

Original Investigation

Waiting for the Opportune Moment: The Tobacco Industry and Marijuana Legalization

RACHEL ANN BARRY,* HEIKKI HIILAMO,†
and STANTON A. GLANTZ*

**Center for Tobacco Control Research and Education and Philip R. Lee
Institute for Health Policy Studies, University of California, San Francisco;*

†University of Helsinki

Context: In 2012, Washington State and Colorado legalized the recreational use of marijuana, and Uruguay, beginning in 2014, will become the first country to legalize the sale and distribution of marijuana. The challenge facing policymakers and public health advocates is reducing the harms of an ineffective, costly, and discriminatory “war on drugs” while preventing another public health catastrophe similar to tobacco use, which kills 6 million people worldwide each year.

Methods: Between May and December 2013, using the standard snowball research technique, we searched the Legacy Tobacco Documents Library of previously secret tobacco industry documents (<http://legacy.library.ucsf.edu>).

Findings: Since at least the 1970s, tobacco companies have been interested in marijuana and marijuana legalization as both a potential and a rival product. As public opinion shifted and governments began relaxing laws pertaining to marijuana criminalization, the tobacco companies modified their corporate planning strategies to prepare for future consumer demand.

Conclusions: Policymakers and public health advocates must be aware that the tobacco industry or comparable multinational organizations (eg, food and beverage industries) are prepared to enter the marijuana market with the intention of increasing its already widespread use. In order to prevent domination of the market by companies seeking to maximize market size and profits, policymakers should learn from their successes and failures in regulating tobacco.

Keywords: marijuana, public policy, cigarettes, tobacco industry.

THE MOVE TO LEGALIZE MARIJUANA IN THE UNITED States gained momentum in 2014 when Colorado's and Washington's citizen-initiatives to legalize recreational use took effect, ending 75 years of criminalization and market suppression in these states.¹ Legalizing marijuana at the federal level will reduce the costly and ineffective war on drugs, which in 2011 resulted in 1.5 million arrests, half related to marijuana.² Advocates of marijuana legalization envision a market that remains a cottage industry of small-scale home growers, collectives, and dispensaries.³⁻⁵ In many ways, the marijuana market of 2014 resembles the tobacco market before 1880, before cigarettes were mass-produced using mechanization and marketed using national brands and modern mass media.⁶ Legalizing marijuana opens the market to major corporations, including tobacco companies, which have the financial resources, product design technology to optimize puff-by-puff delivery of a psychoactive drug (nicotine), marketing muscle, and political clout⁶⁻⁸ to transform the marijuana market.

Beginning in the 1960s,⁹ the use and abuse of illegal drugs became an important public issue, with fears that illicit drugs were changing social norms regarding race and institutional and parental authority and were contributing to the antiwar movement of rebellious youths and political dissidents.^{10,11} In response, in 1968 the US Department of Justice established the Bureau of Narcotics and Dangerous Drugs (BNDD) to control illegal drugs, including marijuana.⁹ In 1971, President Richard Nixon declared a "war on drugs" and increased the federal role in combating drugs through mandatory sentencing and no-knock warrant policies.¹² Nancy Reagan's highly publicized antidrug media campaign, "Just Say No," also contributed to the zero-tolerance drug policies of the late 1980s and the move away from harm-reduction strategies like rehabilitation and clean-needle programs.¹² During the Reagan administration, as Congress and state legislatures imposed heavy penalties for the possession and distribution of drugs, the nation saw a drastic rise in incarceration rates, which disproportionately affected people of color.¹³

There are significant parallels between marijuana and tobacco use. Both are smoked using a cigarette (eg, a "joint" or "spliff"¹⁴ for marijuana), a cigar/cigarillo, or a pipe "bong."¹⁵ Marijuana can be consumed using a vaporizer,¹⁶ including in e-cigarettes,^{17,18}

using hash oil containing tetrahydrocannabinol (THC), the psychoactive agent in marijuana.¹⁹ Marijuana also may be orally ingested through food (“edibles”), tinctures, beverages (teas and sodas), and pills (such as the prescription medicine Marinol). Tobacco may be consumed orally as snuff and chewing tobacco. In 2003 more than half of youth (aged 12 to 17) marijuana users in the United States (54% for lifetime use and 55% for past 30-day use) mixed cannabis with tobacco and rolled both in either a cigar or cigarillo (a “blunt”¹⁵) or a roll-your-own cigarette (a “spliff” in Europe).²⁰

In the 1970s and 1980s, tobacco served as a “gateway” to marijuana, but by 2005 this pattern had reversed, with marijuana use often preceding tobacco use.^{21,22} The association of marijuana and tobacco use has direct implications for the tobacco industry as marijuana becomes more accessible.

As a result of litigation against the tobacco industry, more than 80 million pages of internal company documents became available at the University of California, San Francisco’s Legacy Tobacco Documents Library (LTDL). These documents reveal that since at least 1970, despite fervent denials, three multinational tobacco companies, Philip Morris (PM), British American Tobacco (BAT, including its US subsidiary Brown & Williamson [B&W]), and R J Reynolds (RJR), all have considered manufacturing cigarettes containing cannabis.²³⁻²⁵ The documents demonstrate the tobacco industry’s willingness and preparedness to enter legalized marijuana markets, which the companies believed to have a large sales potential. Although the tobacco industry has not visibly supported marijuana legalization, as policymakers discussed decriminalization and potential legalization, the tobacco industry’s corporate planners took into consideration the shifting public opinion and future consumer demand.²⁶⁻²⁸ In the current favorable political climate for marijuana decriminalization, policymakers and public health authorities should develop and implement policies that would prevent the tobacco industry (or other comparable corporate interests with a penchant for marketing harmful products to children) from becoming directly involved in the burgeoning marijuana market, in a way that would replicate the smoking epidemic, which kills 480,000 Americans each year.²⁹

Methods

Using the standard snowball research technique,³⁰ we searched the LTDL (<http://legacy.library.ucsf.edu>) between May and December 2013. We first searched for “marijuana,” “marihuana,” “cannabis,” “cannabinoid,” “cannabinol,” “reefer,” “weed,” “spliffs,” “blunts,” “pot,” and “hashish.” We then conducted follow-up searches on individuals whose names repeatedly appeared and reviewed the documents with adjacent Bates numbers of relevant documents, resulting in approximately 700 documents.

Results

Early Interest at Philip Morris

By 1969, 12% of young adults in their twenties had tried marijuana, and 10% of young adults who had never smoked marijuana said they were willing to try the drug at least once.³¹ In the late 1960s, Dr. Alfred Burger, a professor at the University of Virginia,³² supervised the Philip Morris (PM) Fellowship in Chemistry on “Organic Chemistry Related to Nicotine”^{33,34} to “nurture university rapport, have our hand on well trained chemist [*sic*] as future possible employee”³⁵ and to study the molecular modification of tobacco alkaloids and isolate a nicotine substitute that did not produce the same cardiovascular effects that nicotine did.^{36,37} In September 1969, reflecting the changing social norms on marijuana, Burger wrote to Dr. Robert Ikeda, manager of chemical and biological research at PM Research Laboratories, suggesting a “novel research program” for the PM Chemical and Biological Research Division:

From all I can gather from the literature, from the press, and just living among young people, I can predict that marihuana smoking will have grown to immense proportions within a decade and will probably be legalized. The company that will bring out the first marihuana smoking devices, be it a cigarette or some other form, will capture the market and be in a better position than its competitors to satisfy the legal public demand for such products. I want to suggest, therefore, that you institute immediately a research program on all phases of marihuana.³⁸

The LTDL does not contain information on whether or how Ikeda responded to Burger’s letter.

On October 31, 1969, Dr. Manilo A. Manzelli, a research professional in PM's Technical Planning and Information Division,³⁹ completed a 65-page literature survey on marijuana because legalization of marijuana "has possible implications for smokers."⁴⁰ The survey listed studies offering chemical, biological, and pharmacological information about marijuana, as well as samples of recent articles in the popular media, but it did not draw any conclusions about how marijuana related to tobacco or the tobacco business. The literature review was sent to Dr. P.A. Eichorn, manager of PM's Technical Planning and Information Division; Dr. R.M. Ikeda, manager of chemical and biological research at PM's Research Laboratories, and Dr. Robert Fagan, a scientist in PM's Department of Research and Development. On October 30, 1969, Fagan wrote to Dr. Helmut Wakeham, PM's vice president of research and development, suggesting that PM contact the US Department of Justice's (DOJ) Bureau of Narcotics and Dangerous Drugs (BNDD) Drug Science Division and offer to analyze the smoke from *Cannabis sativa* in the way that PM analyzed smoke from tobacco with toxicity tests, inhalation studies, and carcinogenesis studies.⁴¹ Fagan wrote:

On the basis of your [Wakeham's] telephone conversation with Dr. Dunn [associate principal scientist in research and development at PM], I called Dr. Milton Joffe, Chief of the Drug Sciences Division in the Bureau of Narcotics and Drug Abuse [*sic*] in the U.S. Department of Justice. . . . Dr. Joffe is most anxious to have the smoke from *Cannabis sativa* analyzed the way smoke from tobacco is analyzed.

Before PM could proceed with its request, Fagan had to discuss the matter with Joffe's superior, BNDD director John Ingersoll. Joffe agreed to facilitate such interaction, since he "heartily approve[d] of such a project."⁴¹ Because the DOJ did not have the funds to finance independent research on marijuana, PM did not request government funding for this work but did require that the project be done with the DOJ's permission and cooperation. Fagan followed up with Joffe in early November 1969, when the two discussed how the DOJ would "request" that the PM Research Center "analyze smoke from *Cannabis sativa* as a help to the U.S. Department of Justice."⁴² In addition, Fagan warned Wakeham that PM's cooperation with the DOJ would "mean inspection and supervision by agents of the Department" and that Joffe planned to visit the PM Research Center in the near future.

