Executive Summary: The United States (U.S.) Federal Government classifies cannabis as a Schedule 1 controlled substance; however, a shift in public opinion, science, and state laws merit a reevaluation of how the federal government governs the research, distribution, and use of cannabis. Herein, we will present several policy regimes addressing the availability and distribution of cannabis. Foremost, extensive research should be pursued in order to properly assess the health and societal impacts of cannabis. To facilitate research and understanding, we propose an exemption for cannabis in the Title 21 United States Code (USC) Controlled Substances Act §802.6.

I. Background:
In the United States, the Controlled Substances Act (CSA) of 1971 temporarily ranked cannabis under the most restrictive Schedule 1 classification as a placeholder before formal recommendations were made. While the National Commission on Marihuana and Drug Abuse, better known as the Schafer Commission, set up by President Nixon, subsequently recommended that cannabis be removed from the Schedule 1 classification, the ranking remained due to Nixon's personal beliefs. Under the Drug Enforcement Administration (DEA), Schedule 1 drugs are stated to have no accepted medical use with a high potential for abuse. This classification also limits scientific research, as special licensing is required.

Natural substance that has beneficial effects and low probability of addiction. Despite these changing attitudes, our scientific understanding of the impacts of cannabis use on health and society is limited due to a lack of rigorous scientific studies and older studies becoming irrelevant due to the increased potency of cannabis on the market today. While there are claims suggesting that cannabis does not pose health risks, there is also growing evidence supporting speculation that cannabis can drive substance dependency and influence mental health, memory, concentration, decision-making, and violent tendencies.

Nevertheless, changing perceptions have fueled state level changes in laws governing cannabis usage. As of February 2018, eleven states have legalized cannabis (approved for medicinal and recreational use), twenty-three states have mixed status (approved for medical use and decriminalization of possession),
and two of the remaining seventeen states have reduced punishments\textsuperscript{10}.

At the federal level, current Department of Justice policies for prosecuting cannabis-based crimes were established during the Obama presidency; however, they are at the discretion of the administration in office\textsuperscript{11}. The potential for administration-to-administration volatility in enforcement of federal prohibition laws causes confusion and uncertainty among the states, the public, law enforcement, banking systems, and medical professionals. In this memorandum, we explore the possible outcomes of four different models: absolute prohibition, decriminalization, state-controlled, and rescheduling.

II. Policy Options:

\textit{i. Absolute prohibition}

Under absolute prohibition the production, distribution, possession, and use of cannabis would be illegal for all purposes under criminal law with active enforcement. Prohibition can vary in the strictness of penalties, the focus on different enforcement efforts, and the types of procedures used to investigate potential violators. Current federal laws prohibit cannabis.

\textit{i.i Advantages}

Prohibition of cannabis decreases illicit usage of cannabis and other illegal drugs. Illicit adult cannabis usage increased by 1.4\% over a decade in states with medical marijuana laws compared to states without such laws\textsuperscript{12}. A study found that illicit drug usage, including cocaine and heroin, to be more common among adolescents living in states with medical marijuana laws\textsuperscript{13}. From the limited health research available, there has been conflicting research of the negative health impacts of cannabis use. Although cannabis has very low risk of overdose, long-term use has been associated with potential cannabis dependence and may be associated with increased psychosis and schizophrenia, bronchitis, cancers, and strokes\textsuperscript{14,15}. Cannabis may also affect workplace and social safety, with decreased cognitive function, increased risk-taking, and increased traffic injuries, although more research is necessary\textsuperscript{5,16}.

\textit{i.ii Disadvantages:}

Prohibiting cannabis prevents patients who would benefit from the potential therapeutic effects of medical marijuana from accessing medical doses and makes scientific study of health benefits and damages difficult. In response to prohibition, illegal cannabinoid products designed to mimic the effects of natural cannabinoids and avoid detection from drug panels have entered the market and have led to waves of public health alerts\textsuperscript{17}. Additionally, during the current federal prohibition, cannabis potency has increased 3-fold from 1995 to 2014\textsuperscript{18}. Prohibition of cannabis also has economic and health disadvantages. For instance, prohibition enforcement is costly for the federal government, estimated at nearly $8 billion each year, yet marijuana arrests are still associated with increased non-drug crimes and hard drug use\textsuperscript{19}. Incarceration has negative social impacts and under current prohibition laws there are disparities in enforcement practices within minority communities. For example, the arrest rate for blacks has increased from 537 to 721 per 100,000 from 2001 to 2010; whereas, the arrest rates for whites has remained around 192 per 100,000 over the same time frame\textsuperscript{20}.

