats, with a long history of their voters going AWOL in non-presidential years, probably have the most to gain from the fervent attitude that both sides now bring to all elections. The political scientist and election forecaster Rachel Bitecofer is a strong adherent to the concept of negative partisanship, the idea that voters are primarily motivated by scorn for the other party. For 2022, she is devoting her energies to launching StrikePAC, a political group trying to brand the entire Republican Party as far-right extremists. Her motivation: fear that the Biden White House and most Democratic consultants are too reasonable and too reluctant to go for the jugular. As she said in an interview, “Happy people don’t vote. You know who’s always unhappy? The Republicans.” Bitecofer believes that the most important measure going into 2022 will be the level of enthusiasm of the Democratic coalition. But a strong case can be made that the makeup of the 2022 Democratic coalition also matters, since higher-income and better-educated voters tend to be the most reliable voters. These days, for better or worse, the Democrats are increasingly the party of high SAT scores. According to the data analysis firm Catalist, the Democrats’ performance among white college-educated voters jumped from 46 percent support in 2012 (when Barack Obama won 51 percent of the vote nationally) to a comfortable 54 percent in 2018 and 2020. The upshot of these demographic changes, Ali Lapp from House Majority PAC argues, is that “the idea that the Democrats are the party of inconsistent voters is no longer true.” But the Democrats have a secret weapon in 2022: Donald J. Trump. Unlike any defrocked president since the nineteenth century, Trump seems determined to make the midterms, especially the GOP primaries, into a crusade for his personal vindication. It is as if Herbert Hoover stumped for Republican candidates in 1934—two years after he carried just six states in his reelection bid—by claiming that it was “fake news” that he was paralyzed in the face of the Depression. Imagine if in 1974, just months after he resigned in disgrace, Richard Nixon toured the nation with an “I should have burned the White House tapes” rehabilitation tour. But Trump—whose ego needs were never going to be sated by crashing a wedding at Mar-a-Lago to rant about a stolen election—has embarked on a single-minded mission to quash all dissent within the Republican Party. Pollster Mark Mellman captured the GOP dilemma: “The problem that the Republicans have is that they think that Donald Trump is the secret for turning out the base. And for Democrats, he’s a red flag in front of a bull.” In 2020, Trump did inspire a hidden battalion of MAGA-hatted voters who had skipped both 2016 and 2018. According to an in-depth Pew Research Center study, which combined poll results with the records of actual voting turnout, 19 percent of 2020 voters had not cast ballots in the prior two elections. That group of occasional voters was evenly split between the two 2020 presidential candidates, although the Biden supporters skewed much younger. The Republican strategy for creating repeat voters out of this off-and-on cohort is predicated on nonstop fearmongering. Some of the issues that the GOP is flogging are perennials that have worked for Republicans in prior elections—especially crime and immigration. The weaponization of these issues concerns Democratic strategists looking ahead to 2022. But for the Republicans these days, everything is a threat, from door-to-door vaccination drives to elementary school curricula. The GOP seems more obsessed with critical race theory than the John Birch Society during the Cold War ever was with The Communist Manifesto. H.L. Mencken would probably have mocked this kind of Fox News fanaticism as “boob bait.” As a skeptical Republican consultant, who works almost exclusively in swing states, put it, “In the quiet moments before people vote in 2022, I don’t think that they will be thinking about critical race theory.” Perhaps the Democrats’ biggest hope for 2022 is that Republican primaries for winnable Senate and House seats will be dominated by candidates who might seem extreme even to QAnon believers. Fealty to Trump is not just a popular approach among Republicans—it is a job requirement. Washington Post cartoonist Michael de Adder conjured up a 2021 version of Joseph McCarthy, including the jowls and the five o’clock shadow, badgering a browbeaten GOP witness, “Are you now, or have you ever been, disloyal to Donald Trump?” Republicans with long memories, starting with Mitch McConnell, know how easy it is to squander a Senate seat if the wrong candidate prevails in a primary. In 2012, Democrat Claire McCaskill won an extra term in the Senate after her Republican opponent, Todd Akin, began talking about the repugnant concept of “legitimate rape.” And in 2010, Christine O’Donnell, the GOP Senate nominee in Delaware who had once bragged about her occult experimentation, was forced to begin her first TV ad by saying earnestly to the camera, “I am not a witch.” The hardest things for the Democrats to accept 14 months before the 2022 elections are the virtues of patience. If activists allow themselves to take off their dark glasses of gloom and see all the scenarios under which the Democrats could hold Congress in 2022, they might temper their unrealistic expectations about what Biden and the congressional leaders can accomplish in the next year with micrometer majorities on Capitol Hill. In a sense, one of the gravest dangers ahead—both for the Democrats and for American democracy—is the possibility of younger voters giving up on electoral politics because utopia was not achieved in the first two years of the Biden presidency. In truth, as even Isaac Newton might agree, taming a pandemic and reviving a stricken economy is a hell of a ticket to run on.

