

# The Double Standards of Cannabis and Nicotine

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## Executive Summary

The principal benefit of recreational cannabis, as the name implies, is recreation. Many who enjoy using the substance do so solely because of the pleasure they derive from it. Nicotine vapor products or “e-cigarettes” are not only a source of pleasure, but also a critical tool that has helped millions of adults kick their deadly smoking habit. Yet, at the same time that public and political support for legalizing recreational cannabis has soared, so also have calls to virtually eliminate or prohibit legal access to potentially life-saving nicotine vapor products.

Since e-cigarettes first entered the U.S. market around 2007, anti-smoking advocates have voiced concern about their possible hazards and demanded that government restrict their availability. That stance might have seemed reasonable in the beginning, since, as opponents argued, research on the products and their potential health effects was limited. It also implied that detractors would withdraw, or at least temper, their opposition to the sale of e-cigarettes should sufficient evidence reasonably establish their relative safety.

The evidence has emerged that e-cigarettes are vastly safer than smoking, even if not risk-free, and have the potential to save or improve millions of lives. Yet, anti-vaping advocates’ hostility toward e-cigarettes has only intensified and governments around the world have begun banning the products. The reason, as this paper demonstrates, is that regulation of certain controversial substances often has little to do with evidence. As the comparison of the evidence on and debate over nicotine and cannabis reveal, the way some activists and policy makers treat controversial substances depends less on science and evidence than on the prevailing narrative they choose to believe and promote.

Though different in nature and purpose, the scientific evidence on cannabis and nicotine is remarkably similar, in terms of the risks they might pose. Decades of research and popular use confirm that the harms associated with regular cannabis use are, for most people, relatively minimal, even if some questions remain, such as, for example, on how it interacts with certain medications and psychiatric conditions or how it might impact adolescent development.

More importantly, history provides compelling evidence that whatever hazards might be associated with cannabis, they are preferable to those created by its prohibition. The federal ban on cannabis did little to stop its widespread use. As with alcohol before it, prohibiting cannabis spawned a sophisticated illicit market, incited contempt for the law, cost the economy billions of dollars, fomented distrust of law enforcement, and ruined countless lives. Thus, with research unable to identify any meaningful harms caused by cannabis use and witnessing the damage caused by its prohibition, the general consensus is that our society would be healthier, freer, and more just by restoring adults’ ability to use cannabis legally.

Like cannabis, many unknowns remain about the effects of nicotine and nicotine vaping, but there is enough to know its risks are minimal and are substantially lower than for combustible tobacco. We also know that nicotine vapor products help adult smokers quit smoking, providing an immediate public health benefit by diverting smokers to less harmful alternatives. Banning e-cigarettes will not stop people from using them, but like every prohibition before it, push many toward more hazardous behaviors, such as buying from the illicit market or continuing to smoke. Yet, restrictions and bans on e-cigarettes continue to sweep across the nation.

This different treatment of two relatively analogous substances cannot be explained by the scientific evidence. It arises from what the public and, in particular, those in power choose to accept as evidence and the popular narrative this creates. Popular culture, the media, reform advocates, and individual users coalesced around a consensus that many adults enjoy cannabis and will continue to do so regardless of its legality. The general public now overwhelmingly believes that cannabis use is inevitable, prohibition is futile, and adults should have the right to use it simply because they enjoy it. But the same does not apply for nicotine.

For a long time, the narrative surrounding nicotine vapor has been one of fear and suspicion. It has increasingly focused on unknown risks and the threat e-cigarettes might pose to adolescents, even as the scientific evidence consistently shows these fears are overstated, and demonstrates the products' safety and benefits for adults. This was no accident.

Prior to the advent of e-cigarettes, declining smoking rates posed an existential threat to anti-tobacco activists and groups. As smoking declined in popularity, those who had built careers and organizations in the well-funded battle against smoking found themselves victims of their own success. E-cigarettes provided the perfect bogeyman to stoke public anxiety and revive fundraising. Thus, anti-tobacco activists redirected their efforts toward turning public opinion against these novel products.

Decades of promoting hostility toward “Big Tobacco” proved helpful for this effort. Like tobacco companies that once sought to deceive the public about the risks of smoking, anti-vaping activists waged a campaign to sow doubt about the safety of e-cigarettes. With billions in public funding, an army of affiliated academics, allies in government and media, and the support of industries threatened by new competition, activists generated a steady stream of negative headlines about “vaping.”

They knew from their fight with Big Tobacco that they could persuade the public of the need for government intervention if they believed that a choice posed risks, not just to the individual making it, but to those around him. So, as with secondhand smoke and youth smoking, anti-vaping advocacy focused on the threat e-cigarettes supposedly posed to adolescents and to public health.

The strategy has been wildly successful. While the evidence continues to mount in favor of e-cigarettes' effectiveness for smoking cessation, public opinion is increasingly in favor of banning the products. Even as America embraces an approach aimed at reducing the harms of risky behavior with policies like clean needle exchanges, sexual education, and cannabis legalization, we are turning more toward a zero-tolerance approach when it comes to nicotine. Unfortunately, that is because evidence is not the driving factor in the political debate over substance use.

## Introduction

A large proportion of nicotine vapor users credit the products with saving their lives, a claim rarely—if ever—made by those who use cannabis purely for recreation. Yet, while legalizing recreational cannabis is now a cause célèbre among liberal and some conservative politicians, a prohibition on nicotine vapor products—sometimes referred to as electronic cigarettes—has become an equally fashionable position, often among the same individuals.

Advocates of greater restrictions or bans on nicotine vaping cite a lack of evidence on the effects of vaping. That seems to imply that their position might change if the products' safety and efficacy were ever proved by research, but it has become clear that such a prospect is just a political smokescreen. As the divergent treatment of cannabis and nicotine demonstrates, when it comes to the regulation of substances, neither evidence, principles, nor even justice actually matter. All that matters is the popularity of the given narrative about a substance.