In November 1969, Joffe officially wrote to PM's Wakeham expressing the BNDD's appreciation for the fact that the PM Research Center would "be willing to perform certain experiments on marijuana smoke that would be of interest to [the BNDD] as well as to the scientific community."⁴³ Joffe assured Wakeham that the BNDD would supply PM with "good quality"⁴³ marijuana material that was not generally available, in order to "allow a better and more accurate assessment of constituents, pyrolysis products and their relationships than would poor starting materials."⁴³ PM, however, still had to win the approval of both the Food and Drug Administration's Public Health Service Joint Advisory Committee on Psychotomimetic Drugs (the only legal source for controlled substances not available for general distribution or by prescription) and the director of the Internal Revenue Service (IRS) to obtain federal clearance.⁴³

Wakeham expressed interest in the project to the BNDD on the condition that PM's name not be made public.⁴⁴ BNDD's Joffe assured Wakeham that the DOJ would comply with PM's confidentiality request and withdrew the requirement that PM would have to apply to the US Joint Advisory Committee on Psychotomimetic Drugs to acquire the marijuana.⁴⁵ Because an application to the Joint Advisory Committee on Psychotomimetic Drugs would have become "well known," Joffe helped PM avoid unwanted publicity and public attention by requesting only that PM complete an application with the IRS's district director "for a tax stamp as a Class V researcher."⁴⁵ Joffe requested a visit to PM's laboratory to meet with the scientists involved in the project and to obtain enough information regarding the "methods used and size of samples needed" to make the request for cannabis in his name, thus preserving PM's anonymity.⁴⁵

In early 1970, an unsigned memorandum distributed to PM's top management described PM's rationale for working with the DOJ which was carefully written to make it seem as though the DOJ was asking PM to perform marijuana research when, in fact, the initial request came from PM's Fagan to Joffe:

The Department of Justice has asked us to perform some chemical analyses of marijuana smoke for the Bureau of Narcotics and Dangerous Drugs. They are willing to handle the matter on a confidential basis.

We can hardly refuse this [BNDD's] request under any circumstances. . . . [W]e regard it as an opportunity to learn something about this controversial product, whose usage has been increasing, so rapidly among the young people.²⁴

In describing why PM had to modify its product line to fit the changing social norms, the letter states:

We are in the business of relaxing people who are tense and providing a pick up for people who are bored or depressed. The human needs that our product fills will not go away. Thus, the only real threat to our business is that society will find other means of satisfying these needs. . . .

In this situation [marijuana as a rival product], business theory—strongly suggests that we should learn as much as possible about this threat to our present product. *We have done nothing so far because of the product's illegality and out of concern for our image. This request from the Justice Department, therefore, seems opportune.*

With respect to public opinion regarding marijuana, leaders are moving towards ameliorating its stigma by recommending less penalty [sic] for its use and equating its use with alcohol and cigarettes.²⁴ [emphasis added]

In response to this memorandum, in February 1970 president of PM USA, Ross Millhiser, wrote PM's president, George Weissman, suggesting that PM accept and implement the DOJ's request because it would allow PM to "learn about this potentially competitive product—and under impeccable sponsorship."⁴⁶ Millhiser asked Weissman to return the memorandum to avoid having an additional file copy. Weissman replied to Millhiser:

While I am opposed to its [marijuana] use, I recognize that it may be legalized in the near future and put on some sort of restricted sale, if only to eliminate the criminal element. Thus, with these great auspices, *we should be in a position to examine: 1. A potential competition, 2. A possible product, 3. At this time, cooperate with the government.*⁴⁷ [emphasis added]

The documents in LTDL do not contain information on whether or not PM completed this project.

Information on the PM project, however, seems to have become known elsewhere in the tobacco industry. An internal American Tobacco Company (ATC) memo dated October 1970 from A.W. Burke Jr, ATC consultant/pharmacologist, to John Hager, ATC executive vice president,

reported that ATC had information from reliable sources that under federal government sponsorship, PM “recently applied for and was granted a special permit to grow, cultivate and make marijuana extracts.”⁴⁸ Burke concluded that marijuana research was progressing in the United States, as it could be reasonably assumed that some agency was making marijuana cigarettes for the US government.⁴⁸

*BAT's 1970 Potential Study with
International Regulatory Contacts: The “Pot” Project*

Before enacting the Misuse of Drugs Act in 1971, which imposed harsher penalties for trafficking and supply, the United Kingdom had a less punitive drug policy.^{49,50} In March 1970 Sir Harry Greenfield, president of the International Narcotics Control Board, the Geneva-based body charged with monitoring and implementing United Nations conventions on illegal drugs, and also a tobacco taxation consultant to BAT,⁵¹ presented in a letter a new product idea to BAT's management:

One of my ideas which I want to talk over with you concerns the possibility of drawing upon the immense amount of research done by the tobacco industry into the smoking of tobacco and utilizing it for research on Cannabis. Having obtained agreement from the leaders of the British tobacco industry that this possibility might be discussed in principle by Scientists on both sides [promarijuana and antimarijuana legalization scientists] I consulted Sir Charles Ellis who is our [the International Narcotics Control Board's and the BAT board of directors'] principal adviser on technical research. He himself is rather taken with the idea and has been good enough to prepare a rough note which I enclose so that you may have time to read it before we all come together next Tuesday.⁵²

The purpose of Ellis's “provocative” note was to “stimulate questions and criticisms” on the topic of marijuana research in the United Kingdom from a team of scientists, which included Dr. S.J. Green, BAT's research and development director and chief scientist; and Dr. Herbert Bentley, a senior scientist at Imperial Tobacco (UK) and chair of the tobacco companies' International Committee on Smoking Issues Medical Research Working Party,⁵³ who did not attend the meeting.⁵²

Greenfield also was the president of the UN Permanent Central Narcotics Board and had participated in the third meeting of the LSD

and Cannabis Sub-Committee of the Single Convention on Narcotic Drugs in 1972.⁵⁴ He maintained that even though “respective countries are at liberty to exercise some discretion regarding appropriate penalties in specific cases,” the international regulatory framework on marijuana should not be based on unreliable evidence linking the consumption of cannabis to the progression to other hard drugs.⁵⁴ Greenfield’s recommendation to BAT’s management reflected the British government’s earlier views, objecting to the UN’s dictating the domestic positions of member states and denying government autonomy over policy related to the regulation of medicine.⁵⁴ Greenfield considered marijuana use analogous to alcohol and tobacco use, which may have influenced his openness to discussing Ellis’s marijuana proposal.⁵⁴

After consulting with Greenfield, BAT’s Ellis prepared a 1970 memorandum for BAT’s management on cannabis-loaded cigarettes “as a precaution” if marijuana became decriminalized for personal use.⁵⁵ Ellis drew attention to the fact that the regulatory framework on marijuana in the United Kingdom was perhaps becoming less restrictive, so it seemed wise for BAT to start experiments investigating every facet of cannabis-loaded cigarettes. Because “existing knowledge is certainly not adequate to handle such a situation” (to regulate cannabis in a way similar to that for tobacco and alcohol products), and such detailed experiments take a long time to carry out, he recommended that the initial experiments begin immediately.⁵⁵ Ellis proposed a detailed plan for doing so, including both short-term and long-term studies.

Smoking such [a marijuana] cigarette is a natural expansion of current smoking habits which, if a more tolerant attitude were ever taken to cannabis, would be a change in habit comparable to moving over to cigars. . . .

The proposed research can be started off very simply, it is just to do for “cannabis-loaded” cigarettes what has already been done for normal cigarettes. . . . *The starting point must be to learn how to produce in quantity cigarettes loaded uniformly with a known amount of either ground cannabis or dried and cut cannabis rag.*⁵⁵ [emphasis added]

Ellis also outlined how to design an experiment to understand the effect, on a mouse, of cannabis cigarettes, compared with tobacco cigarettes. The goal of the study would be to determine “whether there are any signs of a modification in irritancy [of the respiratory system] or in short-term tests of carcinogenicity as currently carried out

on cigarettes.”⁵⁵ He called for a long-term study on the carcinogenic potential of cannabis if, in fact, “there were any signs [that] the addition of cannabis modif[ied] the carcinogenic potential of tobacco smoke, either positively or negatively.”⁵⁵

Ellis suggested carrying out a pharmacological study on the effects of marijuana if it were determined that the effects of cannabis and nicotine “are [not] just addictive. We [BAT] should then be led into a long series of experiments using animals involving the whole gamut of pharmacological research ranging from effects on the CNS [central nervous system] to studies on behavior and learning ability.”⁵⁵ He envisaged such a study would take place in the second year of the proposed research project. The memorandum ended with Ellis’s discussing a possible “investigation of altered behaviourism and psychological reactions of human subjects.” He outlined a financial plan and tentative road map for carrying out such studies by contracting with one or more research institutions.⁵⁵

Later in 1970, BAT launched its strictly confidential “pot” project, whose introductory page in the archive folder listed the letters from Ellis^{23,55} and from Greenfield to Professor Paton⁵² introducing Ellis’s interest in studying marijuana.⁵⁶ Apart from a sample of collected literature on cannabis research,⁵⁶ the LTDL does not contain any additional information on the “pot” project.

