'The most thoughtful, rigorous, and accessible discussion of marijuana to date. Sabet eschews silver bullets for smart, evidence-based solutions rooted in public health." – Dr. Robert L. DuPont founding Director, National Institute on Drug Abuse, National Institutes of Health

REEFER SANITY

SEVEN GREAT MYTHS ABOUT MARIJUANA

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FOREWORD BY PATRICK J. KENNEDY, FORMER CONGRESSMAN

MYTH

2

SMOKED OR EATEN MARIJUANA IS MEDICINE

"We will use [medical marijuana] as a red-herring to give marijuana a good name." —*Keith Stroup, head of NORML to the* Emory Wheel*, 1979*[1]

"There is little future in smoked marijuana as a medically approved medication." —*National Academy of Sciences, Institute of Medicine (IOM) Report, 1999.* Marijuana and Medicine: Assessing the Science Base, *IOM*

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Is marijuana medicine? The answer is yes, no, and maybe. Scientists have long known that like many plants, marijuana has medicinal properties. But that does not imply that to derive those medical benefits, the plant should be smoked in its raw form (we don't, after all, smoke opium to get the benefits of morphine). Nor does the potential medical value of marijuana mean that, as medicine, its fate should be left to the whims of the electorate.

No one wants to see their loved ones suffer needlessly, and there is a good case to be made that federal law enforcement should focus its limited resources on major drug producers and distributors.

Unfortunately, however, the issue of medical marijuana goes beyond simple compassion. The Food and Drug Administration (FDA), not popular vote, approves tests and new medicine for public safety in the United States. So it is troubling that some states have decided to bypass that system in favor of one manipulated by political agendas. Rather than advocating better or quicker research protocols so that pharmacists can properly dispense marijuana-based medications with consistent dosing and in a safe delivery manner, many states have bypassed the approval process of modern medicine. The result has been widespread abuses.

The federal government could certainly speed up research into marijuana's components by giving incentives to scientists who study the drug and by loosening marijuana's strict research requirements. But the current situation—characterized by the mass commercialization of marijuana and the proliferation of "rent-a-doctors" who indiscriminately hand out medical recommendations for the drug—places the truly sick at risk while detracting from the potentially promising future of properly approved marijuana-based medications.

MYTH 2

Medical marijuana as it stands today, in California, Colorado, and many other states, has turned into a sad joke. A recent study found that the average "patient" was a thirty-two-year-old white male with a history of drug and alcohol abuse and no history of life-threatening disease.[2] Further studies have shown that very few of those who sought a recommendation had cancer, HIV/AIDS, glaucoma, or multiple sclerosis.[3] We are also beginning to see a link between medical marijuana and increased drug use in some states, according to a few recent studies.[4,5]

The way to have medical marijuana is to do it right: through the scientific process, which includes proper research and investigation. Medicine by the ballot box puts public health at risk by allowing these decisions to be politicized.

One component of marijuana is already medicine. Modern science has synthesized one of the marijuana plant's primary active ingredients—THC—into pill form. This pill, dronabinol (or Marinol®, its trade name), is sometimes prescribed for nausea and appetite stimulation.

When most people think of medical marijuana these days, they don't think of dronabinol. Rather, they think of the entire leafy portion of the plant—usually being smoked, sometimes inhaled through a vaporizer, and occasionally ingested in a food item. Rather than extract the active ingredients in the plant—like we do from the opium plant when we create morphine, or from willow bark to make Aspirin—many legalization proponents advocate that smoked marijuana be used as a medicine. But smoked marijuana has never been approved by any scientific body as medicine, it does not allow for proper and consistent dosing, and it comes with all the

serious attendant harms of smoking any substance.

NORML founder Keith Stroup confessed to the Emory University newspaper back in 1979 that "we will use [medical marijuana] as a red-herring to give marijuana a good name."[6] Indeed, legalization proponents have been very clear that medical marijuana is the first step toward full legalization. Their strategy is nothing less than the very clever manipulation of society's compassion for desperately ill people, burdened by serious pain and health concerns.

Let's take a closer look at what's really going on within the medicinal marijuana industry. The complex consequences of medical marijuana laws in the various states became the subject of a 2010 blog column about "medicinal" marijuana products in California, which highlighted how easy it is to obtain an authorization to possess and grow marijuana, and how easy it is to have a negative reaction when using the "medically" obtained drug.

Veteran newspaper and magazine journalist Randall Fitzgerald, who had been press director of Texas NORML during 1973–74, was curious to find out how much more potent marijuana has become today compared to decades ago, when he last ingested it. A neighbor with a "recommendation" to grow marijuana offered to share one of the marijuanan-laced baked goods that he regularly sold to local medical marijuana dispensaries.

