

# A Strategy to Assess the Consequences of Marijuana Legalization

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## Preface

*A Strategy to Assess the Consequences of Marijuana Legalization* from the Institute for Behavior and Health, Inc. (IBH) was made possible by initial funding from the Rocky Mountain and Northwest High Intensity Drug Trafficking Areas (HIDTAs) located in the states of Colorado and Washington. It builds on the series of annual reports, *The Legalization of Marijuana in Colorado: The Impact*<sup>\*</sup> released by the Rocky Mountain HIDTA, and on a comprehensive summary of the research on the health consequences of marijuana use written by the leaders at the National Institute on Drug Abuse and published in the *New England Journal of Medicine*.<sup>†</sup> At the project's onset a group of leaders in substance abuse policy met for a day to discuss the challenges and the opportunities in assessing the consequences of marijuana use and marijuana legalization. Follow-up conversations and a sharing of drafts of this *Strategy* continued the process. Initially published by IBH in January 2016, the *Strategy* was revised following the integration of feedback from national policy leaders.

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<sup>\*</sup> Rocky Mountain High Intensity Drug Trafficking Area. (2013, August). *The Legalization of Marijuana in Colorado: The Impact. Volume 1*. Retrieved December 14, 2016 from:

<http://www.rmhidta.org/html/FINAL%20Legalization%20of%20MJ%20in%20Colorado%20The%20Impact.pdf>;

Rocky Mountain High Intensity Drug Trafficking Area. (2014, August). *The Legalization of Marijuana in Colorado: The Impact. Volume 2*. Retrieved December 14, 2016 from:

<http://www.rmhidta.org/html/August%202014%20Legalization%20of%20MJ%20in%20Colorado%20the%20Impact.pdf>

Rocky Mountain High Intensity Drug Trafficking Area. (2015). *The Legalization of Marijuana in Colorado: The Impact. Volume 3, Preview 2015*. Retrieved December 14, 2016 from:

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<http://www.rmhidta.org/html/2016%20FINAL%20Legalization%20of%20Marijuana%20in%20Colorado%20The%20Impact.pdf>

<sup>†</sup> Volkow, N.D., Baler, R.D., Compton, W. M. & Weiss, S. R. (2014). Adverse health effects of marijuana use. *New England Journal of Medicine*, 370(23), 2219-2227.

## Contents

<b>Preface .....</b>	<b>i</b>
<b>Introduction .....</b>	<b>1</b>
<b>Establishing a Scientific Committee to Monitor the Effects of Marijuana Policy Changes .....</b>	<b>2</b>
Historical Precedence .....	2
Coordination of Federal and State Agency Reports.....	3
Department of Justice .....	3
Department of Health and Human Services .....	5
Centers for Disease Control and Prevention.....	5
Office of the Surgeon General .....	5
Reinstating Earlier Data Collection Programs .....	6
New Data Collection Programs .....	6
Additional State-Based Reporting.....	7
<b>Conclusion .....</b>	<b>7</b>

## Introduction

With the passage in several states of ballot and state legislative initiatives to legalize the production, sale and use of marijuana, the United States became the first country in the world with a legal market for marijuana. Throughout the country, many states, to varying degrees, permit the production, sale and use of marijuana for medical uses. In addition, Colorado and Washington in 2012, and Alaska, Oregon and the District of Columbia in 2014 passed ballot initiatives to legalize recreational use of marijuana for those 21 and older. Following, in 2016 recreational marijuana ballot initiatives were passed in California, Maine, Massachusetts, and Nevada. It is likely that there will be continued expansion of marijuana legalization to additional states. These historic developments exist in the context of a considerable uncertainty about the health, safety and social consequences of marijuana use and the impact of marijuana legalization. All legal marijuana, including “medical” marijuana, is being cultivated, distributed and used in a wide range of legal and regulatory systems, making the understanding of their consequences more complex.

There is a pressing need for a formal repository of information related to the public health, safety and other consequences, both of marijuana use and of marijuana legalization itself, as well as changes in public attitude about marijuana use and policies. This requires a sustained and systematic annual collection, analysis and reporting of these data to the public. Because of the burdens imposed and the controversies sure to result from managing an annual report on the consequences of marijuana use and legalization, it is likely that no federal agency will step forward on its own to systematically collect, analyze and report these data. For this reason this *Strategy* calls on the US Congress both to designate an entity to perform this vital function and to providing adequate funding for it for a period of at least 10 years.