\textit{ii. Decriminalization}

Decriminalization refers to a policy of reduced penalties for cannabis use and possession. Typically, this involves civil infractions, recommendations for voluntary treatment, or fines for possession of small amounts, instead of criminal prosecution or arrest. Under this regime, production and distribution remain illegal.

There are more marijuana arrests every year than for all violent crimes combined. The vast majority of these arrests were for simple possession (42\%) compared to sale or manufacture (5\%)\textsuperscript{21}. Thus, criminalization has not curbed the illicit market or access to marijuana. Furthermore, arrests and incarceration for marijuana possession are a costly burden, do not deter cannabis and other drug usage, and disproportionately affect communities of color\textsuperscript{20}. As a result, many states have passed or proposed decriminalization legislation to address these issues.
ii.i Advantages
When implemented effectively, decriminalization has resulted in reduction of marijuana arrests. Post-reform data from three states, Connecticut, California, and Massachusetts, showed an average 72% decrease in rates for cannabis arrests, including an 81% decrease in arrests for possessions within one year of decriminalization going into effect. By decreasing expenditure on low-level drug offenses, law enforcement could reinvest resources in measures to address violent crimes and in pursuit of other public safety objectives. Since African-Americans are 4 times more likely to get arrested for cannabis possession (although usage between African-Americans and Caucasian are roughly equal), decriminalization policies can reduce this racial disparity. Finally, decriminalization laws positively impact the social health of individuals, as misdemeanor convictions can often result in loss of employment, housing, and access to loans, thereby limiting an individual’s ability to succeed and participate in society.

ii.ii Disadvantages
Decriminalization remains within the framework of prohibition and shortcomings include unequal application of the law. There is no universal decriminalization policy across states. They differ by possession limit (10-100 grams), cost of fines, and severity of penalties. Despite having laws in place, decriminalization is not effectively enforced. Arrests due to cannabis possession have remained high and even increased. Nationally, there was a 18% increase in arrests between 2001 and 2010, with staggering racial disparities remaining. Rates of arrest for sale and production of cannabis remain significantly lower than for possession, thus decriminalization policies are not effective in addressing the issues of illicit drug markets, including quality control of substances and other harmful effects the lack of regulation has the community and drug users.

iii. State-controlled
Starting in 2012, the first state-controlled legalization policies were adopted for personal and recreational use by the states of Washington and Colorado and have been continuing to expand. Since then, inconsistencies between federal and state laws have created a vexing problem of whether the federal Controlled Substances Act should void or preempt such state regulations. Creating consistency between the state and federal levels may alleviate these tensions. An exemption of cannabis at the federal level would alleviate the tension between legalized states and federal laws.

Under this policy, marijuana would be removed from the Controlled Substances Act of 1971 (CSA-1971). This would open up the production, distribution and consumption to willing parties. Any products with health claims would remain regulated by the Federal Trade Commission (FTA) and any product used for medical reasons will be regulated by the Federal Drug Administration (FDA). Any additional regulations would be left to individual states. Examples of such regulations include age limits, state-controlled production and sales, restrictions on where the drug can be consumed, labelling policies, and advertising restrictions. If a uniform age limit is desired, block grant funding could be restricted to compel states to adopt an age restriction, as was done with alcohol.

iii. Advantages
Providing options for legal use enhances opportunities for medical research and applications, generates revenue through taxation, and improves product safety through quality control. Additionally, this approach may help eliminate the market for more harmful synthetic cannabinoids, a recurring public health issue across the United States. By removing marijuana’s designation as an illicit substance, federal arrests and the federal prison population could be reduced. In Colorado, which operates under a state-controlled policy for cannabis, marijuana arrests have dropped by half since legalization in 2013. Tax revenue has also grown, and the industry made up 0.9% of the FY2017 state budget. Youth marijuana usage has remained mostly unchanged since legalization, though the recorded proportion of students trying cannabis before age 13 has decreased from 9.2% in 2015 to 6.5% in 2017. Traffic fatality rates are still an area of debate, as better testing devices and more research into impairment effects are greatly needed. In Colorado, the number of drivers involved in fatal crashes testing positive for Delta-9 THC (at least 5 ng/mL) decreased from 11.6% in 2016 to 7.5% in 2018.
2017\textsuperscript{27}. In 2017, drivers who tested positive for any cannabinoid metabolite increased to 21% from 11% in 2013\textsuperscript{27}.