An unsigned March 1976 BAT memorandum, in Green’s files,⁵⁷ entitled “The Product [cigarettes] in the Early 1980s,” cites the main threats to conventional cigarettes. F. Haslam, an employee in BAT’s Research and Development Department, alluded to the memorandum’s author, C.I. Ayres (a BAT research adviser), in another memorandum addressed to Green and prepared for the Millbank Product Development Committee (MPDC) meeting.⁵⁸ (Millbank was the name of BAT’s Research and Development headquarters in London, and members of the MPDC were key leaders of BAT, including S.J. Green and BAT’s chairman Patrick Sheehy.)⁵⁹ This document discussed marijuana as a potential rival to nicotine cigarettes, and as an option to secure the success of cigarette markets, the memorandum noted:

The only material which has received a lot of attention [from drug regulators and the general public] is marijuana, and the controversy on whether or not to legalise soft drugs has been frequently aired. . . . *If the use of such drugs was legalised, one avenue for exploitation would be the augmentation of cigarettes with near sub-liminal levels of the drug.* It is argued that a distinction exists between drugs acting on levels

of brain activity (such as nicotine and some other stimulants) and drugs acting on the state of consciousness (such as marijuana, LSD and other hallucinogens). *In this sense, nicotine and marijuana are not direct competitors.*⁵⁷ [emphasis added]

The 1970s was an era in which state governments in the United States and other localities around the world began decriminalizing possession of small amounts of marijuana.^{60,61} Rumors were spreading in Europe that France and Sweden were discussing the legalization of marijuana^{62,63} (discussed in detail later), and in 1976 the Netherlands adopted a formal written policy of nonenforcement for violations involving the possession or sale of up to 30 grams of cannabis. Although BAT did not formally announce a project dedicated to researching marijuana as a potential product, the documents show that key members in BAT's Research and Development Division took notice of marijuana at a time when the public's view of legalizing it was becoming more liberal. BAT was weighing its options because of threats to the cigarette business, such as nicotine reduction strategies and social disapproval of smoking, and in doing so, its research team reviewed potential rivals for cigarettes in the coming decade.⁵⁷ BAT's Ayres, however, regarded marijuana as not directly competitive because of the different ways in which the drugs act on brain activity (nicotine) and on consciousness (marijuana), and he emphasized the development of a blended product if marijuana became legal.⁵⁷

Marijuana as a Rival Product to Tobacco Cigarettes

In October 1970, Congress passed the Controlled Substances Act, which superseded earlier legislation and classified cannabis as having a high potential for abuse, having zero medical use, and being unsafe for use without medical supervision.⁶⁴ It focused on prosecuting marijuana distributors and manufacturers, abolishing minimum sentences for users, and reducing penalties for possession to a misdemeanor.⁶⁴ As still is the case in 2014, there is a conflict between federal and state policies regarding the illegality of marijuana. At the federal level, the use, sale, and possession of cannabis (marijuana) is a criminal offense, although several jurisdictions have begun modifying state laws and local regulations regarding its possession. In the 1970s, eleven states decriminalized the possession of marijuana, imposing civil rather than

criminal penalties,^{64,65} and most others reduced their penalties for possession of small amounts.⁶⁶ British American Tobacco and Brown & Williamson continued to collect research data on marijuana and to report on its possible legalization.^{67,68}

In January 1971, US news media speculated about the tobacco industry's intention to enter the marijuana market. *Time* magazine reported, "Tobacco men are . . . discussing the potentially heavy market for marijuana, and some figure it could be legalized within five years."⁶⁹ The story brought immediate disavowals from the tobacco industry, and *Time* was forced to apologize.⁷⁰ The Tobacco Institute, the tobacco industry's lobbying organization, issued a press release stating that "rumors about the cigarette industry's involvement with marijuana are as persistent as they are false,"⁷¹ followed by a separate statement from all 6 major cigarette companies.⁷¹ PM's CEO, Joseph Cullman, issued a public statement that was printed in *Time* stating the industry was not interested in marijuana, claiming that PM "[has] held no discussions nor made any plans concerning the marketing of that product."⁷¹

In 1972, the National Commission on Marijuana and Drug Abuse established by President Richard Nixon recommended that the possession of marijuana for personal use no longer be a felony offense and that the casual distribution of small amounts of marijuana for no or insignificant remuneration be reduced to a civil penalty.⁶⁴ The commission did, however, recommend that the large-scale sale and distribution of marijuana remain a felony.⁶⁴ But Nixon and Congress ignored the commission.¹² The same year an RJR document stamped "Secret" predicted future trends for corporate planning and assigned a 15% probability for marijuana legalization by 1980 (compared with 1% for prohibition of cigarettes and 10% for a cure for lung cancer).²⁷

A 1976 market research report prepared for Brown & Williamson on state trends in marijuana decriminalization noted that "state law is gaining momentum, with a total of 8 states which now have removed criminal penalties for possession and another 27 considering similar legislation."⁷² The report concluded, "This trend in liberalization of drug laws reflects the overall change in our value system. It also has important implications for the tobacco industry in terms of an alternative product line," and it is highly probable that marijuana would become decriminalized and perhaps legalized in the United

States by 1990.⁷² We could not locate any material in the LTDL on what, if any, decisions Brown & Williamson made based on this information.

In 1976, the United Kingdom's BAT senior research scientist Ray Thornton compiled a memorandum for Dr. C.I. Ayres, chief scientist in BAT's Research and Development Division, assessing the potential for rival products and substitutes for tobacco cigarettes.⁷³ Thornton concluded that marijuana was not "in direct competition with nicotine, although there may be some interaction between them, as there is between drinking and smoking."⁷³ At this time, the British tobacco companies considered marijuana's increasing popularity as a threat to the tobacco market, given the pressure from the medical community and public health advocates for the industry to acknowledge the link between smoking and disease.^{28,73} BAT concluded that even though marijuana was not in direct competition with nicotine, the public toleration of marijuana "to a certain degree" was a direct threat to the industry.²⁸

In November 1976, the public relations agency Campbell-Johnson delivered a report to the Tobacco Advisory Council, the British tobacco industry's trade and lobby organization, which, along with medical and political challenges, discussed the "drugs challenge," noting that "as medical pressure against cigarette smoking increases, there is little sign of similar press against marijuana smoking,"²⁸ an issue still relevant in 2014. It continued:

In this country, a Campaign to Legalize Cannabis has lately become active; and similar moves are being made elsewhere, notably in the United States. . . . There is an obvious danger that, if more restrictions are placed on tobacco and if the marijuana habit notches up further small advances in legality, many people may switch from one to the other in their search for a form of escape from our neurotic civilization. Marijuana supporters would claim that was a net improvement from the health aspect.²⁸

Campbell-Johnson concluded that it would be a public relations disaster to begin marketing marijuana cigarettes if their use became more popular.²⁸ (It is not clear whether the firm meant before or after legalization.) The firm speculated that the consumption curves of tobacco and marijuana could intersect (meaning that the volume of both tobacco and marijuana sales would be equal). In the event of a public crossover from cigarettes to marijuana, Campbell-Johnson urged the tobacco industry to work toward preserving the social respectability of tobacco by not

allowing the public to equate tobacco use with that of marijuana while doing everything possible to minimize cigarettes' "health drawbacks."²⁸

A year later, in 1977, Brown & Williamson's internal "problem lab" discussed the legalization of marijuana as part of a broader discussion on how to "better estimate [the] future environment for [the] tobacco industry and B&W growth."⁷⁴ The problem lab brainstormed potential trends, directions, and major events that might affect the future of B&W in particular, and the tobacco industry in general, including venturing into "non-tobacco products that give similar satisfactions" and "how get [*sic*] into non-tobacco cigarette products."⁷⁴ The documents offer no details of what they concluded.

In 1978, two B&W market forecasters produced a report for the tobacco industry forecasting the events during the next 15 years in order to produce a corporate planning strategy.⁷⁵ The report included a marijuana legalization scenario in which the market forecasters assumed that legalization would cause a period of difficult reappraisal for the tobacco company. The report stated, "While marijuana products seem to be a logical new industry for tobacco companies, severe stockholder dissention prohibits several from immediately entering the market."⁷⁵ The report predicted that in the long run, the legalization of marijuana consumption in the United States, after the initial market adjustment, would be less disruptive to tobacco sales than a criminal market would be:

Consumption of tobacco falls drastically immediately following marijuana legalization as people experiment with the drug. Subsequent to the novelty effect, tobacco consumption again rises to near prelegalized marijuana levels. Two marijuana-containing products are highly probable: *a straight marijuana cigarette and a marijuana-tobacco blend. The increase in the demand for tobacco due to the marijuana-tobacco blend counteracts the effect of the small decrease in the whole cigarette consumption.*⁷⁵ [emphasis added]

The report also predicted that Latin American countries and Indonesia would soon follow the United States in legalizing the production and sale of marijuana because they would likely become the primary suppliers of marijuana and because foreign governments would take note of the major revenues to be gained by marijuana as a legal product.⁷⁵ Finally, the report predicted that marijuana would be regulated in the same way as tobacco in regard to clean indoor air legislation, private business exemption laws, and taxes, issues that are relevant in 2014.