## Establishing a Scientific Committee to Monitor the Effects of Marijuana Policy Changes

It is essential that information and about the consequences of marijuana use and the effects of changes in marijuana policy be assembled and interpreted by an independent non-governmental body with impeccable credibility and scientific authority. Given the deep suspicion about the government's role in marijuana policy which could affect public reactions, this *Strategy* recommends that such a body be established under the aegis of the National Academies of Sciences, Engineering and Medicine (NASEM). The NASEM is a private, non-profit society of the nation's leading scientists and scholars charged with providing "independent, objective analysis and advice to the nation and conduct other activities to solve complex problems and inform public policy decisions" under a charter granted to the National Academy of Sciences by the Congress in 1863.

Congress should take the necessary steps to request the NASEM to establish a Scientific Committee to Monitor the Effects of Marijuana Policy Changes (hereinafter the Scientific Committee on Marijuana Policy). This Committee, created by the Health and Medicine Division of NASEM, would be charged with issuing annual reports (i) summarizing the developing scientific literature regarding the effects of marijuana use and (ii) characterizing the effects of changes in marijuana policy in the United States, making use of both federally and non-federally funded data sources. The NASEM would be solely responsible for selecting the members of the Scientific Committee who would be drawn from the full range of scientific disciplines, including but not limited to policy, epidemiology, statistics, economics, psychology, law and medicine.

The charge of the Scientific Committee would include:

1. To assemble, synthesize and interpret available data and research pertaining to the effects of marijuana use and the effects of changes in marijuana policy in the United States;
2. To recommend improvements in data collection by public and private agencies and organizations;
3. To recommend priorities in research on the effects of marijuana use and the effects of changes in marijuana policy, directed to federal and states agencies, foundations and other entities that fund research; and,
4. To issue annual reports setting forth findings regarding the effects of marijuana use and the effects of changes in marijuana policy.

In order to preserve its credibility and authority, the Scientific Committee will not be charged with making any recommendation regarding federal and state laws and policies

### Historical Precedence

There is a significant precedent for this initiative. In 1970, Congress established the National Commission on Marihuana and Drug Abuse, whose members included two Senators, two Congressmen and nine individuals appointed by President Richard Nixon. Better known as the Shafer Commission (headed by former Pennsylvania Governor Raymond P. Shafer), the Commission issued its first report *Marihuana: A Signal of Misunderstanding* in 1972 which recommended decriminalizing marijuana use. Although the findings of the Commission were rejected by President Nixon, the Commission played an important role

in the nation's initial confrontation with the modern drug abuse epidemic, focused then on marijuana policy which like today remains the most widely used drug in the world, second only to the legal drugs of alcohol and tobacco.

There is another relevant precedent for the proposed congressional mandate requiring annual reports on marijuana. During the first five years following the establishment of the National Institute on Drug Abuse in 1973, Congress mandated the Secretary of Health, Education and Welfare to issue an annual report titled *Marijuana and Health*. Those reports summarized the emerging research on the effects of marijuana use, seeking to bring science to bear on what was then, as it is now, a highly politicized issue. The release of these reports was a significant media event each year.

Finally, a precedent for congressionally mandated reporting from the National Academy of Sciences is the Agent Orange Act of 1991 for which NASEM produced biennial reports for the Secretary of Veterans Affairs summarizing the scientific evidence concerning the association between exposure to herbicide agents among veterans during service in Vietnam and diseases. Between 2012 and 2014, ten congressionally mandated reports were released.

Given these important precedents, Congress should once again require annual reports, this time from the National Academies of Science, Engineering and Medicine, focused on the full range of consequences of marijuana use and the effects of marijuana policy changes with sufficient funds to support this process for at least a decade.