Fitzgerald picks up the story in his blog column:

> John the Baker, as I will call him, lost his construction company due to the Great Recession. He and his Napa wine industry wife were also on the verge of losing their home when they hit upon the idea of obtaining a California medi-

> cal marijuana license so they could grow and sell marijuana. Getting a license to grow and consume marijuana here is easy but expensive. In rural Lake County where I reside, located about 90 miles north of San Francisco, several physicians specialize in performing medical marijuana "exams" to determine eligibility. You pay about $200 for a five-minute question and answer session. People facing severe health challenges, such as cancer, can be expected to receive automatic approval. But I don't know of anyone who has been rejected even if their only complaint was a headache, or occasional insomnia, or anxiety inspired by an overdose of reality.
>
> The licenses for medical marijuana use expire in six months, so the prescribing physicians have a financial incentive to prescribe often and widely. One doctor I know of makes up to $1,000 to $1,500 an hour writing medical marijuana approvals. License recipients in this county can grow up to twenty-five plants for their own use. Given that marijuana has been selling lately for $3,000 a pound and a typical full-grown healthy plant can yield one pound of buds, twenty-five plants can produce $75,000 a year in untaxed income for a medical marijuana license holder. I know of at least a half-dozen "unemployed" people who make a good living selling their medical marijuana while also drawing unemployment, or state welfare and federal food stamp benefits.
>
> Compared to the marijuana harvested and consumed 35 years ago, marijuana potency today is said to be ten times

stronger. Those claims made me curious and prompted me to try a THC-laced chocolate muffin. Getting high by ingesting marijuana, rather than by smoking it, is tantamount to rocket-launching yourself into inner dimensional space without an escape hatch. Once the THC is in your stomach and gastro-intestinal tract, there is no way to regulate its effects as you can do when smoking it. Within an hour of eating two muffin bites, I began to feel the buzz of an onrushing high washing over me like a tsunami. For the next four hours of my 17-hour stoned trip, I felt like an astronaut spinning out of control in a g-force accelerator, my face contorted and body melting like plastic until it merged with the contours of my desk chair. Freaking out could have come easily because paranoia reared its ugly head to periodically screech about how my heart and brain were about to explode. Only by repeating a calming mantra of "this too shall pass" did I manage to keep enough sanity and focus to busy myself with scribbling down the gist of a torrent of feverish thoughts about the meaning of life. Once the effects wore off the next afternoon, after an incredible 17 hours, I wanted to tell John the Baker that his product needed a warning label. He casually informed me that he typically eats two muffins—not two bites—but TWO entire muffins at a time, and somehow manages to remain functional. [7]

A year after this blog column appeared, Fitzgerald learned from John the Baker that he had stopped using marijuana altogether because he was experiencing seizures, depression, sleep apnea, and

other health problems, which got better over a period of months once marijuana was no longer in his system.

Issues raised by Fitzgerald's experience with medical marijuana are multifaceted. For example, there is a liability issue resulting from major accidents and health events caused by ingesting medical marijuana, which can result in psychological or physical injuries, perhaps even death, especially if the stoned person attempts to operate a motor vehicle or machinery of any sort. I will discuss that later in this chapter. Harvard University's Dr. Sharon Levy remarked to me that "'recommending' medical marijuana for someone with a marijuana addiction at least sits near the border of malpractice. We don't 'recommend' cigarettes for nicotine dependent patients nor cocaine for coke addicts."

No one wants to see their loved ones (or anyone, for that matter) suffer needlessly, but the issues surrounding medical marijuana go far beyond the exercise of simple compassion. Let's examine, one by one, the repercussions of "medical" marijuana and the state laws that allow its use.

LEGALIZATION IS BEHIND THE SMOKE SCREEN

Rather than use the rigorous scientific testing system devised by the Food and Drug Administration (FDA) to determine what is and isn't a legitimate medicine, marijuana advocates have used "medicine by popular vote" to push their agenda, in spite of the medical evidence that smoking or eating marijuana is not a safe way to relieve the symptoms of health maladies.

In 1996, California voters approved a medical marijuana law known as the Compassionate Use Act. As Allen St. Pierre, director of NORML, admitted in a television interview, the effect of that law is that "in California, marijuana has also been *de facto* legalized under the guise of medical marijuana."[8]

Alaska and Oregon followed suit with their own medical marijuana laws in 1998, and as of this writing, eighteen states and the District of Columbia authorize the use of medical marijuana for various medical conditions, though using marijuana continues to be a criminal offense under federal law.[9]

State laws regulating medical marijuana vary widely in their criteria and implementation. Some states allow users to grow their own marijuana up to a specified number of plants, while other states only allow the purchase of marijuana from dispensaries or caregivers. City and county governments also play a role in creating ordinances that restrict where dispensaries can operate or ban them altogether, as a 2013 California Supreme Court ruling decided could happen.