In 1980, BAT's Research and Development Department brainstormed about the radical changes that the tobacco industry could face by the end of the century and concluded that BAT "should learn to look at itself as a drug company rather than as a tobacco company."⁷⁶ The memorandum resumed discussing future avenues of product development for BAT:

The mood affecting drug requirements of the population will in the future increase but the range of requirements will encompass tranquilisers e.g. valium, endorphin/enkephalin (brain opiates), marijuana, nicotine analogues, etc. At present the taking of many of these drugs is either medically prescribed or regarded as deviant behavior, but could be "socialised" like alcoholic drinking and tobacco smoking.⁷⁶

The memorandum concluded that a future "diversification program" would have to look at what types of mood affecting drugs to administer, how to administer such drugs, and how to engender social acceptance of their widespread use. The program's initial research would be pursued through contracts with universities and the eventual purchase of a drug company.⁷⁶

This was not the first time that the tobacco industry made plans to enter the pharmaceutical business. As early as the mid-1950s, Philip Morris and RJ Reynolds began to study cigarette smoking in people with mental illness because of their "low" (probably undiagnosed) cancer rates.⁷⁷ The industry's Council for Tobacco Research (CTR) funded studies intended to prove that smoking helped alleviate psychiatric symptoms. Internal research on mental illness and schizophrenia "focused on the use of nicotine and nicotine analogs as pharmaceutical agents,"⁷⁷ with the goal of developing new products and changing public and medical attitudes toward nicotine. In 1997, RJR developed its subsidiary Targacept to "rapidly commercialize RJRT's nicotine pharmaceutical technologies."⁷⁸

Although it is unclear whether the tobacco industry made concrete plans to pursue marijuana as a future product, in the 1970s and early 1980s its business forecasts continued to consider potential marijuana legalization, despite its public denial of media claims linking the tobacco industry to marijuana. It is not certain whether the tobacco industry's forecasting agencies advised major decision makers to enter the marijuana business, perhaps because of concerns about protecting its public reputation with primary stockholders.⁷⁵

B&W and RJ Reynolds: Menthol and Marijuana Studies Including African Americans

The success of Brown & Williamson's menthol cigarette brand Kool led other companies to study Kool consumers and develop competing products. PM and RJ Reynolds conducted focus groups to understand the appeal of the Kool brand to smokers of menthol cigarettes. In January 1972, PM conducted 2 focus groups in Detroit, in which researchers analyzed consumers' opinion of the Kool brand and a potential PM product, "Menthol Fats."⁷⁹ The study's conclusions were distributed to R.B. Seligman, PM's director of commercial development of tobacco products, and P.A. Eichorn, PM's manager of technical planning and information development. (Eichorn had also received the 1969 literature review on marijuana.)⁴⁰ The results showed that consumers preferred Kool after smoking marijuana to clear the "cottony feeling in the mouth or throat" and "for some people the association is so strong that several of them said that Kool 'smells like reefers [marijuana].'"⁷⁹ PM asked several questions regarding the relationship between marijuana and menthol cigarettes and found that menthol cigarettes were "good for making 'cocktails,' [or] homemade smoking mixtures."⁷⁹ The report concluded that there was a strong correlation between Kool customers and marijuana smokers.⁷⁹ We do not know what action, if any, PM took based on this information.

RJ Reynolds also was interested in the strengths of the Kool brand and commissioned Callahan Research Associates to conduct 2 focus groups in Manhattan in February 1972. In addition to soothing the harsh effect of marijuana smoke, menthol brands, the participants reported, were used for another reason related to marijuana: "Instead of smoking an additional marijuana cigarette, they can switch to a mentholated cigarette, sustain the high and begin to taper off in a pleasant fashion."²⁵ The documents do not show what, if anything, RJR did with this information.

B&W commissioned research by Kenyon & Eckhardt Advertising in 1974 to study the perceptions, attitudes, and behavior of younger, recently initiated smokers. This research found that young people smoked Kool cigarettes after smoking marijuana to relieve the dryness of the throat caused by marijuana, primarily because Kool had the strongest menthol flavor.⁸⁰ As part of the section on key findings, the report stated

that “Kool was thought of [by the youth participants] as a follow-up to chase a marijuana cigarette [and] the consensus was that the two ‘just go together.’”⁸⁰

In 1980, B&W commissioned another report on Kool, this time by the New York-based advertising agency Cunningham & Walsh, which pointed to an increase in marijuana smoking as a factor in Kool’s success: “Black consciousness was growing [and the] use of marijuana by young people was growing particularly among the children of the post-war baby boom.”⁸¹ The agency highlighted the strong correlation between cigarette smokers and marijuana users, finding that approximately 52% of marijuana users aged “12–17 also smoked cigarettes compared with only 11% of non users.” The report concluded that menthol cigarettes were widely smoked amongst marijuana users.

Analyses of marijuana smokers resulting from these focus groups were part of a wider study on youth, African American, and lower socioeconomic status smokers that the tobacco industry carried out in the 1970s, 1980s, and 1990s. Industry documents show that from 1970 to the late 1990s, cigarette companies strategically aligned their marketing campaign to capture the youth and African American markets, in which marijuana also was smoked at higher rates than non-menthol cigarettes were.⁸² As cigarette companies attempted to eliminate the Kool brand monopoly on the menthol cigarette market, the industry realized that there was a strong link between menthol cigarette smokers and marijuana users.

Studying the Effects of Marijuana

Perhaps because of public relations concerns and in the interest of primary stockholders,⁷⁵ the CTR refused to fund 3 research proposals on marijuana in 1971, 1977, and 1978.⁸³⁻⁸⁶ We did not find any other proposals for outside marijuana research that the tobacco industry discussed favorably, aside from the request to study marijuana with the permission of and cooperation with the Department of Justice in 1969.⁴¹ Nonetheless, in 1979, the CTR assigned public relations specialist Leonard Zahn to attend and report on scientific conferences on marijuana.^{87,88}

Philip Morris, independent of the CTR, became involved in a conference held by the National Institution of Drug Abuse (NIDA) in 1980. Responding to a request from PM’s vice president and general counsel, Alexander Holtzman,^{89,90} the PM Research Center thoroughly reviewed

the minutes of the 1980 research conference to develop recommendations for studies of the long-term health effects of marijuana smoke compared with those of tobacco smoke.⁹⁰ The original request from Holtzman to Robert Seligman, vice president of research and development, who reported directly to the senior vice president of operations, was unavailable because PM claimed it was “privileged content,” “confidential communications from Philip Morris USA, Inc. counsel to Philip Morris USA, Inc. employees.”⁹¹ Consequently, it is not clear why PM was consulting its lawyers about marijuana research.⁸⁹

In 1980, NIDA conducted the “Long Term Inhalation Study of Marihuana” to develop recommendations for future studies involving the biomedical effects of marijuana compared with those of tobacco smoke. In addition, the study reviewed and assessed the “methodological issues involved in the study of the long term effects of marihuana smoke.”⁹² The study also discouraged the incorporation of a tobacco group in long-term marijuana research because it would be costly and likely would produce more disadvantages than advantages, especially regarding the “interpretation of the data at the conclusion of the study.”⁹² NIDA did not reveal why it discouraged the incorporation of the tobacco industry in marijuana research.^{6,92}

Fagan, PM’s principal scientist and one of the first persons to communicate with the DOJ’s Joffe in 1969 on a potential marijuana research project, prepared comments for Holtzman on the “Long Term Inhalation Study of Marihuana,”⁹³ in which he concluded, “Because of the common pathway of exposure—inhalation, it would be wise to be in intimate touch with what goes on in the field of marihuana research.”⁹³ He also remarked that several areas had been left unexplored at the research meeting, including “tobacco chewing and ingestion of marihuana,” marijuana cigarettes lacking filters, and the lack of studies exploring the different ways in which marijuana is prepared for smoking.⁹³ He suggested that “some attention should be paid to it [comparing chewing tobacco with ingesting marijuana]” and that all these areas of concern would likely have some effect on the long-term consequences of smoking marijuana.⁹³

In 1984, the American Lung Association (ALA) launched a program to prevent children aged 9 to 11 from using marijuana.⁹⁴ Zahn attended the ALA’s annual meeting in Miami Beach, Florida, to learn more about the project. In his summary of the meeting, he included information about young people and about cigarettes as a gateway drug to marijuana. Zahn’s conclusions were circulated to senior management, including James C.

Bowling, PM's senior vice president of corporate affairs and a member of the Tobacco Institute's board of directors; Alexander Holtzman, PM's in-house lawyer who requested that the PM Research Center review the "Long Term Inhalation Study of Marihuana";⁸⁹ and Thomas Osdene, PM's director of science and technology.⁹⁵ Some of the highlights of Zahn's memorandum on the ALA meeting are the following:

Among youths aged 12-17 years, 11.5% smoke marijuana and 12.4% smoke cigarettes. *Cigarettes are a "gateway" drug to marijuana use.* Cigarettes are addictive because of the nicotine; marijuana can cause dependency because of psychoactive cannabinoids. *Teenagers who smoke cigarettes are 11 times more likely to become marijuana smokers.*

There are an estimated 20 million current marijuana smokers in the U.S. of whom nearly 3-million are adolescents. More than one third of high school students have used marijuana in the eighth grade or earlier. . . .

*There's no conclusive evidence as yet that marijuana smoking causes chronic, debilitating lung diseases in humans. With cigarette smoking, these diseases appear only after 10-20 years; most marijuana smokers in the U.S. haven't yet smoked that long.*⁹⁴ [emphasis in original]

Internal tobacco documents do not contain information about marijuana legalization between the 1980 discussion on the "Long Term Inhalation Study of Marihuana" and 1992, possibly because of the changing social and political environment reflected in President Ronald Reagan's shift in drug policy to focus on prohibition and the pursuit of producers, suppliers, and users.¹² In contrast to subsequent administrations, Nixon's "war on drugs" used most of its funding for treatment rather than law enforcement.¹² The internal documents of the multinational tobacco companies do not show any interest in marijuana legalization again until the early 1990s, when its use among youth and young adults began significantly rising.¹⁵

In 1992, RJR International's Research and Development office in Cologne, Germany, started a project comparing the basic toxicology and pharmacology of nicotine and cannabinal, the psychoactive cannabinoid found in *Cannabis sativa* and *Cannabis indica*.^{62,96} The office decided to conduct the review after news reports, later determined to be false, claimed that the French tobacco company Seita had distributed cannabis-loaded cigarettes. Dr. Lutz Mueller, who was responsible for industry issues and scientific and regulatory issues management at RJR, also informed Don deBethizy, director of biological research, and Wally

Hayes, vice president of biochemical/biobehavioral research and development at RJR, that several European countries were in discussion about taking cannabis off the list of controlled substances.⁶² Mueller forwarded to deBethizy and Hayes a preliminary document prepared by Anthony Tricker, a researcher for the Association of Cigarette Industries of Germany (Verband), which compared the toxicological and pharmacological effects of nicotine with those of cannabinal.^{62,96} Mueller mentioned in the memo that RJR “should know more about cannabinal in view of the possibility of its future more frequent use in certain European countries.”⁶² He concluded, “The Scientific Department [Verband] will complete a more thorough review in a few months.”⁶² We could not locate any information on whether the Verband conducted this review on marijuana and nicotine with cannabinal.