### Coordination of Federal and State Agency Reports

As an independent body, the Scientific Committee on Marijuana Policy would coordinate information from several federal agencies which influence both federal and state marijuana policies. Both federal and state agencies house relevant databases that should be used for the annual reports. Congressional mandate will ensure that this information is vetted by and is the responsibility of administrators at the highest levels within these organizations. Credible data is vital to the creation of sound drug policies and establishment and maintenance of programs that protect the public's health and safety. The national commitment to this ongoing data collection and reporting must also include the development of new and improved data sources to supplement those that are currently available. Initial recommendations regarding data collection and reporting for several federal agencies as well as new federal and state data collection resources are provided.

### Department of Justice

Monitoring the consequences of marijuana legalization and marijuana use should begin, but not end, with addressing a series of statements released by the US Department of Justice in 2013. That year the Department of Justice announced the suspended enforcement of the Controlled Substances Act (CSA) related to state-approved uses of marijuana in those states. A statement released by then-Deputy Attorney General James M. Cole outlined the following factors to be assessed in deciding the future direction of federal enforcement of drug laws. His memorandum of August 13, 2013 stated:<sup>1</sup>

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<sup>1</sup> Cole, J. M. (2013, September 10). Deputy Attorney General James M. Cole Testifies Before the Senate Committee on the Judiciary. Department of Justice. Retrieved December 14, 2016 from: <http://www.justice.gov/opa/speech/deputy-attorney-general-james-m-cole-testifies-senate-committee-judiciary>

*...the Department in recent years has focused its efforts on certain enforcement priorities that are particularly important to the federal government:*

- *Preventing the distribution of marijuana to minors;*
- *Preventing revenue from the sale of marijuana from going to criminal enterprises, gangs and cartels;*
- *Preventing the diversion of marijuana from states where it is legal under state law in some form from going to other states;*
- *Preventing state-authorized marijuana activity from being used as a cover or pretext for the trafficking of other illegal drugs or other illegal activity;*
- *Preventing violence and the use of firearms in the cultivation and use of marijuana;*
- *Preventing drugged driving and the exacerbation of other adverse public health consequences associated with marijuana use;*
- *Preventing the growing of marijuana on public lands and the attendant public safety and environmental dangers posed by marijuana production on public lands; and*
- *Preventing marijuana possession or use on federal property.*

On September 10, 2013 Deputy Attorney General Cole summarized the policy of the Department of Justice on the state-based experiments with marijuana legalization in Colorado and Washington in his prepared statement before the Senate Committee on the Judiciary:<sup>2</sup>

*The Department of Justice is committed to enforcing the CSA [Controlled Substances Act] in all states, and we are grateful for the dedicated work of our Drug Enforcement Administration agents, our federal prosecutors, and our state and local partners in protecting our communities from the dangers of illegal drug trafficking. The Administration also remains committed to minimizing the public health and safety consequences of marijuana use, focusing on prevention, treatment, and support for recovery.*

*As our updated guidance reflects, we are continuing our practice of targeting conduct that implicates federal priorities and causes harm, regardless of state law. We expect our state and local partners to continue to do so as well. In those jurisdictions that have enacted laws that legalize and seek to regulate marijuana for some purposes, this means that strong and effective regulatory and enforcement systems must address the threat those state laws could pose to public safety, public health, and other law enforcement interests.*

These statements reflect a departure from long-established federal law with respect to drugs. There is a significant legal conflict between state-based marijuana legalization and the US Controlled Substances Act and international treaty obligations. This fundamental conflict makes the eight points outlined by the Department of Justice a useful baseline for the Scientific Committee on Marijuana to begin its assessment of the consequences of marijuana legalization. To-date there have been no further reports or updates issued by the Department of Justice on the status of these eight critical points.

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<sup>2</sup> Ibid.

Future reporting on these critical eight points will likely rely on the Drug Enforcement Administration (DEA), the principal drug law enforcement agency of DOJ which has been in the forefront of studying the illegal trafficking of marijuana and other drugs since it was established in 1973.