Cannabis and nicotine are both pleasurable substances that have enjoyed widespread popularity for hundreds of years. Both have a large body of scientific research, as well as many unanswered questions, about their effects on human health. Yet, in recent years cannabis has become far more popular. In 2017, 55 percent of

American adults said they currently used marijuana, with 35 percent using it regularly.<sup>1</sup> In contrast, nicotine use in the U.S. is at a historic low, with under 14 percent of adults categorized as current smokers and only 8 percent of adults saying they vaped within the past week as of 2019.<sup>2</sup>

Public opinion, among users and non-users alike, has evolved alongside these consumption patterns. A Gallup poll in 2019 found that 66 percent of the American public supported legalizing marijuana.<sup>3</sup> The same year, a poll by the Kaiser Family Foundation found that a majority (52 percent) of Americans favored banning all but tobacco-flavored e-cigarettes, while nearly half (49 percent) favored a total ban on nicotine vaping products.<sup>4</sup> But this evolution in opinion, among both the public and politicians, is not based on conclusive scientific evidence.

After decades of research, there is enough evidence to assume that the health effects of cannabis use are unlikely to be life-threatening. For at least 20 years of study and public debate, the case for legalizing cannabis—in terms of public safety, as well as social, economic, and personal well-being—is strong. This evidence, along with efforts by activists and health professionals to destigmatize the drug and its users, largely explain why the public and subsequently lawmakers have begun to look more favorably on legalizing cannabis.

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However, the scientific evidence on the health effects of cannabis has remained largely inconclusive.<sup>5</sup> Hampered by regulatory barriers, researchers have been able to shed light on some aspects of the drug's impact on health, but major questions remain unanswered.<sup>6</sup> For example, there is very limited data on how tetrahydrocannabinol (THC) affects heart health.<sup>7</sup> We are just beginning to understand how different patterns of use may interact—either positively or negatively—with other physical and psychological conditions, predispositions, and treatments.<sup>8</sup> Furthermore, little is known about how cannabis alters brain function in adults and brain development in adolescents.<sup>9</sup>

On the other hand, the costs of prohibition on individuals, society, and the economy have proven catastrophic. For the last half century, Americans have observed the utter failure of banning cannabis to stop its widespread use; how it spawned sophisticated, international drug-trafficking networks; cost our economy billions; fomented distrust between the citizenry and law enforcement; and ruined untold numbers of lives.<sup>10</sup> Outlawing the drug did not stop demand. Instead, it drove millions into the illicit market, where, in addition to any risks inherent to the drug, they are exposed to the additional hazards of interacting with criminals, potentially consuming adulterated or tainted products, and running afoul of

the law. And, of course, the rise of the illicit market, with its outsized profits, draws many people into risky or criminal behavior, with often terrible consequences both for the individuals engaging in illicit activities and their communities.

By weighing what we do know about the health effects of cannabis against the known consequences of prohibition, America has come to the reasonable conclusion that whatever risks might ultimately be associated with cannabis use, they are lesser than, or preferable to, the harms created by its prohibition.

### **Regulation in the Face of Uncertainty**

In the absence of complete and perfect scientific information—something almost no topic enjoys—regulators must carefully weigh the strength of the evidence we do have about the potential harms and benefits of giving consumers legal access to substances against the likely harms and benefits of prohibiting that substance. With regard to cannabis, regulators, researchers, and the general public, for the most part, have rightly come to the conclusion that the costs of prohibition far outweigh the potential risks associated with legal access to the drug.

Were regulators and lawmakers to objectively perform this sort of calculation for nicotine, they would

conclude the same for that substance. While it is true that, as with recreational cannabis, we may not fully understand all of the effects of nicotine vaping, there is *enough* evidence to conclude that the effects on health are limited to the degree that a regulatory scheme that maintains legal access to these products will be less detrimental to individual and public health than a prohibition on such products.

Nicotine vaping devices are a relatively new category of products, but tobacco and nicotine use, in various forms, is not. Though public health professionals have historically conflated the effects of smoking and nicotine, the advent of nicotine vaping, which separates the effects of nicotine from combustion, has become the subject of intense scientific study over the last 15 years. Because of public interest and the lack of regulatory barriers on its study, current clinical data on nicotine is as robust as that for recreational cannabis, if not more so. We have more than 400 years of observation about non-combustible tobacco use, such as tobacco chew, snuff, and snus (moist snuff).<sup>11</sup> There is also plenty of information available on the social and economic effects of various regulatory schemes for nicotine products, based on experiences in the U.S. and around the world.

As with recreational cannabis, the clinical evidence indicates that the health effects of nicotine vaping are minimal—at least minimal enough that researchers have been unable to consistently demonstrate any negative effects at all. This is why nicotine replacement therapy, for example, is not associated with increased risk of cancer, cardiovascular disease, stroke, or other diseases commonly linked with smoking.<sup>12</sup> Furthermore, the benefits to society of providing access to smokeless nicotine has been validated by studying the experiences of countries that have embraced lower risk tobacco alternatives, like Sweden.

Snus, a moist tobacco chew, has been in use in Sweden since the 17<sup>th</sup> century, but it gained in popularity beginning in the 1980s as the dangers of smoking became clearer and more well known. By 2016, approximately 21 percent of Swedish men were classified as current snus users, while just 7 percent of the population continued to smoke, and just 5 percent smoked daily.<sup>13</sup> As a result of replacing a combustible tobacco with a non-combustible product, Sweden has not only the lowest smoking rate in Europe, but also the lowest rate of lung cancer—by far—and among the lowest rates of mouth cancer.<sup>14</sup> In the rest of the European Union, where snus is banned, 24 percent of the population, on average, smoked as of 2016.<sup>15</sup>

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Similar effects have been observed in Japan, where the rate of decline in cigarette sales has quintupled since the introduction of Philip Morris International's heated tobacco product, IQOS.<sup>16</sup> Great Britain and the United States, where the government embraces or tolerates e-cigarettes, respectively, have seen similar accelerations in the decline of smoking.<sup>17</sup>

More importantly, perhaps, evidence from around the world demonstrates that government policies that seek to restrict legal access to nicotine, whether through regulatory barriers, bans, or price controls, do not prevent nicotine use. Instead, illicit markets, and all of the harms that accompany them, rise to meet the demand.<sup>18</sup>