In April 1992, BAT’s R&D scientist and regulatory issues manager, T.G. Mitchell, requested “advice regarding [the] liberalization of marijuana laws” from P.J. Casingena, BAT’s in-house legal counsel.⁹⁷ The exact details of the request are unknown due to attorney-client privilege, but a handwritten “note from Terry Mitchell regarding [the] English translation of [the] German text”⁶³ refers to a proposal by Switzerland’s Basel Liberal Democratic Party (LDP) on the “Liberalisation of Hashish and Marihuana.”⁹⁸ In his note to Casingena, Mitchell remarked that a draft reply to the Basel LDP report “was put together by RJR.” Because the report by the Basel LDP’s Drug Committee discussed the legalization of marijuana and opposed equal penalties for using hard and soft drugs,⁹⁸ this probably was one of the reports that Mueller referred to as part of the discussion by “European countries about taking cannabis off the list of controlled substances.”⁶² We could not locate the draft reply to the Basel LDP report by RJR to which Mitchell referred in his note to Casingena.

Discussion

Industry documents show that despite public statements denying involvement in marijuana research, tobacco companies closely monitored the marijuana debate as it developed over the last 40 years in the United States and the United Kingdom. Since 1970, several companies have been researching product competition and development and forecasting the possible legalization of marijuana, which they consider both a threat

to current products and an opportunity for the development of new products containing marijuana, with high sales potential.

Marijuana is the most widely used illicit drug in the United States, with 19 million Americans aged 12 and older reporting past-month use in 2012. In 2013 more 12th graders reported past-month marijuana use (23%) than cigarette smoking (17%).^{99,100} In 1997, teens' tobacco smoking for 30 days (36%) was 1.4 times that of marijuana (26%), whereas by 2011 the situation had reversed, with marijuana use (23%) 1.3 times that of smoking (18%).¹⁰¹ Among young adults (18 to 25), 18% used marijuana in 2012, whereas the rate for young adult current smokers was 32%.¹⁰⁰ By 2013, 58% supported legalizing marijuana, including 67% of 18- to 29-year-olds.¹⁰²

In 2012, there were 17 marijuana legalization proposals in 10 states, including 14 citizen-initiatives and 3 legislatively referred amendments, ranging from decriminalization and permitting the use of marijuana for medicinal purposes to full legalization of the commercial cultivation, processing, distribution, sale, and possession of larger amounts.^{65,103} As of 2014, 20 states and the District of Columbia had approved the medical use of marijuana.¹ Fifteen of the 20 states had state-registered dispensary laws by which the state government regulates and licenses the dispensaries, which may provide limited protection against federal prosecution for possession of small amounts for personal use.¹ On November 6, 2012, Colorado and Washington became the first states to legalize the sale and possession of cannabis for recreational use for persons 21 and older.¹ Uruguay became the first country to legalize the sale and distribution of marijuana, effective in 2014, for residents 18 and older.¹⁰⁴

At the same time, as of 2014, cannabis remains a Schedule I substance under the Federal Controlled Substances Act, which makes the use, sale, and possession of cannabis (marijuana) a criminal offense.⁶⁴ Even though the federal government did not show signs of pursuing federal legalization of marijuana, President Barack Obama stated that the prosecution of recreational users in states where marijuana was legalized was not "of principal concern" to the federal government.¹⁰⁵ Instead, the Obama administration stated its intention to refocus marijuana enforcement on distribution to minors, something that would likely be prohibited if marijuana were legalized in the future, although the president still did "not support widespread legalization of marijuana."^{106,107}

The legalization of recreational marijuana, combined with the moderation of the federal government's position, may both accelerate and reflect the trend to legalization. In the coming years, the combination of marijuana legalization in Washington and Colorado and pressure from advocacy groups like the National Organization for the Reform of Marijuana Laws (NORML) and the Marijuana Policy Project (MPP) may influence other states (eg, Alaska, California, Maine) to marshal efforts aimed at passing statewide laws.¹⁰³ The 2016 presidential election may be a pivotal year for marijuana legalization if politicians craft their positions on marijuana legalization to capture the youth or libertarian vote.¹⁰⁸

Advocates of drug policy reform claim that prohibition produces adverse social consequences such as the imprisonment of hundreds of thousands of mostly young black men,^{109,110} and they criticize the war on drugs¹⁰⁹ on the grounds that illegal markets generate crime, violence, corruption, and their associated societal costs.^{65,110} Advocates claim that there are not nearly as many social costs associated with marijuana as there are with alcohol and tobacco, which have higher rates of morbidity, mortality, and state spending on Medicaid than on marijuana use.¹¹¹ Advocates also maintain that new marijuana taxes will produce additional revenue for federal and state governments^{109,110} while legalizing marijuana may provide relief for people using it for medical reasons.^{60,110}

Marijuana legalization advocates have not considered the potential effects of the multinational tobacco companies entering the market (or other corporations such as the food and beverage industries), with their substantial marketing power and capacity to engineer marijuana cigarettes to maximize efficacy as drug delivery systems, in the way that modern cigarettes are designed, whose primary objective is maximizing profits through higher sales. Jurisdictions that create a legalized marijuana market remove some of the barriers to increasing sales as well as the public relations and legal hurdles that have, so far, kept major corporations—including tobacco companies—out of the market.^{4,112} There is a risk that the tobacco industry, with its demonstrated ability to manipulate consumers' consent and regulatory frameworks, will take over marijuana markets, exacerbating yet another public health problem.¹¹²

The tobacco industry has long worked (generally out of the public eye) to influence the development and implementation of public policy^{113,114} on a wide range of issues, including clean indoor legislation,¹¹⁵ taxation,¹¹⁴ minor access laws,^{116,117} and tort reform.^{6,7,114,118,119} In

the case of marijuana, however, the documents do not show the tobacco industry as an important proponent of marijuana legalization. But because some key files were privileged or confidential, this question has still not been answered.

Nevertheless, senior scientists, marketing executives, and top management at the major tobacco companies have recognized marijuana as both a rival and a potential product, given its popularity among youth, African Americans, and menthol smokers,^{25,39,79,80,120} a conclusion supported by independent research.¹⁴ For example, a 2003 study of college students at the University of Florida found that 65% of students had used both marijuana and tobacco within the same hour; 31% said they smoked tobacco to prolong the effects of marijuana; and 55% had peers who were dual users.¹⁴ In 2013, the marijuana industry was already advertising a medical marijuana strain with a “menthol taste.”^{121,122}

During the 1980s, tobacco may have been a gateway to marijuana, but now the combination of the declining social acceptability of tobacco and the increasing social acceptability of marijuana²² has reversed this situation. A 10-year, 8-wave cohort study in Australia found that weekly cannabis use during the teenage years predicted the initiation of tobacco smoking among 20- to 24-year-olds and that weekly cannabis use predicted later nicotine dependence apart from smoking status.²² Dual users of marijuana and tobacco are more likely to experience worse health outcomes such as chronic respiratory symptoms (eg, chronic bronchitis, wheezing, chest sounds) than tobacco-only users and are less likely to be able to quit either.¹²³ “Blunt chasing,” smoking a cigar or cigarillo after smoking a blunt (a tobacco cigar with added marijuana) to intensify the sensation of both drugs, may both support and reinforce marijuana users’ tobacco (nicotine) dependence,^{14,22,123} something the industry documented in its research on marijuana and menthol smokers in the 1980s.^{39,120}

E-cigarettes are another nexus between tobacco and marijuana. E-cigarettes can be used as marijuana-delivery devices using hash oil^{17,124} and are difficult to distinguish from conventional e-cigarettes.¹²⁵ In 2014, Altria (formerly Philip Morris) purchased Florida-based Green Smoke, an e-cigarette company whose logo and website suggests crossover marijuana use,¹²⁶ and as of 2014, NORML was assisting the tobacco and e-cigarette companies in opposing efforts to include e-cigarettes in clean indoor air laws.¹²⁷

While assessing the potential social costs and benefits of marijuana legalization, one of the key issues warranting consideration is the manufacturing and marketing power of the multinational tobacco companies, which have shown tremendous marketing and lobbying power to sell their addictive products.⁶⁻⁸ It took decades to strengthen the controls on tobacco production and marketing. As we pointed out earlier, the tobacco companies have a long-standing interest in the possibilities raised by a legalized marijuana market. Because of the tobacco industry's demonstrated ability and willingness to modify its products to increase addictiveness, obfuscate information, deceive the public, and use advertising to target vulnerable groups to increase demand, the industry also has the power to dramatically change (and expand) the use of marijuana.

To avoid having marijuana develop into a tobacco-style public health epidemic, the regulatory focus in a legalized market should be on market structure to limit the power of large corporations, including tobacco companies, from taking control of the marijuana market and turning it into one modeled on the cigarette market.