#### The plan is politically unpopular – voters are divided which means that plans passage flips the major thin margins – vaccines proves – marjijuana creates the perception of a link.

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 )

### Case

#### Marijuana use is a companion drug, not a substitution – turns the aff

Kenneth Finn (Kenneth Finn, MD, is with springs Rehabilitation, PC, Colorado Springs, Colorado. He is Board Certified in Physical Medicine and Rehabilitation and Pain Management and Medicine), June 2018, "Why Marijuana Will Not Fix the Opioid Epidemic," Journal of the Missouri State Medical Association, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6140166/ sean!

Marijuana has been used for reported medical purposes for thousands of years when the plant at that time had THC content of 0.5–3%. Currently, the most common reported medical use is for pain. As of this writing there are 30 states and the District of Columbia have some form of legalized marijuana, with eight states having legalized for recreational use. The United States is currently in the grips of an opioid epidemic which has been growing over the last 20 years and began with “pain” being termed the “5th vital sign.” At the time, it was reported that people in pain did not become addicted to opioids, and the number of opioid prescriptions started to increase over time, followed by an increase in opioid overdose deaths.1 There has been a lot of discussion about how the use of cannabis will help curb the opioid epidemic.2 It has been reported that medical cannabis laws are associated with significantly lower opioid overdose mortality rates, and others have suggested that legalization may result in less opioid overdose deaths.3 Other studies have reported that medical marijuana laws were associated with a decrease in Medicare prescriptions, saving millions of dollars.4 The same authors followed up with another report suggesting that medical cannabis laws are associated with significant reductions in opioid prescribing in the Medicare Part D population.5 Cost savings in this day and age of health care is very important, but it was noted that “the researchers themselves cannot say if people switched from opioid prescriptions to using a medical marijuana product.” It is difficult to translate population-level analyses to individual marijuana-opioid substitutions, and this patient population is a rather small percentage of people who may be using opioids and/or medical marijuana. In 2017 Colorado had a record number of opioid overdose deaths from any opioid, including heroin and Colorado has had a medical marijuana program since 2001.6 In the face of the opioid crisis, the medical providers should utilize other ways for people to avoid the use of opioids. Treatments such as physical therapy, acupuncture, chiropractic, massage, and cognitive-behavioral therapies are some of the standard treatments in the management of people with pain. Other naturopathic remedies have been suggested and tried but not proven.7 There is some evidence that there are components of the marijuana plant which may have therapeutic medical value.8 Cannabinoid and opioid receptors belong to the rhodopsin subfamily of G-protein-coupled receptors and are synergistic.9 Both, are localized primarily at the presynaptic terminals and when activated, reduce cellular levels of cyclic adenosine monophosphate (cAMP) by inhibition of adenylyl cyclase, which effects neurotransmission. Receptor activation of both also modifies the permeability of sodium, potassium, and calcium channels and receptors of both systems coexist in the central nervous system, with overlapping distribution in the brain, brainstem, and spinal cord.10 Both receptors co-localize on GABA-ergic neurons with potential coupling to second messenger systems, and receptor stimulation can suppress inhibition, suppress excitation, as well as inhibit the release of several neurotransmitters, including L-glutamate, GABA, norepinephrine, serotonin, dopamine, and acetylcholine, therefore modulating pain pathways and potentially provide antinociception. Opioids and cannabinoids share pharmacologic profiles and both can cause sedation, hypotension, hypothermia, decreased intestinal motility, drug-reward enforcement, and antinociception. There are several reasons as to why any reported benefit will be outstripped by lack of benefit and increased risk of harm, and why cannabis is contributing to ongoing opioid use, and subsequently, the opioid epidemic. There