The ability and willingness of the public to flout restrictive drug laws has been on display in the United States and elsewhere with regard to cannabis. Not only did Americans continue to use the substance after its ban, but some made ostentatious displays out of flouting the prohibition. Cannabis was popular among jazz musicians during the first half of the 20<sup>th</sup> century, a fact not lost on prohibitionists of that era, who pursued famous musicians, like Louie Armstrong and Billie Holiday.<sup>19</sup> And long before the first U.S. state legalized its use, the comedy duo Cheech and Chong arguably established a new genre of cinema with

their stoner comedy films, beginning with the 1978 cult classic *Up in Smoke*. And beginning in the 1970s, hip hop and rap artists used marijuana in their lyrics (and lives) as a form of rebellion against and rejection of a mainstream society they believe marginalizes individuals and communities of color.<sup>20</sup> By the 1990s rap and the stoner comedy had been incorporated, at least in some forms, into popular mass media. It was this "mainstreaming" of art forms with positive and often celebratory representations of cannabis use, more than any scientific breakthrough, that acted to destigmatize the drug, change popular opinion, and pave the way for legalization.<sup>21</sup>

Though different in their chemical makeup, biological effects, and purpose, the scientific literature on recreational cannabis and nicotine are remarkably analogous. Current clinical data suggests both substances are relatively safe, emerging evidence even points to potential health benefits for both, and plenty of research demonstrates the harms associated with the prohibition of either. Nicotine vapor products have the additional benefit of typically being used, not just for enjoyment, but as a replacement for deadly combustible tobacco products, like cigarettes. Yet, one of these drugs—cannabis—enjoys increasing popular and political support and decreased stigmatization,

while the other—nicotine—is progressively maligned, stigmatized, and the target of bans and restrictions.

This asymmetry in the treatment of the two substances cannot be explained by the amount or strength of the scientific evidence for their relative benefits or harms. Instead, it stems from what those in power are willing to accept as evidence.<sup>22</sup> The notion that people enjoy using cannabis and will continue to do so regardless of its legal status is now widely accepted. The inevitability of widespread cannabis use and the futility and harm of its continued prohibition are sufficient justification to advocate for an end of the federal cannabis ban. That logic, though demonstrably true for both cannabis and nicotine, has proved insufficient to convince advocates, regulators, and even some researchers. Unlike recreational cannabis, for nicotine vapor they demand “proof” of the products’ value before they are allowed onto the market.<sup>23</sup> Yet, it remains unclear what type of—and how much—evidence it would take to meet their threshold of proof.

### **Drug Double Standard**

It is reasonable for public health professionals, lawmakers, and the public to want evidence about products prior to making decisions about how they ought to be regulated. In the case

of vaping, this evidence is available. Toxicology studies show that even the earliest e-cigarette devices on the market contained only a fraction of the harmful and potentially harmful constituents found in traditional cigarettes.<sup>24</sup> Studies also show that exhaled vapor contains 99 percent fewer carcinogens than secondhand smoke.<sup>25</sup> Epidemiological studies have repeatedly found that the vast majority of those using nicotine vapor products are former smokers.<sup>26</sup>

As with cannabis, evidence has also disproved the claim that nicotine vaping is a “gateway” to more harmful substances, in this case smoking combustible tobacco.<sup>27</sup> Perhaps the most convincing evidence against the idea that vaping leads to smoking is that, even as youth experimentation with vaping has risen significantly over the 13 years since its introduction, youth and adult smoking have continued to decrease. Studies, including one randomized clinical trial (considered by some to be the gold standard in health research), have even demonstrated that nicotine vapor products are two to three times more effective at helping smokers quit than other nicotine replacement therapies (NRT).<sup>28</sup>

Each of the aforementioned studies, along with any before or since showing similar findings, were, without exception, rejected by the individuals

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and groups demanding proof of the value of nicotine vapor products. As Clive Bates, the former director of the British tobacco control group Action on Smoking and Health, wrote in 2018, the justifications provided by anti-vaping advocates for spurning these studies follow an almost comically predictable pattern.

Harm is the essential currency of tobacco control campaigning. For these activists, cancer and other harms have acquired valuable utility: it is the “killer” arguments to justify the forceful action of the state. If there is no cancer or other harms, they have lost an argument to support the real goal. Hence, we see desperate, often risible, efforts to turn nugatory risks into full-blown moral panics. If concerned about health, why do they never talk about how e-cigarette vapour has few of the harmful agents present in cigarette smoke and those that are present at far lower concentrations? Because *disease risk* creates the currency of fear and righteous indignation, and fear and indignation is the gateway to regulation.<sup>29</sup> [Emphases in original]

Typically, critics of nicotine vaping respond to studies with results they dislike by quibbling over flaws in the methodology, the length of the study,

and questions the researchers did not seek to answer.

Dozens of observational studies are often dismissed as being merely based on anecdotes. Those dismissals are often accompanied by calls for randomized controlled trials, which could really prove whether nicotine vapor products are effective as cessation tools.<sup>30</sup> When researchers performed a randomized controlled trial and found that e-cigarettes were twice as effective as other nicotine replacement therapies for smoking cessation, anti-vaping interests dismissed it as being *too* clinical and “not a study of e-cigarettes as most people use them.”<sup>31</sup>

The most consistently employed argument against studies showing few or no negative health effects related to nicotine vapor is that they are not conducted over a long enough period of time to reveal the harms from chronic use of the products over decades. When supplied with research that follows participants for years—which would be able to identify biological changes related to long-term health—anti-tobacco activists simply return to the other tactical arguments.

For example, in 2017 researchers published the results of a study comparing circulating levels of smoking-related toxins linked to cancer, heart disease, and lung disease among long-term smokers, e-cigarette

users, users of nicotine replacement therapies, and “dual” users—those who both smoke and use NRT or e-cigarettes. While dual users in any combination had similar levels of harmful toxins to that of smokers, individuals using e-cigarettes exclusively for six months or more had similarly low or significantly lower levels of circulating toxins than exclusive NRT users.<sup>32</sup> Rather than celebrate this as evidence that long-term e-cigarette use is, at the very least, no more harmful than long-term NRT use—a practice widely encouraged by anti-tobacco advocates—vaping opponents focused on the finding that e-cigarette users who also smoked had toxin levels similar to smokers, an unsurprising result that is largely, if not entirely, explained by their smoking.