Many medicinal marijuana growers sell the marijuana they cultivate to either marijuana dispensaries or to people without recommendations, some of whom live in nonmedicinal-use states. In some states (e.g., Oregon) with medicinal marijuana laws, there isn't even any age limit on who can use it. You can be under eighteen years old, which makes it more legally accessible than even alcohol or tobacco.

We already see marijuana dispensaries using fun brands and marketing techniques to promote their product. Medical marijuana dispensaries have elaborate setups with dozens upon dozens of colorful brands—Super Silver Haze or the Jeremy Lin Special—to

make their product more attractive to kids and adults alike.

A recent investigation by *Reader's Digest* magazine illustrated the fact that the pro-marijuana movement is extremely well funded. The article profiled three of the largest financial backers of medical marijuana ballot initiatives—billionaire financier George Soros; the CEO of one of the nation's largest auto insurers, Peter Lewis; and John Sperling, founder of the University of Phoenix, the nation's largest for-profit university. Each of these three either vocally supports the legalization of marijuana, or has donated millions of dollars to fund both medical marijuana ballot measures and research foundations devoted to advocating for full legalization.[10]

Currently, many dispensaries are mom-and-pop operations, though there are also many dispensaries that act as multimillion-dollar professional companies. A documentary on the Discovery Channel, describing the practices of Harborside Health Center in Oakland, California—which is, by its own admission, the largest marijuana dispensary "on the planet"—showed that the cannabis plant buds that are distributed directly to member-patients are merely examined visually (vs. through approved scientific means) and handled by dispensary employees without gloves or face masks. The documentary noted that some plant material is tested by a laboratory in the Bay Area.[11]

The fear that I share with many drug policy colleagues—including a few with whom I sometimes disagree—is that there will be mass commercialization of marijuana if it becomes legal, either as a medicine or outright. Indeed, imagine what might happen when Philip Morris or other tobacco companies get into the marijuana business, as they most assuredly will if widespread legalization oc-

curs, or if medical marijuana usage spreads to most of the states. County health departments, not to mention the FDA, will have to staff up and spend already limited taxpayer resources to maintain health and safety standards. The same spiraling of costs will occur in the nation's criminal justice system, as chapter 3 will show in detail, due to the need for extensive enforcement of minimum age use laws and driving under the influence laws.

IS SMOKING OR EATING MARIJUANA REALLY MEDICINAL?

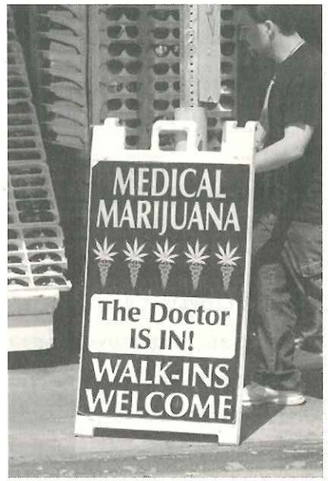
With medicinal marijuana the concept of medicine has been completely turned on its head. Now you can pay a physician (a sort of "rent-a-doc") $45 to $200 to give you a "recommendation" to get the drug at a "dispensary." On Venice Beach in California, you can even get your "recommendation" from a bikini-clad woman eagerly directing you to a place to buy marijuana wares on the boardwalk. One can get a recommendation by claiming pretty much any illness or discomfort from an array of doctors.

The medical marijuana system in this country has become a bad joke, an affront to the concept of safe and reliable medicine, defying the standards that we have come to expect from the medical establishment. In no other realm of medicine is "smoking" considered to be therapeutic. In fact, smoking any drug is a problem because there is no way to standardize a dose.[12] Other "delivery systems," for instance, edibles and beverages, have similar problems. That is why no modern medicine is smoked and the FDA has never approved smoking as a safe delivery system.

Several marijuana vending machine companies have recently emerged in the U.S., reporting millions of dollars in revenue already.

Top: Billboard advertises where to call for medical marijuana cards. Above: People in white coats let pedestrians know about services that grant medical marijuana cards.

Why do major medical organizations like the American Medical Association continue to discourage marijuana use and frown upon the various state systems of medical marijuana? A principal reason is the FDA, which has concluded that no sound scientific study evidence has been uncovered to support the use of smoked (or eaten) marijuana as a medical treatment. The agency has, however, approved the medicinal use of certain isolated components of cannabis and related synthetically produced compounds, as briefly discussed in the beginning of this chapter.



Support for the FDA's point of view comes from the IOM, the health arm of the National Academy of Sciences, which did a 288-page report on the science behind the therapeutic effects of marijuana and disputed the idea that smoking marijuana is either a safe or effective delivery system.