iii.ii Disadvantages:
Implementing and enforcing state-controlled cannabis use will require an associated budget. While costs will be made up in tax revenue over time, a significant initial investment from states will be necessary. Current policies implemented by single states have not reduced black market cannabis sales in those states, due to the fiscal benefit of both circumventing taxes and supplying illegal markets outside of the state. In Colorado, seizures of illicit plants diverted out of state via highways and mail services have increased by 39% and 1.042%, respectively\textsuperscript{27}. Presumably, these illegal diversions would decrease with legalization at the federal level. However, additional state-state coordination regarding sale and distribution across state lines would be necessary to further reduce illicit trade. This is necessary as interstate policy differences could cause problems. On the public health front, hospitalizations and emergency room visits involving marijuana have increased by 148% and 52%, respectively, over the last five years. These statistics have resulted in updates to regulations involving requirements for child resistant packaging and clearer product markings on edibles.

iv. Rescheduling
A change in current policy at the federal level could address concerns about cannabis abuse, research, and medical use, without requiring complete legalization. Marijuana could be reduced to a schedule II-VI substance under the Controlled Substances Act of 1971 (CSA-1971), recognizing it as having medical use with a potential for abuse. Under this designation, cannabis could be medically distributed, used, and produced under federal law. With such a policy change, non-prescription possession would be prosecuted under existing federal prescription drug laws or federal trafficking penalties for marijuana\textsuperscript{29}. Reducing cannabis to schedule II-IV would allow federal funds for research to be made more widely available by the National Institutes of Health and/or Congress.

iv.i Advantages
Sending the message that marijuana has medical application with limited dependence is the most prospective impact of this policy change. It would not only allow for legal medical applications of cannabis for people with demonstrated need, but potentially opens a space for reframing the conversation around marijuana. Further well-informed changes in legislation at the federal and state level could be facilitated by the rescheduling model, by freeing up funds for research into the impacts of cannabis on health and society.

iv.i Disadvantages
Only medicinal use would be legal. This approach offers no changes to existing laws on prosecution at the federal level; thus, a continued shroud of uncertainty around how the federal government might or might not enforce current law would remain.

III. Policy recommendation:
A state-controlled regime with additional provisions is recommended. To facilitate this transition, we propose a marijuana exemption to Title 21 United States Code Controlled Substances Act §802.6, akin to alcohol and tobacco. The proposition should be based on H.R.420, introduced in January 2019 and currently under consideration by the Subcommittee on Conservation and Forestry. Additionally, a national minimum age for cannabis should be adopted, based on National Minimum Drinking Age Act of 1984 (23 U.S.C. § 158). Further, pertinent regulation of cannabis should be enacted via legislation similar to the Family Smoking Prevention and Tobacco Control Act, which gave the FDA authority to regulate the manufacture, marketing, and sale of tobacco (H.R. 1256). Finally, to retrospectively address marijuana related prison sentences and criminal records, federal legislators should look to California AB-1793, titled “Cannabis Convictions: Resentencing.” Adoption of these proposals at the federal level provides consistency between already legalized states and federal laws, allowing state control of the distribution of marijuana. This policy will provide clarity among the public as well as within law enforcement organizations. Relinquishing control to individual states via a state-controlled regime would allow for legal options for use, possession,
production, and distribution of cannabis. A state-controlled policy protects the health and safety of citizens, while reducing the criminalization associated with drug use. Additionally, exemption at the federal level will likely reduce illicit markets, particularly illicit diversion across state lines, and garner tax revenue that can be used for a variety of state needs. Lastly, increased access to cannabis for medical research will allow for the health and societal effects of cannabis (and its derivatives) to be better evaluated; providing valuable information for further evidence-based policy.

References
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