is evidence in animal models showing adolescent rats exposed to THC will develop enhanced heroin self administration as adults11 which may be due to activation of mesolimbic transmission of dopamine by a common mu opioid receptor mechanism.11,12 More than 90% of heroin users report a prior history of marijuana use compared to a prior history of painkiller use (47%).13 Prospective twin studies demonstrated that early cannabis use was associated with an increased risk of other drug abuse.14 This particular study was conducted when the THC content was much lower than todays products which can reach 95% THC. The currently accepted body of evidence supporting use of cannabis in pain consists of 28 studies comprised of 63 reports and 2,454 patients.15 Additional articles relying on this primary paper misleading stating that “there is substantial evidence that cannabis is an effective treatment for chronic pain in adults.”16 Both articles noted that products typically studied are not available in the United States (nabiximols, Sativex) or were with available synthetic agents (dronabinol, nabilone), and were studied in less common pain conditions: neuropathic and cancer pain. Currently there is no widely available or accepted medical literature showing any benefit for pain with dispensary cannabis in common pain conditions.17 Dispensary cannabis is a generic substance containing multiple components which may have physiologic activity in the body. The College of Family Physicians of Canada outlined potential prescribing guidelines of medical cannabinoids in primary care.18 They strongly recommended against use for acute pain, headache, osteoarthritis, and back pain, and also discouraged smoking. There is currently a large and growing body of evidence showing that cannabis use increases, rather than decreases non-medical prescription opioid use and opioid use disorder, based on followup of more than 33,000 people.19 Concurrent use of cannabis and opioids by patients with chronic pain appears to indicate a higher risk of opioid misuse.20 Closer monitoring for opioid-related aberrant behaviors is indicated in this group of patients and it suggests that cannabis use is a predictor of aberrant drug behaviors in patients receiving chronic opioid therapy. Inhaled cannabis in patients with chronic low back pain does not reduce overall opioid use, and those patients are more likely to meet the criteria for substance abuse disorders, and are more likely to be non-adherent with their prescription opioids.21 It has been found that patients with chronic pain participating in an interdisciplinary pain rehabilitation program using cannabis may be at higher risk for substance related negative outcomes, and were more likely to report a past history of illicit substance, alcohol, and tobacco use.22 A more recent study of 57,000 people showed that medical marijuana users are more likely to use prescription drugs medically and non-medically, and included pain relievers, stimulants, tranquilizers, and sedatives.23 There is also evidence that state medical marijuana laws lead to the probability people will make Social Security Disability claims.24 There is sufficient and expanding evidence demonstrating that medical marijuana use will not curb the opioid epidemic. There is further evidence that marijuana is a companion drug rather than substitution drug and that marijuana use may be contributing to the opioid epidemic rather than improving it. Although there are patients who have successfully weaned off of their opioids and use marijuana instead, the evidence that marijuana will replace opioids is simply not there. Medical provider and patient awareness, utilization of prescription drug monitoring programs, widespread availability and use of naloxone, and increasing coverage for atypical opioids and abuse deterrent formulations are only some of the other factors which hopefully be contributing to any impact on the opioid crisis. Education and prevention efforts as well as medication assisted therapies will be additional benefits to impact the opioid epidemic. Physicians should continue to monitor their patients closely, perform random drug testing to detect opioid misuse or aberrant behavior, and intervene early with alternative therapies when possible. Marijuana alone is certainly not the answer.

#### Biological weapon attacks are too complex – even with large-scale funding, access to information, and gene-editing tools – terrorists will choose not to pursue or will likely fail.