One model for doing so would be to create an agency, similar to Uruguay's Regulation and Cannabis Control Institute (IRCCA), to control the production and distribution of marijuana and cannabis products.^{128,129} The agency would produce generic, unbranded cannabis, eliminating the incentive to market and advertise competitive products.¹²⁸ The state would use its licensing power to grant licenses to qualified professional farmers (as well as for home cultivation for personal use) and limit the number of licenses, depending on demand, to avoid an illegal market.^{128,129}

For private control of the market, a broad set of requirements for the regulation of tobacco products could be applied to marijuana, including the same restrictions on advertising as apply to cigarettes and tobacco products (including no television or radio advertising); taxation (with some revenues earmarked for public education, prevention, and cessation programs); the prohibition of free samples of marijuana cigarettes and smokeless marijuana products; the prohibition of flavored products (including menthol) and marijuana products containing nicotine¹³⁰; the prohibition of brandname sponsorship of athletic, music, and cultural events¹³¹; as well as the requirement of plain packaging and graphic health warning labels and the prohibition of vending machine sales, point-of-sale advertising, and Internet sales.¹³²

An important lesson from tobacco control is that smoking marijuana should not be allowed anywhere that smoking conventional cigarettes is not allowed, in order to protect people from secondhand marijuana smoke, and local governments should not be preempted from regulating commercial marijuana from cultivation to sale. (Except for the psychoactive ingredient—THC versus nicotine—marijuana smoke is similar to tobacco smoke.¹³³) As of early 2014, even though Colorado and Washington enacted clean indoor air laws in 2013,^{130,134} the marijuana lobby was working to exempt marijuana clubs from smoking restrictions in Colorado.¹³⁵

Limitations

The documents we used in this article came from the UCSF Legacy Tobacco Documents Library, which is a collection of documents discovered as a result of the smoking and health litigation in the United States. Because marijuana was not a focus of this litigation, there may be more information from the tobacco companies on this question that was not made available through the LTDL. It is for these reasons that we did not find any relevant documents dated after 1998, as the industry may have been more cautious and circumspect as to what it kept as internal records.¹³⁶ The tobacco companies' aggressive claims of attorney-client privilege have limited our access to relevant documents,^{89,97} as have the industry's coordinated strategies to conceal timely access to information through oral-only agreements, "read then destroy" policies, and systematic document destruction programs and by routing scientific memos "through the lawyers."¹³⁶ Indeed, in her ruling in the US Department of Justice's racketeering case against the major cigarette companies, CTR, and related organizations, federal judge Gladys Kessler found that the industry lawyers "devised and carried out document destruction policies and took shelter behind baseless assertions of the attorney client privilege."¹³⁷

Conclusion

Legislators, regulators, and members of the public considering the legalization of marijuana must take into account that multinational tobacco companies are prepared to enter the market with incentives to increase

the use of the drug. While it is impossible to predict the impact that marijuana legalization will have on consumption, advocates and policymakers must nonetheless be prepared to address regulatory matters such as licensing laws, signage, public use, age restrictions, marketing restrictions, and location of retail stores in order to prevent the tobacco (or other similar) industry's takeover of the market. Given that medical marijuana programs are associated with the high prevalence of marijuana abuse and dependence,¹³⁸ there is concern that marijuana use disorders would increase as a result of recreational marijuana legalization and the associated mass media marketing of marijuana. The concomitant use of marijuana and tobacco presents undesirable effects such as reduced motivation and more difficulty quitting, as well as higher levels of nicotine dependence among youth and young adults. It is important that tobacco control advocates and the public understand the clandestine research and analyses that the tobacco industry has conducted regarding potential marijuana legalization as well as the tobacco industry's role in turning cigarettes into the world's most widely used delivery system for the addictive drug nicotine, the leading preventable cause of death, to prevent the industry from repeating this history with marijuana if given the opportunity.⁶

References

1. National Conference of State Legislatures. State medical marijuana laws 2013. <http://www.ncsl.org/research/health/state-medical-marijuana-laws.aspx>. Accessed November 14, 2013.
2. Federal Bureau of Investigation. *Crime in the United States: 2011*. <http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2011/crime-in-the-u.s.-2011/persons-arrested/persons-arrested>. Accessed January 3, 2011.
3. Anderson DM, Rees DI. The legalization of recreational marijuana: how likely is the worst-case scenario? *J Policy Anal Manage*. October 22, 2013;1-11.
4. Keller B. How to legalize pot. *New York Times*. May 19, 2013.
5. McVay D. Marijuana legalization: the time is now. In: Inciardi JA, ed. *The Drug Legalization Debate*. Thousand Oaks, CA: Sage; 1991:chap. 7.
6. Proctor R. *The Golden Holocaust: Origins of the Cigarette Catastrophe and the Case for Abolition*. Berkeley, CA: University of California Press; 2011.

7. Brandt A. *The Cigarette Century: The Rise, Fall, and Deadly Persistence of the Product That Defined America*. New York, NY: Basic Books; 2007.
8. Glantz S, Slade J, Bero L, Hanauer P, Barnes D, eds. *The Cigarette Papers*. Berkeley, CA: University of California Press; 1996.
9. Inciardi J. *American Drug Scene: An Anthology*. Los Angeles, CA: Roxbury; 1998.
10. Inciardi JA. Between politics and reason: the drug legalization debate. *Am J Sociol*. 1998;103(4):1103-1104.
11. McBride DC, Terry-McElrath Y, Harwood H, Inciardi JA, Leukefeld C. Reflections on drug policy. *J Drug Issues*. 2009;39(1):71-88.
12. Mares D. *Drug Wars and Coffee Houses: The Political Economy of the International Drug Trade*. Washington, DC: CQ Press; 2006.
13. Small D. The war on drugs is a war on racial justice. *Soc Res*. 2001;68(3):896-903.
14. Ramo DE, Liu H, Prochaska JJ. Tobacco and marijuana use among adolescents and young adults: a systematic review of their co-use. *Clin Psychol Rev*. 2012;32(2):105-121.
15. Golub A, Johnson BD, Dunlap E. The growth in marijuana use among American youths during the 1990s and the extent of blunt smoking. *J Ethn Subst Abuse*. 2006;4(3-4):1-21.
16. Alcohol and Drug Abuse Institute. Learn about marijuana: science-based information for the public 2012. <http://learnaboutmarijuanawa.org/factsheets/tobacco.htm>. Accessed December 11, 2013.
17. Givens A, Cheng P. I-team: e-cigarettes, used to smoke marijuana, spark new concerns. *NBC News*. October 11, 2013.
18. Gray E. Smokers are using e-cigarettes to get high. *Time*. October 11, 2013.
19. Breathes W. Crazy-high times: the rise of hash oil. *Rolling Stone*. June 20, 2013.
20. Urban Dictionary. Spliff. <http://www.urbandictionary.com/define.php?term=spliff>. Accessed December 11, 2013.
21. Ramo DE, Delucchi KL, Hall SM, Liu H, Prochaska JJ. Marijuana and tobacco co-use in young adults: patterns and thoughts about use. *J Stud Alcohol Drugs*. 2013;74(2):301-310.
22. Patton GC, Coffey C, Carlin JB, Sawyer SM, Lynskey M. Reverse gateways? Frequent cannabis use as a predictor of tobacco initiation and nicotine dependence. *Addict*. 2005;100(10):1518-1525.
23. Ellis C. Cannabis loaded cigarettes. British American Tobacco, 1970. <http://legacy.library.ucsf.edu/tid/uly54a99>. Accessed May 29, 2013.

24. Rationale for compliance with Justice Department request. Philip Morris, 1970. <http://legacy.library.ucsf.edu/tid/cdf12a00>. Accessed May 30, 2013.
25. Callahan Research Associates. A summary of focus group research among young black people on mentholated cigarettes. RJ Reynolds, February 1972. <http://legacy.library.ucsf.edu/tid/pkt66a00>. Accessed September 6, 2013.
26. Forecasting International. Briefing paper for Brown & Williamson Tobacco Company. Brown & Williamson, July 8, 1976. <http://legacy.library.ucsf.edu/tid/mev00f00>. Accessed May 31, 2013.
27. Planning assumptions: probability of legalization of marijuana by 1980 (15%). RJ Reynolds, January 1, 1972. <http://legacy.library.ucsf.edu/tid/eri89d00>. Accessed September 6, 2013.
28. Campbell-Johnson Ltd. A public relations strategy for the Tobacco Advisory Council: appraisal and proposals. British American Tobacco, November 20, 1976. <http://legacy.library.ucsf.edu/tid/wip86b00>. Accessed September 6, 2013.
29. US Surgeon General. *The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General*, 2014. Washington, DC: US Department of Health and Human Services; 2014.
30. Anderson SJ, McCandless PM, Klausner K, Taketa R, Yerger VB. Tobacco documents research methodology. *Tob Control*. 2011;20:i8-i11.
31. Gallup G. Gallup poll: 12 in 100 have tried marijuana. Philip Morris, October 26, 1969. <http://legacy.library.ucsf.edu/tid/fdo71f00>. Accessed November 7, 2013.
32. Wakeham H. Memorandum from Philip Morris employee to Philip Morris employee containing marginalia. Philip Morris, November 24, 1967. <http://legacy.library.ucsf.edu/tid/cex27c00>. Accessed November 7, 2013.
33. Osdene TS. Letter to Dr. Wakeham on visit to the University of Virginia, Charlottesville. Philip Morris, November 17, 1967. <http://legacy.library.ucsf.edu/tid/wqf74e00>. Accessed November 7, 2013.
34. Burger A. Letter to Dr. Osdene on acquisition of post-doctoral research fellow Warren M. Hankins. Philip Morris, October 17, 1967. <http://legacy.library.ucsf.edu/tid/vqf74e00>. Accessed November 7, 2013.
35. Eichorn PA. University of Virginia (Dr. A. Burger) / patent agreement. Philip Morris, September 6, 1967. <http://legacy.library.ucsf.edu/tid/xqf74e00>. Accessed November 7, 2013.