“Everyone—including me—agrees that *switching entirely* from cigarettes to e-cigarettes (assuming no effects on cessation) would be a good thing,” wrote Stanton Glantz, a longtime anti-tobacco activist and professor at the University of California, San Francisco.<sup>33</sup> “The problem is, as this paper notes, that almost all e-cigarette users keep smoking cigarettes ... for the great majority of e-cigarette users *as they are actually used in the real world*, there is no health benefit of e-cigarettes” he continued.<sup>34</sup> [Emphasis in original]

Glantz is incorrect that the study found “almost all e-cigarette users keep

smoking.” The study did not, and could not by design, determine the prevalence of dual use in the population because the researchers recruited equal numbers of participants for each group studied. More importantly, even if it were true that many e-cigarette users continue to smoke, that, along with the results of this study, in no way supports the claim that e-cigarettes have “no health benefits” for smokers. In the real world, the study’s groundbreaking finding, that the harms of long-term e-cigarette use are as low and possibly lower than long-term NRT use, is compelling evidence that researchers and activists, like Glantz, should figure out how to *encourage* smokers to switch to e-cigarettes exclusively. Indeed, this was suggested by the study’s authors, who wrote that their finding of similar nicotine intake levels among smokers, exclusive NRT users, and exclusive e-cigarette users “supports the view that users seek a particular level of nicotine intake, regardless of the delivery system.” Thus, they concluded that “dual users should be encouraged to cease using combustible products to reduce long-term health risks.”<sup>35</sup>

The argument made by Glantz provides a good example of the double standard of proof applied to nicotine vapor products. Based solely on the unsupported idea that most e-cigarette users continue to smoke, Glantz is

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willing to dismiss the possibility that nicotine vapor products have *any* benefit and to advocate for their total prohibition.<sup>36</sup> Interestingly, Glantz omits from this conversation the evidence that continued smoking by users of nicotine replacement therapies is also extremely common. According to some estimates, as little as 1 or 2 percent of NRT users even attempt to achieve abstinence from smoking, while a higher percentage intend merely to reduce their cigarette consumption.<sup>37</sup> However, studies have found that smokers who use NRTs actually smoke *more* cigarettes than smokers not using such products.<sup>38</sup> This real world experience with NRTs has not led anti-tobacco activists to call for banning the products.<sup>39</sup> In fact, some of the most vociferously anti-vaping entities, like the Campaign for Tobacco-Free Kids, not only support over-the-counter sales of NRT products, but advocate for governments to subsidize their provision to adult smokers.<sup>40</sup>

Criticisms of the evidence that nicotine vaping is relatively harmless or even beneficial are often joined with statements about the lack of long-term evidence and how many decades it took researchers to demonstrate the devastating harms associated with smoking.<sup>41</sup> This implies that it would take modern researchers, despite all the advances in science and technology, a similar

amount of time to understand the effects of nicotine vaping. That is a disingenuous argument, given that research on smoking began in the 1940s when science on the topic was nascent.

It certainly would be nice to have multidecade studies on every possible consequence of a product prior to its introduction on the market. But that criterion is as impractical as it is unnecessary. Virtually nothing in life is free of risk entirely. As Fred Smith, the founder of the Competitive Enterprise Institute, once remarked, if “society demands unattainable levels of safety—a risk-free world—public policy becomes divorced from reality.”<sup>42</sup> For almost every other aspect of human life, we recognize the reality that proof of total safety is unrealistic. Moreover, we inherently grasp that applying such a standard would produce economic, technological, and personal paralysis. But, when it comes to lower-risk means of nicotine consumption, that is the standard that activists demand, despite the potential of such products to save and improve millions of lives around the world.

There are already hundreds, if not thousands, of studies on nicotine vaping, including on animals and humans, observational and clinical, and short- and long-term.<sup>43</sup> These studies, while not answering every possible question that might arise surrounding nicotine vapor, are *enough*

for researchers to measure biological changes that would indicate long-term risk. Thus far, the research does not indicate any significant long-term harms, particularly for those who are using nicotine vaping to replace the far more harmful habit of smoking.

The standard of evidence that anti-tobacco activists demand for nicotine vaping is not applied to any other category of consumer good. For instance, a lack of decades-long studies that might definitively and comprehensively reveal all possible risks has not stopped the introduction of new pharmaceutical drugs.<sup>44</sup>

Although the entire approval process is arduous and lengthy, lasting upwards of a decade or longer, the duration of individual trials, which form the evidence for a new drug's safety and efficacy, can last for just one year.<sup>45</sup> Even for many drugs intended to be taken regularly over a period of many years, like antidepressants and cholesterol-lowering statins, long-term studies are not required prior to their introduction to the market, so long as there are at least two positive short-term (eight- to 12-week) trials.<sup>46</sup>

For example, in March 2019, the U.S. Food and Drug Administration (FDA) approved Spravato, a nasal spray antidepressant chemically related to the drug ketamine. This approval occurred even though the longest trial of the drug was no more than 60 weeks.<sup>47</sup> Non-pharmaceutical products require

even less study, such as the ultra-low-nicotine cigarettes approved by the FDA in December 2019, for which the longest studies were a mere 20 weeks, with many questions remaining about whether smokers using low nicotine cigarettes will actually smoke more.<sup>48</sup> As for cannabis, only a single product has been approved by the FDA. In this case, studies of the CBD medication intended to treat seizure disorders lasted less than a year.<sup>49</sup> No other cannabis products sold in the U.S., with or without THC, have undergone such a review. Yet, the lack of certainty about how cannabis affects adolescent brain development, an issue on which anti-vaping advocates seem singularly focused when it comes to nicotine, has not stopped the growing—and justified—push for cannabis legalization.<sup>50</sup>

The American Lung Association (ALA), for example, has been vocally opposed to nicotine vapor products and has lobbied state and federal governments to institute bans and restrictions against their sale and advertising.<sup>51</sup> With regard to cannabis, the ALA once was a vocal opponent of the drug's use, claimed that “marijuana deposits four times more tar in the lungs than tobacco,” and ran a campaign in the 1980s titled, “Don't Let Your Lungs Go to Pot.”<sup>52</sup> Today, however, apart from advocating that cannabis be included in indoor smoking bans, the ALA is conspicuously silent on the

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issue of cannabis legalization and regulation.<sup>53</sup>

As with cannabis, a lack of definitive evidence has neither stopped the government from approving, nor society from accepting, a range of other products, medications, and devices. That is as it should be.