Revill ’17 [Dr. James Revill, Research Fellow with the Harvard Sussex Program at SPRU, Past as Prologue? The Risk of Adoption of Chemical and Biological Weapons by Non-State Actors in the EU, European Journal of Risk Regulation, 8 (2017), pp. 626–642, https://www.cambridge.org/core/services/aop-cambridge-core/content/view/6B824CDE0E25FD86AC3D0BD07822A743/S1867299X17000356a.pdf/div-class-title-past-as-prologue-the-risk-of-adoption-of-chemical-and-biological-weapons-by-non-state-actors-in-the-eu-div.pdf]

The second factor is “the perceived complexity of the innovation in terms of adoption and use”.40 This is important in the innovation literature, as Rogers remarked, “[t]he complexity of an innovation, as perceived by members of a social system, is negatively related to its rate of adoption”.41 Several scholars of terrorist innovation have also highlighted the issue of complexity;42 or, as Cragin et al have stated, “[h]ow simple or complex a technology appears affects perceptions of how risky it will be to adopt.”43 In most cases terrorist groups appear to have largely opted for the simplest pathway towards the achievement of their goals and the weapons used tend to be vernacular, functional devices drawing on local and readily-available materials, rather than sophisticated, “baroque” technologies. This is certainly the case with IEDs, the history of which is characterised largely by incremental innovations – although nevertheless frequently effective ones – with many means of delivery recycled from the past.44 Complexity can therefore be seen as important in the adoption of technology by terrorists generally, but is perhaps particularly acute in the case of CBW technology. Some CBW can be relatively simple: “chlorine-augmented, vehicle-borne IEDs,” as employed by Al-Qaeda in Iraq (AQI) from 2006 to 2007 are not sophisticated weapons.45 Attacks on chemical production facilities, an apparent tactic of Serbian forces in the early to mid-1990s,46 employed relatively simple technologies – specifically explosives – with toxicity a secondary by-product. Direct contamination of food,47 drink48 or healthcare products49 does not require particularly sophisticated technology for the purposes of delivery – although may require some considerable skill to culture and scale-up a biological agent – and has been a common approach in European CBW incidents.50 Similarly, the contamination of water systems, something familiar to Europe,51 can also be relatively easily attempted. However, in most cases such methods of dissemination have generated results that are far short of the “mass destruction” that CBW are associated with, although this does not mean such a possibility can be ignored by those working on public health preparedness. Although some relatively simple approaches could cause significant harm, mass casualty attacks still require considerable expertise, something particularly acute in the context of biological weapons.52 The most effective route to weaponising biology is arguably through the process of aerosolising agents, something recognised mid-way through the last century as opening up the theoretical possibility of using biological weapons on a gigantic scale.53 However, realising such theoretical potential is difficult and it took states decades to develop more predictable biological weapons,54 and even then such weapons were acutely vulnerable to environmental factors.55 For non-state groups such complexity has proven a significant barrier to CBW development. By means of an example, one of the best-resourced biological weapons programs, that of Aum Shinrikyo, failed variously because the group acquired the wrong strain, contaminated fermenters and were faced with insurmountable production and dissemination difficulties.56 There are of course exceptions, such as the 2001 anthrax Letter Attacks in the US. However, if one accepts the conclusions of the FBI that this sophisticated attack with aerosolised anthrax in the US postal system was perpetrated by a US biodefence researcher, Dr Bruce Ivins,57 it is an exception that proves the rule. To circumvent the difficulties with aerosolisation, arguably one could use human-to-human transmissible biological agents as part of a suicide bioterror operation. There are good reasons for concern over how crude suicide bioterrorists could employ such a tactic. However, the use of highly contagious agents is also poorly predictable and would have to deal with social factors, such as the “spatial contact process among individuals”, which can spell “out the difference between large-scale epidemics and abortive ones”.58 The counter to this argument is the growing access to data and the changing human geography of the life sciences. Some 83% of European households reportedly are online, effectively allowing access to what is a growing body of available data on CBW, including so-called bioterrorist “recipes” and “blueprints” that are available in both mainstream scientific as well as more subversive literatures online. It is also clear that there is a changing human geography in European life sciences (for peaceful purposes), with the emergence of 30 DIY-bio groups located in Europe59 and some 80 European teams in the international Genetically Engineered Machines (IGEM) competition in 2016.60 This is compounded by reports that groups such as Daesh have deliberately sought to recruit foreign fighters “including some with degrees in physics, chemistry, and computer science, who experts believe have the ability to manufacture lethal weapons from raw substances”.61 Whilst it would be unwise to ignore such developments, there is a need for caution in looking at the extent to which new technologies and geographies will facilitate the adoption of chemical and biological weapons by groups seeking to target European countries. First, data is not information, and information is not knowledge, let alone the tacit knowledge required for CBW.62 In many cases a degree of determination and dedication will be required merely to separate online fantasy from fact and identify operationally useful information (of relevance to the European context) from nonsense (or information pertinent to contexts other than Europe). Second, with new technologies there is the potential for such tools to enable some, but certainly not all, actors, and even then new technologies bring new challenges. CRISPR, gene editing technology is currently seen as a particular source of promise and peril, which purportedly enables “even largely untrained people to manipulate the very essence of life”.63 As much may be technically true, yet “untrained people” would nonetheless require some guidance in identifying suitable areas of genetic structures to manipulate. Moreover, CRISPR would only get aspiring weaponeers so far, with the process of culturing, scaling-up and weaponisation still requiring considerable attention and interdisciplinary skills, typically generated through “large interdisciplinary teams of scientists, engineers, and technicians”,64 in order to be effective. Indeed, for all the progress in science and technology, biological weapons are still not used, in part, because of the complexity of such weapons; and the chemical weapons that are used today are largely the same as the chemical weapons of 100 years ago. As Robinson noted “It remains the case today that, in the design of CBW, increasingly severe technological constraint sets in as the mass-destruction end of the spectrum is approached: the greater and more assured the area-effectiveness sought for the weapon, the greater the practical difficulties of achieving it”.65