36. Burger A. Re: possibility that P.M. might sponsor a research program. Philip Morris, August 18, 1967. <http://legacy.library.ucsf.edu/tid/rqk66b00>. Accessed November 6, 2013.
37. Osdene TS. Visit with A. Burger, University of Virginia, Charlottesville, Virginia, on December 16, 1968. Philip Morris, December 26, 1968. <http://legacy.library.ucsf.edu/tid/dgi28e00>. Accessed November 25, 2013.
38. Burger A. Letter to Dr. Robert Ikeda on next visit and initiation of discussion on MJ. Philip Morris, September 18, 1969. <http://legacy.library.ucsf.edu/tid/zjd74e00>. Accessed September 24, 2013.
39. Letter to Chris Bolton and R. Seligman on nicotine and Kool. Philip Morris, June 19, 1972. <http://legacy.library.ucsf.edu/tid/tvx71f00>. Accessed September 6, 2013.
40. Manzelli M, Walford B. Literature survey marijuana. Philip Morris, October 31, 1969. <http://legacy.library.ucsf.edu/tid/cdo71f00>. Accessed May 30, 2013.
41. Fagan R. Cooperation with the US Department of Justice. Philip Morris, October 30, 1969. <http://legacy.library.ucsf.edu/tid/dsf74e00>. Accessed September 24, 2013.
42. Fagan R. Further conversation Dr. M. Joffe, US Department of Justice. Philip Morris, November 4, 1969. <http://legacy.library.ucsf.edu/tid/txx84e00>. Accessed November 25, 2013.
43. Joffe M. Letter to Wakeham from Dr. Joffe regarding MJ and conversations with staff. Philip Morris, December 24, 1969. <http://legacy.library.ucsf.edu/tid/gnn54e00>. Accessed May 30, 2013.
44. Wakeham H. Letter to Dr. Joffe from Wakeham. Philip Morris, December 12, 1969. <http://legacy.library.ucsf.edu/tid/hdf12a00>. Accessed May 30, 2013.
45. Joffe M. Letter to H. Wakeman from Dr. Joffe regarding letter from December 12. Philip Morris, December 24, 1969. <http://legacy.library.ucsf.edu/tid/ddf12a00>. Accessed May 30, 2013.
46. Millhiser RR. Note to George from RR Millhiser. Philip Morris, February 10, 1970. <http://legacy.library.ucsf.edu/tid/qcf12a00>. Accessed May 30, 2013.
47. Weissman G. Note from George Weissman. Philip Morris, February 1970. <http://legacy.library.ucsf.edu/tid/tcf12a00>. Accessed May 30, 2013.
48. Burke AW. State of Virginia permit to Philip Morris, Inc., for investigations on marijuana. American Tobacco, 1970. <http://legacy.library.ucsf.edu/tid/wtr90c00>. Accessed May 21, 2013.

49. Stringer J, Richardson JJ. Managing the political agenda: problem definition and policy making in Britain. *Parliamentary Aff.* 1980;33(1):23-39.
50. Rueter P, Stevens A. *An Analysis of UK Drug Policy*. London, England: UK Drug Policy Commission; 2007.
51. Wrigley, JB. Note regarding tobacco taxation. British American Tobacco, April 27, 1981. <http://legacy.library.ucsf.edu/tid/xgp47a99/pdf>. Accessed February 11, 2014.
52. Greenfield H. Note from Harry Greenfield regarding research on cannabis. British American Tobacco, March 6, 1970. <http://legacy.library.ucsf.edu/tid/wly54a99>. Accessed May 29, 2013.
53. McDaniel PA, Intinarelli G, Malone RE. Tobacco industry issues management organizations: creating a global corporate network to undermine public health. *Globalization Health.* 2008;4:2.
54. Mills JH. *Cannabis Nation: Control and Consumption in Britain 1928–2008*. Oxford, England: Oxford University Press; 2013.
55. Ellis CP. Cannabis. British American Tobacco, 1970 (est.). <http://legacy.library.ucsf.edu/tid/xly54a99>. Accessed May 29, 2013.
56. Lewin R. The pot project. British American Tobacco, June 8, 1972. <http://legacy.library.ucsf.edu/tid/oly54a99>. Accessed May 31, 2013.
57. The product in the early 1980s. British American Tobacco, March 29, 1976. <http://legacy.library.ucsf.edu/tid/fht76b00>. Accessed September 24, 2013.
58. Haslam F. The product in the early 1980s; note prepared for Dr. Ayres copy. British American Tobacco, March 26, 1976. <http://legacy.library.ucsf.edu/tid/oby84a99>. Accessed September 6, 2013.
59. Millbank product development committee. Minutes of meeting held on Wednesdays. Brown & Williamson, December 17, 1975. <http://legacy.library.ucsf.edu/tid/lcd60f00/pdf>. Accessed January 2, 2014.
60. Grinspoon L. *Maribjuana Reconsidered*. Cambridge, MA: Harvard University Press; 1971.
61. Herer J. *Hemp & the Marijuana Conspiracy: The Emperor Wears No Clothes*. Van Nuys, CA: Hemp Publications; 1992.
62. Mueller L. Comparative basic toxicology and pharmacology of nicotine and cannabinal. RJ Reynolds, June 19, 1992. <http://legacy.library.ucsf.edu/tid/oby53d00>. Accessed June 6, 2013.

63. Mitchell TG. Note from Terry Mitchell regarding English translation of German text. British American Tobacco, 1992. <http://legacy.library.ucsf.edu/tid/xws31a99>. Accessed December 10, 2013.
64. Abel EL. *A Maribuana Dictionary: Words, Terms, Events, and Persons Relating to Cannabis*. Westport, CT: Greenwood Press; 1943.
65. Caulkins JP, Lee MAC, Kasunic AM. Marijuana legalization: lessons from the 2012 state proposals. *World Med Health Policy*. 2012;4(3):4-34.
66. Frontline. Busted: America's war on marijuana. *PBS Frontline*. 1996. <http://www.pbs.org/wgbh/pages/frontline/shows/dope/etc/cron.html>. Accessed January 2, 2014.
67. Felton DG. Letter from DG Felton regarding the report published by the US National Academy of Science. British American Tobacco, November 23, 1982. <http://legacy.library.ucsf.edu/tid/mcv41a99>. Accessed May 30, 2013.
68. Westergreen A. Email to Sharon Boyse regarding information she requested on receptor regulation in response to drug. Brown & Williamson, March 11, 1999. <http://legacy.library.ucsf.edu/tid/gok77h00>. Accessed June 6, 2013.
69. Danzig F. Pot users welcome Laredo kit. Tobacco Institute, January 25, 1971. <http://legacy.library.ucsf.edu/tid/zpz65b00>. Accessed September 24, 2013.
70. Donovan H. Letter to Mr. Judge thanking him for his editorial response to MJ and tobacco. Philip Morris, January 15, 1971. <http://legacy.library.ucsf.edu/tid/eex38e00>. Accessed September 24, 2013.
71. Tobacco Institute. Rumors about the cigarette industry's involvement with marijuana. 1971. <http://legacy.library.ucsf.edu/tid/vdf02f00>. Accessed May 21, 2013.
72. Forecasting International. A technological forecast of the future environment and its effects on the tobacco industry. Brown & Williamson, October 11, 1976. <http://legacy.library.ucsf.edu/tid/mhw20f00>. Accessed November 22, 2013.
73. Thornton R. Re: enclosing a note entitled "The Product in 1980" discussing the role of biofeedback versus cigarette smoking. British American Tobacco, January 13, 1976. <http://legacy.library.ucsf.edu/tid/pon66b00>. Accessed September 6, 2013.
74. George J. Re: meeting minutes of B&W problem lab. Brown & Williamson, 1977. <http://legacy.library.ucsf.edu/tid/wgq76b00>. Accessed May 21, 2013.

75. Brown & Williamson. Technological forecasting materials for production conference. Brown & Williamson, 1978. <http://legacy.library.ucsf.edu/tid/ano21c00>. Accessed June 6, 2013.
76. Crellin R. Brainstorming II: what three radical changes might, through the agency of r&d, take place in this industry by the end of the century? British American Tobacco, November 4, 1980. <http://legacy.library.ucsf.edu/tid/tmy50a99>. Accessed May 31, 2013.
77. Prochaska JJ, Hall SM, Bero LA. Tobacco use among individuals with schizophrenia: what role has the tobacco industry played? *Schizophr Bull.* 2008;34(3):555-567.
78. Targacept. Targacept key messages. March 18. 1999. <http://legacy.library.ucsf.edu/tid/oxd35a00>. Accessed February 2, 2014.
79. Udow A. Impressions of project green group sessions, letter to Mr. Chris Bolton. Philip Morris, January 26, 1972. <http://legacy.library.ucsf.edu/tid/yii08e00>. Accessed September 6, 2013.
80. Young adult smoker life styles and attitudes. Brown & Williamson, 1974. <http://legacy.library.ucsf.edu/tid/cgq76b00>. Accessed May 21, 2013.
81. Cunningham & Walsh. Kool: a retrospective view of Kool. Book I: the text. Brown & Williamson, December 12, 1980. <http://legacy.library.ucsf.edu/tid/aqy60f00>. Accessed June 3, 2013.
82. Ling PM, Glantz SA. Why and how the tobacco industry sells cigarettes to young adults: evidence from industry documents. *Am J Public Health.* 2002;92(6):908-916.
83. Fisher S. Letter to the director of the Council for Tobacco Research. Council for Tobacco Research, December 18, 1970. <http://legacy.library.ucsf.edu/tid/nyn06d00>. Accessed May 30, 2013.
84. Hockett RC. Letter to Dr. Stephen Fischer from Robert C. Hockett. Council for Tobacco Research, February 10, 1971. <http://legacy.library.ucsf.edu/tid/dfs06d00>. Accessed May 30, 2013.
85. Hoyt W. Letter to Dr. Lawrence D. Horwitz. Council for Tobacco Research, December 6, 1978. <http://legacy.library.ucsf.edu/tid/ldz4aa00>. Accessed May 30, 2013.
86. Seligman R. Letter of reply for a request for funding cannabis related research from Paul Geshelin MD. Philip Morris, July 27, 1977. <http://legacy.library.ucsf.edu/tid/ujv14e00>. Accessed May 30, 2013.
87. Zahn H. Second annual conference on marijuana. Biomedical effects and social implications. New York, June 28-29,