The IOM report concluded that scientific data indicate the potential therapeutic value of cannabinoid drugs, primarily THC, for pain relief, control of nausea and vomiting, and appetite stimulation; smoked marijuana, however, is a crude THC delivery system that also delivers harmful substances. The psychological effects of cannabinoids, such as anxiety reduction, sedation, and euphoria can influence their potential therapeutic value. Those effects are potentially undesirable for cer-

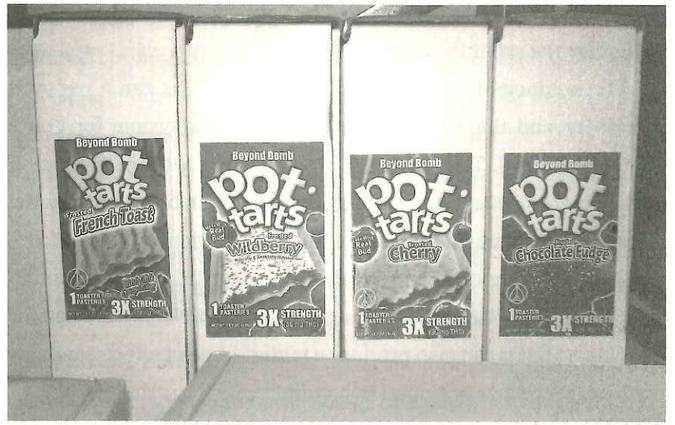
tain patients and situations, and beneficial for others. In addition, psychological effects can complicate the interpretation of other aspects of the drug's effect.[13]

The IOM also said that in lieu of a fast-acting marijuana-based preparation, allowing terminally ill patients access to marijuana as part of a hospital-based research program with tight controls to reduce their symptoms, is reasonable. This is what was meant by "compassionate use"—*not* treating individuals with headaches or "stress," which is what ultimately transpired as a result of some creative interpretation. I don't think the IOM panel would have ever predicted that their gentle turn of phrase would spawn an entire industry, with increased marijuana use and addiction.

MEDICAL MARIJUANA "EDIBLES" CREATE NEW PROBLEMS

Edible marijuana varieties sold in medical dispensaries can be found in an imaginative range of food products—brownies, carrot cake, cookies, peanut butter, granola bars, pastries, even ice cream. Many edibles, like "Ring Pots" and "Pot Tarts," are marketed with cartoon and other characters appealing to children. It's like "Joe Camel" all over again.

Here is how a "medical" brownie—called Big Sexy's Sinful Sweets Peanut Butter Confession—sold at a West Hollywood dispensary is described by a medical marijuana patient in promotional material: it "has a different consistency from a regular brownie and isn't as chocolaty or rich, but is tasty and moist."[14] Other edibles or drinkables featured at this dispensary include pecan chip cookies



Marijuana "Pot Tarts" that come in a variety of flavors and advertise 3X strength are available as "medicine".

and pomegranate green tea. Most of the baked goods are made with hash oil or cannabis-infused butter.

A 2010 article about this dispensary in the *L.A. Weekly* claimed that the Big Sexy peanut butter brownie "has just the right dosage and the correct strain of cannabis to give a patient suffering from depression an uplifting, energizing feeling. A patient looking for a muscle-relaxing edible, say, would probably want to go with the cannabis-laced ice cream instead."[15]

Notice that medical claims are being made in this article for edible products—lifting depression and relaxing muscles. This is common in the marijuana dispensary industry. Without any medical study validation whatsoever, symptom relief claims are made promiscuously by sellers based on little more than hearsay stories from marijuana users. The medical "license" being used as a cover

to make these claims was provided by voters in a referendum, rather than by the scientific process.

The potency of marijuana edibles can vary, as can a person's sensitivity, and the THC can remain in a user's system for hours after it's smoked. The Patients Care Collective, a cannabis club in Berkeley, California, advises consumers in their beginner's guide: "Most people have had some sort of an experience with edibles, ranging from magical to memorably scary. For the beginner, eating your medicine instead of smoking it can be a welcome change for your lungs, but it can also produce a wider range of effects you may not be expecting or prepared to handle."[16]

"Once you have eaten too much there is not a whole lot of remedy except to drink plenty of water. Over-medication on edibles is something best never experienced, but if it does happen, remember, you are going to be fine. Cannabis is one of the safest and least toxic medicines available."[17]

Another reason why eating marijuana can produce a more powerful high than smoking it, is explained on the website maintained by Marijuana Medicine Evaluation Centers: "When you ingest cannabis, it goes into your intestines, then passes through your liver. Your liver processes THC into a by-product called 11-hydroxy-THC, which then travels to the bloodstream and then to your brain. [The by-product]11-hydroxy THC is thought to be four to five times more potent than regular THC. This is why edibles are known to be more potent when compared to inhaled cannabis."[18]