### Department of Health and Human Services

Several federal organizations operate under the umbrella of the Department of Health and Human Services (DHHS). The National Institute on Drug Abuse, (NIDA) studies the consequences of marijuana use and the legalization of marijuana. NIDA has funded studies of marijuana's effects on health and behavior for more than four decades and is the organization that supports about 80 percent of the global research on marijuana and other drugs. A recent publication by NIDA authored by its Director and other NIDA experts presents a broad overview of the currently available research on the adverse health effects of marijuana use.<sup>3</sup> Another organization operating under DHHS is the Substance Abuse and Mental Health Services Administration (SAMSHA). SAMSHA leads the federal government's substantial substance abuse prevention and treatment efforts. Together, for a period of more than four decades, NIDA and SAMSHA have conducted annual surveys of drug use. NIDA funds the Monitoring the Future study which collects self-reported data on drug use and behaviors among 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grade students and for a decade thereafter. SAMSHA conducts the National Survey on Drug Use and Health (NSDUH) which collects self-reported data on drug use and behaviors of Americans age 12 and older. These two surveys provide the most useful national data about marijuana, other drug use and treatment need. These annual surveys are nationally representative, providing a continuous series of results which permit sophisticated analyses.

Monitoring the Future has already added questions on attitudes and behaviors related to marijuana legalization for 12<sup>th</sup> grade students.<sup>4</sup> Both Monitoring the Future and the NSDUH provide some data on substance use at the state level which is useful in exploring issues related to marijuana legalization. In the future, further questions can be added. In particular, these two surveys can be mined for correlates of marijuana use, particularly heavy use, to various areas of importance (e.g., school failure among youth).

### Centers for Disease Control and Prevention

At present, the Center for Disease Control and Prevention (CDC) oversees the Youth Risk Behavior Surveillance System (YRBS) which monitors health-risk behaviors among youth that contribute to the leading causes of death and disability, including alcohol and other drug use and tobacco use.

### Office of the Surgeon General

The Surgeon General's Office has a long and distinguished role in dealing with tobacco and health and until recently had not studied the drug issue specifically. In November 2016, the office released a report, *Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs and Health*, which highlighted the importance of prevention, and in particular, highlighted the vulnerability of the adolescent brain to marijuana and other drugs. The report emphasized the need to research and monitor the public impact of marijuana legalization (including marijuana decriminalization and medical

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<sup>3</sup> Volkow, N.D., Baler, R.D., Compton, W. M. & Weiss, S. R. (2014). Adverse health effects of marijuana use. *New England Journal of Medicine*, 370(23), 2219-2227.

<sup>4</sup> Ibid.



marijuana) and marijuana (and other drug) use. It stated, “The impact of the changes on levels of marijuana and other drug and alcohol use, simultaneous use, and related problems such as motor vehicle crashes and deaths, overdoses, hospitalizations, and poor school and work performance, must be evaluated closely.” (p. 4-41)<sup>5</sup>

Engaging both the Office of the Surgeon General and CDC in the study and reporting of the consequences of marijuana use and marijuana legalization could be pivotal because of the high level of public respect that accrues to these organizations.

### Reinstating Earlier Data Collection Programs

In recent years two important data collection programs previously overseen by federal agencies have been suspended. The Drug Abuse Warning Network (DAWN), first established by the Drug Enforcement Administration (DEA) in 1972 and most recently overseen by the Center for Behavioral Health Statistics and Quality (CBHSQ) of the Substance Abuse and Mental Health Services Administration (SAMHSA), provided Emergency Department visit data from metropolitan areas in 37 states, covering one third of the US population. The other program, Arrestee Drug Abuse Monitoring (ADAM), collected drug test data from arrestees at the local level in major metropolitan areas. If reinstated with adequate funding, staff support, and improvements, these programs could provide useful data specific to individual jurisdictions across the country and could be further aggregated for national data sets to monitor the impact of marijuana use and marijuana legalization.

### New Data Collection Programs

There are two new areas of data collection particularly relevant to monitoring the impact of marijuana use and legalization. First is identifying the role of marijuana use in traffic safety, specifically injured drivers. Testing seriously injured drivers for recent marijuana use (and the use of alcohol and other drugs) will inform policies and focus enforcement while providing the information needed to educate the public about marijuana’s crucial role in highway safety. A 2005 study that tested seriously injured drivers admitted to a Maryland shock trauma center showed high prevalence of drugs and alcohol among this population, with 26.9% of all drivers positive for marijuana and half of drivers age 16 to 20 positive for recent use.<sup>6</sup> Replicating the procedures used in this study in at least six sites will provide affordable and close to real-time evidence on the roles of not only marijuana but also alcohol and other drugs and drug combinations in serious-injury crashes. This is particularly important for understanding the consequences of marijuana use for highway safety.