Long-term studies that unequivocally tell us, for example, how cannabis would affect every aspect of individual and social welfare are not only impossible for each facet of the drug's development and deployment, they are also unnecessary. We now have enough information to know that whatever harms may be associated with cannabis use, they are minimal in comparison to the harms created by prohibition. The same is true of nicotine and nicotine vapor products. Yet, when it comes to nicotine vaping, the evidence doesn't seem to matter. The constant appeals for proof and the way substances are treated by lawmakers, regulators, the media, and the public are not determined by scientific evidence, but are based on how people feel about the substance. In the current moment, at least, the majority of the public now accepts cannabis use as a relatively harmless activity, akin to drinking alcohol. Unfortunately, the way most people feel about nicotine is inextricably linked to their feelings about "Big Tobacco."

## **Moral Entrepreneurs**

At the heart of the modern tobacco control movement are what sociologist Howard S. Becker calls "moral entrepreneurs."<sup>54</sup> These professional arbiters of morality or rule makers typically begin as passionate amateurs, often with humanitarian motives. They do not simply want to impose their moral views on others, but operate from the belief that doing so will improve the well-being of society. This ostensibly pure intention provides justification for moral crusaders to pursue their goals by any means necessary, including working with those with dubious motives, exaggeration, defamation of the opposition, disregarding others' autonomy, and persecuting those who disobey—for their own good, of course.

The crusader who manages to convince the public of the validity of his cause may be able to build large organizational structures around it and turn his passion into a vocation. But this presents a conundrum for the crusader: If successful, he would essentially be putting himself out of a job. Such was the case for the enterprise of anti-smoking activism. After decades of raising awareness about its risks and convincing the public and government officials of the need to control smoking, the habit was headed toward extinction. By the 21<sup>st</sup> century, smoking had become a socially stigmatized, deviant behavior

in many developed nations. Many countries, particularly the U.S., had also banned smoking in public spaces, imposed taxes on the products, and adopted strict tobacco control policies.

By the mid-2000s, precipitous declines in smoking had diminished public concern over the habit's health effects, which in turn lessened interest in funding cessation efforts. This waning attention threatened what had become a multi-billion-dollar anti-smoking industry and the thousands of agencies, departments, charities, and careers built around it. Rather than kill the anti-smoking cash cow, activists sought to expand their crusade to new targets—not only smoking, but any use of tobacco and, more recently, any use of non-pharmaceutical nicotine. As Becker wrote, a moral crusader who manages to achieve his original goal “may generalize his interest and discover something new to view with alarm, a new evil about which something ought to be done. He becomes a professional discoverer of wrongs to be righted, of situations requiring new rules.”<sup>55</sup>

The rise in popularity of nicotine vaping occurred, not coincidentally, at the same time as the anti-smoking activism industry was desperately searching for a new target. Their attempts to foment renewed moral panic over products like flavored nicotine lozenges, bidis (mini cigars),

clove cigarettes, and nicotine-free cigarettes fell flat.<sup>56</sup> But then came electronic cigarettes. With a similar-sounding name, look, and even smoke-like plumes of vapor emitted from the devices, electronic cigarettes proved the perfect new target for moral entrepreneurs to continue their crusade against Big Tobacco—even if Big Tobacco, particularly in the beginning, had nothing to do with the novel products.

### **The “Big Tobacco” Bogeyman**

With good reason, people maintain a deep distrust of big tobacco companies, which historically had long denied the deadly effects of combustible tobacco of which they were aware, putting significant resources into casting doubt on and undermining evidence of those harms as it emerged. However, this understandable mistrust has been extended, often intentionally, by anti-tobacco advocates, to any person, group, or industry that appears to be, or is accused of being, linked to big tobacco companies.

This near-universal contempt for Big Tobacco and the effectiveness of guilt by association with it is well-known among activists of all stripes. This explains the proliferation of accusations of “stealing a page out of the Big Tobacco playbook” hurled at various businesses and industries—including food marketers, soda companies, the

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alcohol industry, the tech industry, social media platforms, climate change skeptics, lawmakers, and even the National Football League.<sup>57</sup>

Those who oppose the use of nicotine on moral grounds have made little attempt to hide their use of this tactic as a way to discredit any person or study unsupportive of their abstinence-only approach. In a 1986 handbook on anti-tobacco activism, the authors—including the aforementioned Stanton Glantz—advised that inconvenient studies could be easily explained away by pointing to “the self-interest of the authors, defective methodology, or sheer weight of numbers of contradictory studies” and that activists should “suggest that the person is simply a shill for the tobacco industry.”<sup>58</sup> A few years later, Glantz, in a speech, noted that a similar approach could be used to convince reluctant lawmakers to support their anti-tobacco policies, noting that a good way to change their minds is to convince them that “if they oppose you they would be perceived as dupes of the cigarette companies.”<sup>59</sup>

As blatant and opportunistic as that is, the strategy continues to work effectively in convincing many that any nicotine product, not produced by “Big Pharma,” is merely an extension of “Big Tobacco.” That leaves them free to disregard any evidence about the

relative harmlessness or possible benefits of the substance.

Anti-tobacco groups have used this tactic to paint the nicotine vapor industry as no different from Big Tobacco. But this simplistic view ignores the fact that while large tobacco companies have now entered the nicotine vapor market, the industry was initially established and remains primarily populated by small, independent vapor companies that were never involved in the tobacco business.

More importantly, it also fails to acknowledge that the central reason these independent vapor companies and shops exist is to *displace* combustible tobacco. Still, the mere fact that the initial generations of nicotine vapor products looked similar to cigarettes, were sometimes called electronic cigarettes, and contained nicotine despite not having any tobacco, was enough for activists to convince the federal government to deem the products “tobacco” in 2016.<sup>60</sup> This bureaucratic categorization of nicotine vapor as tobacco product, plus the superficial similarities with traditional cigarettes, made it easy for activists to convince those unfamiliar with the novel products that they were the same as combustible tobacco, made by the same companies, with the same purpose and risks. (This is a little like

viewing distilled spirits and rubbing alcohol in the same light.)