Compounding these health problems associated with edibles, few states or localities regulate any aspect of the edible medical marijuana industry to help insure sanitation standards in food

preparation, much less protect quality and standardize potency. As pointed out in a 2012 article in the *SFGate* publication, "There are few state guidelines defining how marijuana edibles can be made and sold, and a flurry of local attempts to do that has done little to change the fact that the edibles industry largely regulates itself."[19]

MEDICAL MARIJUANA EXPANDS OVERALL MARIJUANA USE

To illustrate how medical marijuana laws now service a clientele that extends far beyond the seriously ill, a study of medical marijuana users already cited found the average "patient" is a thirty-two-year-old white male with a history of drug and alcohol abuse, who has no medical history of any life-threatening diseases.[20] Most had started using marijuana before nineteen years of age.

Furthermore, a 2011 study in the *Journal of Drug Policy Analysis* discovered that, after examining 1,655 medical marijuana applicants in California, few of them had a diagnosis of cancer, glaucoma, HIV/AIDS, multiple sclerosis, or any other serious illness for which marijuana might provide some relief. [21] A similar finding came from Colorado where 94 percent of those seeking medical marijuana claimed "pain" as the reason for their medical marijuana use, compared to only 2 percent with cancer, and less than 1 percent reporting HIV/AIDS as their reason.[22]

An even more in-depth examination of medical marijuana and its relationship to the explosion in use and users came in 2012 from five epidemiological researchers at Columbia University. Using results from several large national surveys, they concluded that

"residents of states with medical marijuana laws had higher odds of marijuana use and marijuana abuse/dependence than residents of states without such laws."[23]

States with medical marijuana laws also show higher average marijuana use by adolescents, and lower perceptions of risk from use, than nonmedical marijuana states.[24] This would seem to indicate that increased marijuana use results from the ease of access that comes with medical marijuana laws. These laws contribute to community norms about drug use: "If pot is medicine and is sanctioned by the state, then it must be safe to use."

Using the marijuana plant for medicinal purposes should only be about bringing relief to the sick and dying, and it should be done in a responsible manner that administers defined components of the drug in a nonsmoked delivery system with an identifiable and reliable dose. In most states where voters have approved medical marijuana laws, it has primarily become a license for the state-sanctioned use of a drug by practically anyone who seeks it.

MARIJUANA INCREASES THE RISK OF MOTOR VEHICLE ACCIDENTS

With the spread of medical marijuana, the risk to public safety has expanded in severity and scope. Unlike alcohol, for which reliable biomarkers can help determine whether a person was driving while intoxicated (the famous "0.08 blood alcohol level"), marijuana levels are difficult to interpret. There is no such standard for marijuana, and so there is a strong case to be made for outlawing any detectable level of marijuana use while driving. First, unlike alcohol, any

marijuana use is technically illegal. Second, also unlike alcohol, it is extremely difficult to establish a blood concentration level that correlates to impairment levels for marijuana (or any other illicit drug, for that matter). Some fear that tests that examine levels of marijuana in the system could catch someone who used marijuana days before and is not impaired at the time of the test. However, when a motorist is stopped for a driving infraction and (a) gives the officer reasonable suspicion of being impaired, (b) fails a Standard Field Sobriety Test (SFST), (c) gives the officer reasonable suspicion of drug impairment sufficient to demand body fluids for drug testing, and (d) tests positive for marijuana, it is extremely unlikely that the positive test could result from marijuana use occurring long before the police intervened.

Still, science has shown that getting high on marijuana and operating a motor vehicle isn't much different from getting drunk on alcohol and trying to drive. Marijuana impairs a driver's sense of spatial location and sense of time and speed, whereas alcohol impairs speed and reaction time.

Either way, marijuana impairment is serious enough to present a danger to the driver, others in the vehicle, and to those traveling on the same road. According to the National Highway Transportation Safety Administration (NHTSA), one in eight drivers of a nationally representative sample of nighttime drivers was found to test positive for marijuana.[25]

This is serious cause for concern since two major reviews of all the studies done on marijuana and driving concluded, in 2012, that marijuana use significantly increases the risk of a car crash.