The second area in need of specific ongoing investigation is the routine study of the role of marijuana use in academic performance and high school and college dropout.<sup>7</sup> New research shows that after controlling for other factors, college-enrolled marijuana users were more likely to skip classes, achieve

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<sup>5</sup> U.S. Department of Health and Human Services (HHS), Office of the Surgeon General. (2016, November). *Facing Addiction in America: The Surgeon General’s Report on Alcohol, Drugs, and Health*. Washington, DC: HHS. Retrieved December 14, 2016 from: <https://addiction.surgeongeneral.gov/>

<sup>6</sup> Walsh, M., Flegel, R., Atkins, R., Cangianelli, L.A., Cooper, C., Welsh, C., & Kerns, T.J. (2005). Drug and alcohol use among drivers admitted to a Level-1 Trauma Center. *Accident Analysis and Prevention*, 37(5), 894-901.

<sup>7</sup> DuPont, R. L., Caldeira, K. M., DuPont, H. S., Vincent, K. B., Shea, C. L. & Arria, A. (2013). *America’s dropout crisis: The unrecognized connection to adolescent substance use*. Rockville, MD: Institute for Behavior and Health, Inc. Retrieved December 14, 2016 from: <http://www.preventteendruguse.org/pdfs/AmerDropoutCrisis.pdf>

lower grade point averages (GPAs) and take longer to graduate.<sup>8</sup> As marijuana use increased in frequency and use, GPAs declined and as marijuana use decreased, GPAs improved. The role of marijuana and other drug use in on core academic goals in high schools and colleges can be monitored continuously using the currently established national surveys (i.e., Monitoring the Future and National Survey on Drug Use and Health) and also with new sentinel studies in selected schools.

### Additional State-Based Reporting

It is strongly recommended that states establish their own reporting systems to monitor marijuana legalization and marijuana use. Such systems would be similar to those currently developed in Colorado, led by the Rocky Mountain High Intensity Drug Trafficking Area (RM-HIDTA) and by the Office of the Governor. State-based reporting systems are needed particularly in the states that have legalized marijuana, in the states permitting the use of medical marijuana and also in the states adjacent or nearby because the impact of marijuana policies extends beyond state borders. Such state-based reports and data would provide additional resources that could be used by the Scientific Committee on Marijuana.

### Conclusion

The drug policy debate and the new policies to which it will lead require comprehensive and widely accepted assessments of the consequences of the use of marijuana and of marijuana legalization. Sound data that support such assessments are essential. To achieve this end, it is imperative that there be the will to fund, the determination to cast the net broadly, the steadiness of consistent data collection over a period of many years, the discipline to report the data annually, and the intelligence to develop resulting sound public policy strategies. This can be achieved through a Congressional mandate that designates and authorizes substantial new funding for the management and coordination of a comprehensive, integrated national monitoring strategy. This *Strategy* identifies the National Academies of Sciences, Engineering and Medicine (NASEM), to establish a Scientific Committee to Monitor the Effects of Marijuana Policy Changes.

Mandating annual reports on the consequences of marijuana use and marijuana legalization will be difficult, expensive and controversial. Congress as well as federal agencies may recoil from this challenge for political and bureaucratic reasons. Nevertheless, now is precisely the right time for a renewed Congressional mandate to create a Scientific Committee to Monitor the Effects of Marijuana Policy Changes. The current push to make marijuana a legal drug is a momentous step in the nation's history and in the history of the world. This dramatic change to legalize marijuana is likely to be emulated not only in more states, but also in other countries. Moreover, there is potential for legalizing other drugs of abuse. The United States must put in place a focused and objective strategy to monitor the short- and long-term consequences of marijuana use and marijuana legalization so that the nation can make informed policy decisions in the future.

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<sup>8</sup> Arria, A.M., Caldeira, K.M., Bugbee, B.A., Vincent, K.B., O'Grady, K.E. (2015). The academic consequences of marijuana use during college. *Psychology of Addictive Behaviors*. 29(3), 564-575.