1979. RJ Reynolds, July 20, 1979. <http://legacy.library.ucsf.edu/tid/nqz68d00>. Accessed May 30, 2013.
88. Zahn L. New research projects of Institute of Medicine and National Research Council. Council for Tobacco Research, January 22, 1981. <http://legacy.library.ucsf.edu/tid/gtz2aa00>. Accessed December 10, 2013.
 89. Holtzman A. Handwritten note from Philip Morris counsel to Philip Morris employee requesting technical review of outside research paper. Philip Morris, May 20, 1980. <http://legacy.library.ucsf.edu/tid/idx27c00>. Accessed September 24, 2013.
 90. Seligman R. Letter to Mr. Holtzman on long-term inhalation study of marijuana. Philip Morris, June 27, 1980. <http://legacy.library.ucsf.edu/tid/zzt53e00>. Accessed September 24, 2013.
 91. Legacy Tobacco Documents Library, UCSF. Privileged document codes 2013. <http://legacy.library.ucsf.edu/help/privcodes.jsp>. Accessed December 9, 2013.
 92. Braude MC. National Institute on Drug Abuse technical review on methodology for long-term inhalation study of marijuana. Philip Morris, April 10, 1980. <http://legacy.library.ucsf.edu/tid/gmn64e00>. Accessed December 17, 2013.
 93. Fagan R. Letter to Dr. Osdene on the long term inhalation study of marijuana. Philip Morris, June 5, 1980. <http://legacy.library.ucsf.edu/tid/egs87e00>. Accessed September 24, 2013.
 94. Zahn L. American Lung Association's campaign against marijuana. Philip Morris, May 15, 1984. <http://legacy.library.ucsf.edu/tid/wzv61f00>. Accessed December 10, 2013.
 95. Pecan S. American Lung Association's campaign against marijuana. American Heart Association news conference. Philip Morris, May 18, 1984. <http://legacy.library.ucsf.edu/tid/bkb44e00>. Accessed November 25, 2013.
 96. Comparative basic toxicology and pharmacology of nicotine and cannabinol. Philip Morris, May 14, 1992. <http://legacy.library.ucsf.edu/tid/scl83e00>. Accessed June 6, 2013.
 97. Mitchell TG. Confidential communication from employee to internal counsel requesting counsel's advice regarding liberalization of marijuana laws. British American Tobacco, April 15, 1992. <http://legacy.library.ucsf.edu/tid/zco12b00>. Accessed December 10, 2013.
 98. Basel LDP. Liberalisation of hashish and marijuana. British American Tobacco, January 1992. <http://legacy.library.ucsf.edu/tid/zws31a99>. Accessed December 10, 2013.

99. Monitoring the Future. *Trends in 30-Day Prevalence of Use of Various Drugs in Grades 8, 10, and 12*. Ann Arbor, MI: University of Michigan; 2013.
100. US Department of Health and Human Services. *Results from the 2012 National Survey on Drug Use and Health: Summary of National Findings*. Rockville, MD: US Department of Health and Human Services; September 2013.
101. Centers for Disease Control. *Trends in the Prevalence of Selected Risk Behaviors and Obesity for All Students National YRBS: 1991-2011*. Atlanta, GA: Department of Health and Human Services; 2012.
102. Gallup. Views on legalizing marijuana 2013. <http://www.gallup.com/poll/165539/first-time-americans-favor-legalizing-marijuana.aspx>. Accessed November 21, 2013.
103. Marijuana Policy Project. The twenty states and one federal district with effective medical marijuana laws. 2013. <http://www.mpp.org/assets/pdfs/library/MMJLawsSummary.pdf>. Accessed November 21, 2013.
104. Castaldi M, Llambias F. Uruguay becomes first country to legalize marijuana trade. *NBC News*. December 12, 2013.
105. Grim R, Reilly RJ. Eric Holder says DOJ will let Washington, Colorado marijuana laws go into effect. *Huffington Post*. September 23, 2013.
106. Note to Green regarding agenda for lunch with Peyton. British American Tobacco, March 4, 1970. <http://legacy.library.ucsf.edu/tid/vly54a99>. Accessed May 31, 2013.
107. Cole JM. *Guidance Regarding Marijuana Enforcement*. Washington, DC: US Department of Justice; August 29, 2013.
108. Mientka M. Marijuana legalization activists target states for 2014, ahead of presidential election. *Medical Daily*. September 22, 2013.
109. Levine HG, Reinerman C. From prohibition to regulation: lessons from alcohol policy for drug policy. *Milbank Q*. 1991;69(3):461-494.
110. Earleywine M. *Pot politics: marijuana and the costs of prohibition*. New York, NY: Oxford University Press; 2007.
111. Joffe A, Yancy WS, Jacobs EA, et al. Legalization of marijuana: potential impact on youth. *Pediatrics*. 2004;113(6):E632-E638.
112. Sklair L. The transnational capitalist class and global politics: deconstructing the corporate-state connection. *Int Polit Sci Rev*. 2002;23(2):159-174.
113. Glantz S, Balbach E. *Tobacco War: Inside the California Battles*. Berkeley, CA: University of California Press; 2000.

114. Givel MS, Glantz SA. Tobacco lobby political influence on US state legislatures in the 1990s. *Tob Control*. 2001;10(2):124-134.
115. Dearlove JV, Bialous SA, Glantz SA. Tobacco industry manipulation of the hospitality industry to maintain smoking in public places. *Tob Control*. 2002;11(2):94-104.
116. Glantz SA. Preventing tobacco use—the youth access trap. *Am J Pub Health*. 1996;86(2):156-158.
117. Ling PM, Landman A, Glantz SA. It is time to abandon youth access tobacco programmes. *Tob Control*. 2002;11(1):3-6.
118. Morris R. Tort reform and product liability legislation Florida and Louisiana. Tobacco Institute, 1986. <http://legacy.library.ucsf.edu/tid/psc23b00>. Accessed October 22, 2013.
119. Derthick MA. *Up in Smoke: From Legislation to Litigation in Tobacco Politics*. Washington, DC: CQ Press; 2012.
120. Bolton C. Letter to Al Udow from Chris Bolton on consumer product testing for menthol. Philip Morris, August 1, 1972. <http://legacy.library.ucsf.edu/tid/iux74e00>. Accessed September 6, 2013.
121. Doyle B. *The New Tobacco Industry*. Denver, CO: Colorado Tobacco Education and Prevention Alliance; 2013.
122. Flo, sativa. Medical Marijuana Strains website. <http://www.medicalmarijuanastrains.com/flo-2/>. Accessed December 23, 2013.
123. Ramo DE, Delucchi KL, Liu H, Hall SM, Prochaska JJ. Young adults who smoke cigarettes and marijuana: analysis of thoughts and behaviors. *Addict Behav*. 2014;39(1):77-84.
124. E-cigarettes make marijuana smoke virtually undetectable. *CBS News*. November 7, 2013.
125. Walker N. CHP: Teens converting e-cigarettes to use THC oil. *KTVU*. January 9, 2014.
126. McDuling J. Will e-cigarettes help Big Tobacco become Big Marijuana, too? *Quartz*. February 4, 2014.
127. CA NORML. Cal NORML opposes bans on smokeless e-cigs and vaporizers. January 26, 2014. http://www.canorml.org/news/Cal_NORML_opposes_bans_on_e-cigarettes. Accessed February 20, 2014.
128. Caulkins JP, Kilmer B, MacCoun RJ, Pacula RL, Reuter P. Design considerations for legalizing cannabis: lessons inspired by analysis of California's proposition 19. *Addict*. 2012;107(5):865-871.
129. La cámara de representantes de la república oriental del Uruguay. Proyecto de ley no. 708/13. December 10, 2013.

- <http://fueradelexpediente.com.ar/wp-content/uploads/2013/08/marihuana-uruguay.pdf>. Accessed February 10, 2014.
130. Marijuana Enforcement Division. *Permanent Rules Related to the Colorado Retail Marijuana Code*. Denver, CO: Colorado Department of Revenue; 2013.
 131. US Food and Drug Administration. Regulations restricting the sale and distribution of cigarettes and smokeless tobacco. 2010. <http://www.fda.gov/tobaccoproducts/protectingkidsfromtobacco/regsrestrictingsale/default.htm>. Accessed December 11, 2013.
 132. National Association of Attorneys General. *Master Settlement Agreement*. November 1998.
 133. Moir D, Rickert WS, Levasseur G, et al. A comparison of mainstream and sidestream marijuana and tobacco cigarette smoke produced under two machine smoking conditions. *Chem Res Toxicol*. 2008;21(2):494-502.
 134. Washington State Liquor Control Board. Initiative measure 502. 2011. <http://www.liq.wa.gov/publications/Marijuana/I-502/i502.pdf>. Accessed December 22, 2013.
 135. Roberts M. Marijuana: allowing pot clubs one of fourteen priorities for Colorado NORML. *Denver Westword*. December 9, 2013.
 136. LeGresley EM, Muggli ME, Hurt RD. Playing hide-and-seek with the tobacco industry. *Nicotine Tob Res*. 2005;7(1):27-40.
 137. USA v. Philip Morris USA, Inc., et al. 1683 page final opinion. US District Court 2006.
 138. Cerda M, Wall M, Keyes KM, Galea S, Hasin D. Medical marijuana laws in 50 states: investigating the relationship between state legalization of medical marijuana and marijuana use, abuse and dependence. *Drug Alcohol Depend*. 2012;120(1-3):22-27.

Acknowledgments: This work was supported by National Cancer Institute grant CA-087472. Dr. Glantz is the American Legacy Foundation Distinguished Professor of Tobacco Control. The funding agencies played no role in the selection of the topic, conduct of the research, preparation of the manuscript, or decision to submit it for publication. For helpful discussions as we wrote this article, we thank Professor Emily Anne McDonald.

Address correspondence to: Stanton A. Glantz, Center for Tobacco Control Research and Education, 530 Parnassus Ave, Suite 366, University of California, San Francisco, San Francisco, CA 94143-1390 (email: glantz@medicine.ucsf.edu).