#### No impact to bioweapon---multiple barriers.

Mueller 10—Chair of National Security Studies at the Mershon Center for International Security Studies and a Professor of Political Science at Ohio State University [John, *Atomic Obsession – Nuclear Alarmism from Hiroshima to Al-Qaeda*, Oxford University Press, Emory Libraries]

Properly developed and deployed, biological weapons could potentially, if thus far only in theory, kill hundreds of thousands, perhaps even millions, of people. The discussion remains theoretical because biological weapons have scarcely ever been used. For the most destructive results, they need to be dispersed in very low-altitude aerosol clouds. Since aerosols do not appreciably settle, pathogens like anthrax (which is not easy to spread or catch and is not contagious) would probably have to be sprayed near nose level. Moreover, 90 percent of the microorganisms are likely to die during the process of aerosolization, while their effectiveness could be reduced still further by sunlight, smog, humidity, and temperature changes. Explosive methods of dispersion may destroy the organisms, and, except for anthrax spores, long-term storage of lethal organisms in bombs or warheads is difficult: even if refrigerated, most of the organisms have a limited lifetime. Such weapons can take days or weeks to have full effect, during which time they can be countered with medical and civil defense measures. In the summary judgment of two careful analysts, delivering microbes and toxins over a wide area in the form most suitable for inflicting mass casualties-as an aerosol that could be inhaled-requires a delivery system of enormous sophistication, and even then effective dispersal could easily be disrupted by unfavorable environmental and meteorological conditions.

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[1] Academic integrity—you are straight up lying for your own advantage. You act like you disclose to meet interpretations and then trick everyone else so that you can win. That is the definition of being academically disingenuous and is an independent voter since a) it affects us outside of debate—now is the time we develop as young adults and if we can’t respect honest practices you will suffer in the real world and b) destroys the constitutive purpose of debate as an educational activity if you can just lie. Disclosure is different from other shells – A) It’s something pre-fiat that you use to gain better engagement and a norm for the form that you force upon others but you don’t have to do it which is freeloading – Other shells are about content of arguments, B) Bidirectionality – You can read disclosure every single round but other theory norms are contestable – You trick people saying you’ll follow a norm that you refuse to follow.

1 – Pre-round prep – Decks ability to make case negs to aff since we're never certain of what it is and they'd always lie.

2 – Wastes neg prep spent cutting generics – We could've spent that 45 minutes before round cutting generics and case-cards that we're behind on instead of making a case-neg to your fake aff.

3 – Gives us cx to make a case neg – Moots neg prep since we have to fill up a 7-minute speech doc somehow and leads to stumbly, incoherent 2NRs that the 2AR will always find gaps in.