### **Merchants of Doubt and Fear**

Ironically, both the impossibly high double standard for scientific evidence and attempts to create a mental link between nicotine vaping and Big Tobacco are exactly the same strategies used by Big Tobacco since the 1950s to suppress growing evidence of the harms associated with smoking.<sup>61</sup> This awareness of Big Tobacco's past bad behavior and the public's distrust of the industry significantly increase the potency of anti-tobacco activists' primary argument against nicotine vaping: the safety of children.

"Won't somebody think of the children" was the oft-repeated catchphrase of Helen Lovejoy, wife of Reverend Lovejoy on the television comedy *The Simpsons*. This parody of the overwrought and myopic focus on child welfare, which often pervades real-world political debates, was so deft that *Toronto Star* reporter Edward Keenan coined the term "Lovejoy's Law." In Keenan's words, if one side of a debate uses "the children" to justify their position, one can assume it is an attempt to manipulate and that, "they're probably either lying, trying to screw you over or hoping to distract you from the worthlessness of their position."<sup>62</sup>

In the case of nicotine vaping, evidence continues to mount that it is relatively harmless for adults. Even the assertion that nicotine is "highly addictive," something most people believe is irrefutably true, is contradicted by evidence and logic. People rarely become addicted to nicotine patches, gums, or lozenges. Animal and human studies have found that nicotine alone is not sufficient to prompt self-administration or nicotine-seeking behavior—for instance, lab mice do not press the lever delivering nicotine over the lever that delivers food. That suggests that is some other chemical, combination of chemicals, or feature of cigarettes that makes products containing nicotine habit-forming.<sup>63</sup>

Unable to justify their opposition to nicotine use based on demonstrable harms to adults, anti-tobacco activists instead have focused on the imaginary risks nicotine vapor products pose to children. Among the most frequently cited concerns are claims that nicotine vaping harms the adolescent brain and leads to future smoking—claims for which the evidence is weak, non-existent, or invalidating.

The idea that nicotine damages adolescent brains or impairs their development are based primarily on rat and mouse studies that report relatively minor effects, like changes

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in learning, attention, and memory.<sup>64</sup> Interestingly, as a topic of debate, the effects of substances on youth brain health seem exclusive to public discourse on nicotine and tobacco. As researchers Lynn Kozlowski of the University of Buffalo and Kenneth Warner of the University of Michigan pointed out in 2017, there has been little public interest in the impact on brain health of other substances commonly used by youth, like alcohol, cannabis, caffeine, and psychotropic medications. “If anything, the concern should be greater regarding kids’ cigarette smoking but it was rarely brought into discussions of youth smoking,” they wrote.<sup>65</sup> Given the fact that there are many decades of studies on smokers, most of whom began smoking as young adults, the evidence that nicotine causes brain damage or significant cognitive impairment should be strong and abundant. Until relatively recently, in fact, a significant portion of youth reported daily smoking. If nicotine caused significant harms on the developing brain, it would be apparent in the scientific literature, but it is not. Yet, the adolescent brain issue has become one of the central arguments used by anti-vaping activists.

It is worth noting that while the adolescent brain issue has not yet been a major factor in the public discourse about cannabis, this could quickly change. As this paper argues,

increasing public acceptance of cannabis use has made the continuation of prohibition on the drug unfeasible for politicians and a bad target for moral entrepreneurs. But these circumstances may be tenuous and temporary. As a recent article in *The Atlantic* pointed out, 2020 democratic presidential candidate Joe Biden has not fully endorsed the idea of cannabis legalization despite broad public support, particularly among democratic voters. One explanation provided for his reticence is the divergent treatment of nicotine vaping and cannabis. Liberal lawmakers have argued for restrictions on vaping because of a lack of clarity on its health effects, but these same lawmakers have not applied that standard to marijuana, which they mostly favor legalizing.<sup>66</sup> Yet, should moral entrepreneurs decide to make pot smoking their next target, they could easily rely on all of the same dubious arguments and evidence that have been used against nicotine vaping, including the claim that cannabis may “harm” adolescent brain development.<sup>67</sup>

Another pseudoscientific argument regularly employed in public policy debates over drugs is the “gateway” theory: the idea that the use of relatively benign drugs, like cannabis or nicotine, will lead to harder drugs and subsequent harms. The idea seems to make logical sense, since individuals who go on to use drugs like heroin

typically begin experimenting with “softer” drugs. But the correlation does not necessarily prove that the cannabis use, for example, *caused* a person to later use heroin, as many other factors better explain individuals’ likelihood to use either drug, such as a proclivity for risk taking.<sup>68</sup>

Similarly, some have claimed that vaping among youth, even experimental, will lead to future smoking. But, as with cannabis, the evidence indicates that there is no “gateway” effect from using nicotine vapor products. Research on the gateway effect finds that teens who are likely to smoke are also likely to try nicotine vaping, due to shared characteristics, such as a greater propensity for risk taking, not because vaping somehow causes them to progress to smoking.<sup>69</sup> The clearest piece of evidence against the vaping gateway theory is the fact that despite nearly a decade of popular use, youth smoking has not increased. In fact, the number of adolescents who smoke is now lower than it has ever been.<sup>70</sup> Moreover, most youth don’t vape, fewer vape regularly, and almost of all those who do vape regularly are or were smokers, a behavior that would cause at least as much damage as vaping.

Yet, lack of evidence that nicotine vaping harms or even poses a risk to the nation’s young people has done

little to slow down activists, lawmakers, and regulators from trying to implement increasingly restrictive rules and outright bans on the products. For these interests, there is little downside to pursuing an anti-vaping agenda, as long as it is perceived as being anti-Big Tobacco—even if achieving that agenda would have no benefit for, or even harm, public health.