In one, published in *Epidemiological Reviews* in 2012, six re-

searchers from Columbia University's College of Physicians and Surgeons analyzed studies of marijuana use and driving over the past two decades and concluded that drivers under the influence of marijuana are twice as likely as other drivers to be involved in motor vehicle crashes. Furthermore, that risk increases with higher doses of marijuana and increased frequency of use.[26]

In the second review of studies done by Canadian scientists and published in the *British Medical Journal* in 2012, toxicology information from blood tests was used and compared to motor vehicle collisions. "Acute cannabis consumption is associated with an increased risk of a motor vehicle crash, especially for fatal collisions," the research team found. "Rates of driving under the influence of cannabis have also risen in recent years...cannabis is consistently one of the most frequently detected psychoactive substances (second after alcohol) and individuals who drive within two hours of using cannabis have raised rates of collision."[27]

"There clearly is a lot of misconception about the extent to which cannabis impairs performance," Professor Mark Asbridge, a coauthor of the Canadian meta-analysis study review, told *CNN Health* in 2012. "People just don't believe it. People under the influence of cannabis often deny feeling impaired in any way."[28] The most typical observable symptoms of marijuana-impaired driving, noted Professor Asbridge, is that drivers who smoked marijuana follow cars too closely (a sign of the spatial distortion) and swerve in and out of lanes of traffic.

In a study done in New Zealand by six Australian health researchers, it was found that habitual marijuana users were nearly ten times more likely to be involved in vehicle crashes than nonusers. Those users who crashed had smoked marijuana within three hours of their accidents.[29]

Some people have tried to connect medical marijuana laws with a reduction in drunk driving crashes, theorizing that when marijuana is legal as "medicine," people will replace their alcohol use with marijuana use. Two US economics professors, writing in a 2011 discussion paper for a German research center, the Institute for the Study of Labor, came to this conclusion about the link between traffic fatalities and medical marijuana laws. They concluded that in the medical marijuana law states they examined, a nearly 9 percent decrease in traffic fatalities occurred, apparently due to drivers substituting marijuana for their normal alcohol consumption once medical marijuana laws are in place.[30]

My reading of their analysis uncovered several flaws. Comparing state alcohol crash fatality statistics to those associated with marijuana use, the authors of this research failed to adequately take into account that the numbers of alcohol crash fatalities were already decreasing before the introduction of medical marijuana laws in any of the states they examined. This was a consequence of education campaigns and tougher laws on drunk driving.

A second and more serious flaw in their research was that the economists studied statistics in Rhode Island, Vermont, and Montana "before" (1999–2003) and "after" (2005–9) the introduction of medical marijuana laws, which doesn't fairly represent the entire spectrum of states and their medical marijuana laws. For example, in 2009, both Vermont and Rhode Island had less than three hundred members registered in their medical marijuana programs and no medical marijuana dispensaries. The third state they looked at,

Montana, had only 6,000 members when their study period ended.

Work done by Rosalie Pacula showed that medical marijuana state policies are not uniform in their effects—areas with active dispensaries have countervailing forces that might offset negative impacts of medical marijuana on recreational use of marijuana or alcohol.[31]

In fact, there is some evidence that increased medical marijuana laws are correlated with increased crashes. In Colorado in 2007, the year after the state allowed medical marijuana dispensaries, 28 percent of the drivers who tested positive for drugs had ingested marijuana. By 2010, after the number of dispensaries increased dramatically (and was accompanied by mass commercialization), that rate climbed to 58 percent. And from 2005 to 2010, there was a doubling in the number of "drug recognition experts" (these are highly trained officers who can detect drug use among drivers) whose evaluations came up with a result of marijuana as a drug involved.[32] Also in Colorado, emergency room admissions among kids rose from zero to fourteen in the two years when medical marijuana proliferated. The *Denver Post* in 2013, reported on "pioneering studies of ER charts by Colorado doctors [that]show looser pot laws leading to childhood poisonings, often from mistakenly eating tantalizing 'edibles' like gummy worms or brownies."[33]

OTHER COSTS OF MEDICINAL MARIJUANA

Readers periodically respond to my newspaper columns and blog posts with stories of their own experiences with marijuana and marijuana policies. One letter from Ed, a California resident, concerning

his state's medicinal marijuana law and some of its unforeseen consequences deserves to be published verbatim. Here it is:

> I am dealing with a disaster in California. I am being forced to move from an apartment building I have lived in for over 15 years due to the fact that even behind my closed doors and closed windows, I am constantly inundated with pot smoke. This exposure has caused me some quite severe headaches. The amount of smoke within my own walls is intolerable. The property owner is not taking action against the tenant and [at] the last visit by Police, the Police told me it is not their problem. The bigger issue, there is no guarantee that I will not have to go through this whole issue again when I move to another location.
>
> Concerning the guilty tenant -
>
> - This tenant has distributed pot to other tenants, including minors.
> - Has pot parties in his apartment.
> - On record with a Veterinarian, poisoned a neighbor's pet with medical marijuana drops.
> - On police file, was using a kid on a bicycle to deliver pot to this building.
> - Any peaceful confrontation by me with this tenant has resulted in assault, non-stop threats, and even this tenant trying to force his way into my home one evening. This resulted in a call to police. Again, police took no action. They did not even take a single note.