### **Lower-Risk Nicotine: The Low-Hanging Fruit**

When it comes to persuading lawmakers to support their cause, anti-tobacco activists have discovered that even more effective than the old tactic of guilt by association is what could be called “hero by association”—going after an easily identifiable villain to make yourself look heroic. For ambitious politicians looking to generate positive public attention, targeting “Big Tobacco” is among the surefire ways to achieve that.

The only potential pitfall to that approach is that Big Tobacco—real Big Tobacco—is an established, large, well-funded, and well-connected international industry. Attacking the makers of cigarettes, farmers who grow tobacco, and smokers is not without political risk. The vapor market, on the other hand, is nascent, smaller, and has less consumer popularity and political influence. Incurring the wrath of the vapor industry and its customers

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is a comparatively small risk for politicians—but also politically less profitable if there is a widespread belief that vapor products are less harmful alternatives to smoking.

For anti-vaping advocates, the best environment for them to operate is the current one, in which the majority of the public believe that going after “vaping” is the same as taking on Big Tobacco. This situation allows lawmakers who attack “vaping” to appear as if they are defenders of public health against a powerful opponent like Big Tobacco, with little risk of political blowback—even when the outcome of their proposed legislative solutions would *help* Big Tobacco by crippling or outright eliminating its primary competitors.

The main culprit anti-vaping activists point to as evidence of Big Tobacco’s control of the nicotine vaping industry is the company Juul. Founded by Pax Labs, Juul began as a San Francisco-based startup technology firm with no connections to the tobacco industry. However, as activists fomented panic over youth vaping and regulators put increasing pressure on the company, threatening its existence, in 2018 Juul—then independent from Pax Labs—sold a 35 percent stake in the company to Altria Group—formerly known as Philip Morris Companies, Inc. The deal was misleadingly portrayed by activists of proof that Juul, and by extension the

entire vapor industry, was part of Big Tobacco all along.<sup>71</sup> But the circumstances and regulatory pressure created by anti-vaping advocacy made such a merger a practical necessity for Juul to survive as a company. The main benefit Juul reaps from the merger with Altria is expertise and money to contend with increasingly intense regulatory challenges and lawsuits the company now faces as a result of anti-tobacco activism.<sup>72</sup>

Notwithstanding that reality, anti-tobacco activists have successfully used the bugbear of Big Tobacco, guilt by association, and exaggerated concerns about adolescents’ health to advance their policy agenda with considerable success. At no time in the past has their approach been more brazenly on display than over the past year.

### **COVID-19 Gives Activists a New Front**

Around July 2019, news stories began circulating about a sudden rash of people, mostly teenagers, being hospitalized with a mysterious and severe lung ailment linked to “vaping.”<sup>73</sup> As the number of cases began rising and details trickled out through local news reporting, it became clear that the behavior shared in common among most—if not all—of the patients was not “vaping,” but the use of cannabis vaporizers purchased illegally on the street.<sup>74</sup> For example, when New York state

authorities tested the vaping products used by those hospitalized with the lung ailment, they found that every single one had been using at least one THC vaping product purchased illicitly. They also found very high levels of vitamin E acetate—an oil that cannot be present in nicotine e-liquid—in many.<sup>75</sup> Soon other states reported similar findings with all or nearly all patients admitting to using illicit THC products, even in states where cannabis is not legal.<sup>76</sup> Despite all this, the Centers for Disease Control and Prevention (CDC) downplayed the role of illicit THC products, urging consumers instead to avoid “all e-cigarette, or vaping products.”<sup>77</sup>

Anti-tobacco activists across the country capitalized on the confusion created by the CDC’s misleading messaging to spread fears about nicotine vapor products and advance their regulatory and legislative agenda. Governors in states like Michigan, New York, and Massachusetts, encouraged by anti-tobacco groups, imposed emergency bans on nicotine vaping products, despite all the evidence indicating their having nothing to do with the outbreak.<sup>78</sup> Congress held two hearings on the issue of nicotine vaping, at which activists invited to testify gleefully blamed nicotine vaping products for the outbreak of lung injuries, despite the demonstrable evidence to the

contrary. And members of Congress have considered legislation to restrict the devices at the federal level.<sup>79</sup>

It wasn’t until January 19, 2020 that the CDC acknowledged that illegal cannabis vaporizers tainted with vitamin E acetate—not nicotine vaping products—were behind the outbreak.<sup>80</sup> But anti-vaping interests would not have to wait long for a new opportunity to spread unwarranted fears over nicotine vaping.

At the beginning of the global outbreak of the novel coronavirus, SARS-CoV-2, it was assumed that smoking was a risk factor for contracting COVID-19 or for severe progression of the disease. While there was no specific data on this novel virus, the assumption seemed reasonable, based on the fact that smokers are at greater risk for certain respiratory infections, like colds, flu, pneumonia, and tuberculosis.<sup>81</sup>

However, anti-tobacco activists, in and outside government, ignored the emerging data indicating that smokers did not appear to be more at risk of COVID-19 than non-smokers, as well as the absence of any data on how vaping might affect progression of the disease. Instead, interest groups, health organizations, and politicians around the world seized on the opportunity to promote the idea that vaping is dangerous, and especially so during the outbreak.

New York Mayor Bill de Blasio told journalists that a 22-year old who was hospitalized with COVID-19 in early March had no known risk factors, except his use of vaping products. “Why is a 22-year-old man stable but hospitalized at this point? The one factor we know of is he is a vaper,” de Blasio said. “So, we don’t know of any preexisting conditions, but we do think the fact that he is a vaper is affecting this situation.”<sup>82</sup> The resulting speculation led to news articles and opinion pieces warning that smokers and vapers could be at greater risk during the outbreak.<sup>83</sup>

Health agencies added fuel to the fire. The National Institute on Drug Abuse (part of the National Institutes of Health) issued a warning that “because it attacks the lungs, the coronavirus that causes COVID-19 could be an especially serious threat to those who smoke tobacco ... or who vape.”<sup>84</sup> The mere suggestion that nicotine vaping might have any impact on the outbreak was proof enough for activists and lawmakers to push for temporary bans on the products at the state and federal level.