And all in the name of medical marijuana, this person is free to do all of this. Police refuse to act, there is nothing the DEA [Drug Enforcement Administration] or FBI will do in this situation, and the owner of this property that I have paid rent to for over 15 years is of no assistance. I'm not sure how much I can blame the owner. In the past I had a letter placed on my door from a lawyer about another former tenant. The letter threatened to sue me since I was discriminating against someone with a disability because I tried to get the tenant to keep his pot smoke to himself. Not certain what that disability could have been! I suspect the owner may be dealing with similar threats at this time.

The shortsightedness of our lawmakers to allow for this free for all, and to not put any protections into the laws for non-smokers and for the protection of the homes of people, is just no longer acceptable. I've written my lawmakers, sent emails to the police trying to get their stance in writing...nothing. In the meantime, here in California I hear kids walking around bragging about how pot is legal. Not too long ago I caught a couple of kids on the patio of this apartment building smoking pot. I told them to leave or I would call the police. Their response—"Go ahead, it's legal." I didn't bother explaining to them their mistaken assumption (or the part about trespassing) since they left without incident. But, this is what medical pot has left us. So many parents that try to raise their children properly, and our own government is guilty of sabotaging that effort.

The current tenant is 100% in violation of Federal

Law and his acts as pointed out above give him no legal claim to be in possession of a California Medical Marijuana Card. Distribution, using with or in front of minors, etc. are all disqualifications for someone to be in possession of such a card, by law, in California. Yet, there is not a person to go to, to resolve this very serious issue.

As voters in California, we were all lied to as to what Medical Pot was all about. Glaucoma patients, cancer patients, etc., all paraded about before the vote. The intention of the law, unknown to most voters was, "medical" pot was going to be allowed for anyone with any "ailment," and you as a nonsmoker being affected by these "patients," will have no right to protect yourself, your family, or your home.

Another letter from Anita describes the despair of a mother fearing for her children's safety:

I was frantically searching the web for information against medical marijuana when I found you. I hope you can provide some helpful advice. I am a divorced mother of children 16 and 13. I recently found out that my ex-husband and his live-in girlfriend are both cultivating, dispensing and using this so called "medicinal marijuana." The Department of Children, Youth, and Families (DCYF) ended up getting involved after my eldest daughter informed a hospital worker of the goings-on. DCYF has stated in short that this is all legal even with 4 children in the home, one being under the age of 3. My daughters have told me horror stories, which

involve cooking with the product, cutting the product, and drug deals in the front yard. I filed an emergency order in court to suspend visits, only to be denied. I don't see how it can be legal to be a gun-owning drug dealer with children. I am beside myself and unsure how to pursue this matter other than contacting every state "rep" and agency to complain.

This law must be modified before the worst happens. Next it will be Compassion Centers opening within school zones and placing advertisements on local TV. I've already found craigslist.org advertisements. I don't want my children or any other child to think smoking marijuana is okay. There are proven studies that indicate marijuana can interfere with a child's development. My ex-husband of 12 years is growing/using in a home with children between the ages of 2–16. My girl's playroom was turned into a pot farm. I'm sure this is all unclaimed income as well.

It's hard enough to tell my 16-year-old she shouldn't be smoking, her excuse is Daddy does it and, more, he is supported by RI Law. I wish I could articulate to you how serious this issue is without sounding frantic, but quite frankly, I am. Unfortunately, I've found myself entangled in a battle I didn't choose to create. I've been told by every state agency there is nothing that can be done. I'm beside myself, and find no other response but to advocate for change.

DO FEDERAL AGENCIES SUPPRESS MEDICAL MARIJUANA RESEARCH?

This is a myth I hear often when I travel across the country. The gist of the claim is this: agencies of the federal government only finance the study of marijuana's harmful effects, and the government actively seeks to suppress research showing the potential medical benefits of the drug.

From my service as a drug policy adviser to three administrations—Clinton, Bush, and Obama—I knew this wasn't true. But I investigated the question further immediately after leaving government. I found that in the period 2007–11, the National Institutes of Health provided over $14 million in funding for cannabinoid science research.

These taxpayer funds were used to investigate the potential for cannabinoids from cannabis to treat the following list of diseases and conditions: pain, cancer (lung, breast, and prostate), diabetic neuropathy, Tourette's syndrome, irritable bowel syndrome, multiple sclerosis, brain damage, depression, glaucoma, Alzheimer's disease, stroke, autoimmune hepatitis, ALS, viral infection, liver disease, cardiotoxicity, HIV/AIDS, schizophrenia, Crohn's disease, bipolar disorder, posttraumatic stress disorder, anorexia nervosa, fibromyalgia, and many others. Add to this list of government-funded research eighteen studies of marijuana and medical maladies assisted by NIDA.

From what I found, it was clear that if a proposed study of marijuana had a high-quality trial design and experienced investigators, it would likely receive approval for funding by federal agencies. Not only that, agencies such as NIDA and the DEA have cooperated with

independent researchers by providing marijuana samples for testing. The Center for Medicinal Cannabis Research at the University of California-San Diego, for example, reports that fifteen of its clinical (human) studies of marijuana received samples from NIDA with DEA license approval. Interestingly, many of these studies were halted because "patients" smoking marijuana only for "medicinal" purposes couldn't be recruited for or retained in the studies.

MEDICINAL ALTERNATIVES TO SMOKING ARE EFFECTIVE

No one should need to smoke or eat marijuana in order to derive its potential therapeutic effects. As I wrote earlier, we don't smoke opium to reap the benefits of morphine, or chew willow bark to get the benefits of aspirin.

What most people considering the use of medicinal marijuana don't realize is that it's possible to extract the therapeutic components of the plant and deliver them in a safe, nonsmoked form.

There are several medications on the market today that are cannabinoid or cannabis-plant based, and another is coming through the FDA approval pipeline. Their effectiveness for treating a range of health problems—from pain and nausea to the symptoms of multiple sclerosis—has been demonstrated in clinical trial studies.

Dronabinol was the first oral cannabinoid preparation, approved by the FDA in 1985, to treat nausea and vomiting from cancer chemotherapy. Sold under the brand name of Marinol (produced by Solvay Pharmaceuticals, Belgium), it has also been used to treat weight loss in AIDS patients. Study results on effectiveness have been mixed,

but mostly positive. At doses of ten, fifteen, and twenty milligrams, some studies have found it beneficial in reducing cancer pain. Clinical trials of its use with multiple sclerosis patients found little improvement in reducing spasticity, but measureable improvements in spasm, pain, and sleep quality.[34]

Nabilone (US brand name Cesamet, produced by Valeant Pharmaceuticals International) is another synthetic cannabinoid, also used to treat the nausea and vomiting resulting from cancer chemotherapy. Several studies have produced evidence that it's effective in reducing spasticity-related pain and pain resulting from surgical procedures.[35]

Cannador (from the Society for Clinical Research, Germany) is used in Europe and contains a whole plant extract of cannabis. Clinical trials have shown it to be promising for relieving symptoms associated with multiple sclerosis, and for postoperative pain management.[36]

Perhaps the most promising botanically derived cannabis extract is a mouth spray called Nabiximols (brand name, Sativex) manufactured by a small research company, G. W. Pharmaceuticals, in Britain. Controlled studies done since 2004 revealed it to be effective in treating central neuropathic pain (resulting from nerve injury) and spasticity in multiple sclerosis, pain associated with rheumatoid arthritis, and pain in patients with advanced cancer. Already approved in twenty countries, including the United Kingdom, Spain, New Zealand, and Canada, Sativex, as of this writing, is still undergoing clinical studies in the United States as a prelude to FDA approval.[37]

Some decry Sativex and other medicinal forms of marijuana,

claiming that "Big Pharma" is unnecessarily inserting itself into the marijuana business, when individuals could be growing and distributing their own marijuana. While I most definitely sympathize with the argument that the pharmaceutical industry has at times been reckless and less than rigorous when it comes to safeguarding public health, I think that a regulated system of medication attempting to ensure, for example, the safety and efficacy of a drug, is important. All medications require strict certification of their ingredients, standardization of their products, and proper handling by medical professionals. This has gotten lost in the medical marijuana movement today.

In fact, we owe it to people who are truly sick, who are in legitimate pain, and who are dying, to characterize and standardize the medicine so it's properly labeled, so we know what's in it, so it's tested for mold and potency and additives by independent labs, and so it's dispensed by qualified medical personnel. People in need deserve access to medicine that we know is safe and effective.

MYTH

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COUNTLESS PEOPLE ARE BEHIND BARS SIMPLY FOR SMOKING MARIJUANA

Criminal penalties for possessing small amounts of marijuana used to be quite severe in many US states. The cultural communication gap between marijuana users and public officials was also wide and deep.

As a revealing and somewhat humorous illustration, in 1970, the governor of Texas, Preston Smith, heard protestors chanting "Free Lee Otis, Free Lee Otis" during one of his speeches. Lee Otis Johnson was a black man serving thirty years in a Texas prison for giving one "joint" (a single cigarette) of marijuana to another person.

Governor Smith thought he heard the protestors chanting,