Groups like the New York State Academy of Family Physicians appealed to the governor to institute a statewide ban on all tobacco products, while members of the House Oversight Committee appealed to the FDA to do the same across the nation.<sup>85</sup> Activist

academics, like Stanton Glantz, argued that vaping makes it harder for lungs to resist infection, even going so far as to give the unsupported medical advice that quitting vaping would lower the risks associated with the disease.<sup>86</sup>

This narrative has become increasingly difficult to sustain the more researchers look into the disease, and it now appears that nicotine—not smoking per se—may actually have a protective effect.

Early data on the outbreak from China did not suggest that smokers were more likely to contract COVID-19. In fact, they appeared *less likely* to be hospitalized with the disease. That data contradicted assertions that smoking might explain why Chinese men—over half of whom smoke—were dying at much higher rates than women, of whom only 3 percent smoke.<sup>87</sup> But, when researchers looked into the smoking habits of patients in that country, they found just 1.4 to 12.6 percent of those hospitalized with the disease were classified as current smokers, making smokers significantly underrepresented in hospitalized cases compared to the general public.<sup>88</sup>

This underrepresentation of smokers among COVID-19 patients has been found by numerous studies in populations around the world.<sup>89</sup> These counterintuitive results led some researchers to question which ingredient or factor linked to smoking

might provide an explanation, with several teams proposing plausible biological explanations for how nicotine might have a protective effect.<sup>90</sup> The data, combined with credible theories about the mechanism, was convincing enough that at least one team of researchers is currently testing to see if providing nicotine patches to health care workers and patients might help prevent the spread of the disease.<sup>91</sup>

Upon the publication of the studies showing smokers were underrepresented in hospitalized COVID-19 cases, anti-tobacco activists launched a media campaign to cast doubt on the findings.<sup>92</sup> They raised the usual claims of methodological inadequacies and labeled the mere suggestion that nicotine could play a beneficial role in the outbreak “dangerous to public health.”<sup>93</sup>

Although researchers were simply asking logical questions based on the observation of data—that is, the scientific method—and statements about the lack of evidence linking vaping to greater COVID-19 risk were in response to the science-free claims that smoking and vaping were a risk factor, anti-tobacco advocates painted the pushback as a Big Tobacco public relations ploy.<sup>94</sup> They also insinuated that researchers studying the possibility that nicotine might save lives from

this deadly virus were shills for the tobacco industry.

Among those attacked was Jean-Pierre Changeux of Pitie-Salpetriere University Hospital in Paris, a world-renowned neuroscientist who, among other honors, was awarded the prestigious Wolf Prize in Medicine—recipients of which often go on to win the Nobel Prize.<sup>95</sup> In April 2020, Changeux announced that his team would begin trials to test whether providing patients and health care workers with nicotine patches could reduce susceptibility to SARS-CoV-2 or lessen the severity of COVID-19 should they become infected.<sup>96</sup> For asking and attempting to answer these questions, Changeux was derided in an op-ed in *The Hill* for supposedly having “long-standing links with the tobacco industry” because his laboratory received a \$220,000 grant from the industry-funded Council for Tobacco Research in the mid-1990s to study the effects of nicotine on the brains of mice. One of the authors of that article sits on the advisory board of an advocacy group called Parents Against Vaping E-Cigs.<sup>97</sup> There is no evidence that Changeux’s work was influenced by the source of his funding, nor evidence that the Council tried to influence it. Yet, the accusation of a long-ago tie to the industry is evidence enough for anti-nicotine activists to dismiss his work even before it is completed.<sup>98</sup>

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## **Conclusion**

For nearly every other risky substance or potentially harmful human behavior, public health advocates acknowledge the futility of taking an abstinence-only approach. The public health community and society at large have embraced the concept of “harm reduction”—such as, for example, providing prophylactics and contraceptives to reduce sexually transmitted disease and unwanted pregnancy, supporting clean needle exchange programs to reduce disease spread through intravenous drug use, supplying methadone as a safer alternative for opioid addicts, and eschewing prohibition in favor of legal, regulated markets for recreational drugs like alcohol and cannabis.

Yet, when it comes to nicotine, abstinence-only is the only approach many are willing to accept. Individuals and groups ostensibly dedicated to preventing the death and disease caused by smoking have become so blinded by their bias against “Big Tobacco” that they are unable or unwilling to entertain the possibility that nicotine, divorced from the harmful effects of smoking, might offer a solution.

Anti-tobacco activists have waged a relentless messaging campaign to ensure that the conversation around nicotine remains uniformly negative. They have consistently worked to suppress any investigation into the possibility that nicotine is not all that

bad (or bad at all when divorced from combustion), blame nicotine products for harms caused by other substances, and seek to shut down any challenge to that narrative.<sup>99</sup>

Despite their efforts, the evidence about nicotine continues to demonstrate the increasing likelihood that it is not only relatively harmless, but also has potential as a treatment for a range of diseases and conditions, including Attention Deficit Hyperactivity Disorder, depression, ulcerative colitis, Alzheimer’s disease, Parkinson’s disease, and now, possibly, COVID-19.<sup>100</sup>

But perhaps the most significant benefit that safer forms of nicotine consumption would offer human health is the reduction or elimination of combustible tobacco use, which contributes to the deaths of more than 8 million people worldwide every year.<sup>101</sup> This opportunity will be squandered if those in power fail to recognize the evidence and communicate it accurately to the public.

Unfortunately, evidence is not the driving factor in the political debate over nicotine. All that those on the anti-tobacco side of the debate seem to care about is maintaining their narrative, beating Big Tobacco, and eliminating access to safer, legal forms of nicotine, no matter how many people die as a result.

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## About the Author

Michelle Minton is a Senior Fellow at the Competitive Enterprise Institute, where she specializes in lifestyle economics, including gambling laws, alcohol regulation, tobacco harm reduction, and issues related to public health and nutrition.

Minton has coauthored numerous studies on various topics, including the effectiveness and unintended consequences of sin taxes, the benefits of liberalizing the beer market, and the history of federal gambling regulation. Her analyses have been published and cited in nationally respected outlets, including the *New York Times*, *Wall Street Journal*, and *USA Today*, as well as industry blogs and publications. She regularly appears in the media to discuss the effects of regulation on individuals' health and economic well-being.

Minton received her B.A. from the Johns Hopkins University and her M.S. in Nutrition at the University of New England.



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