

Medical Marijuana

June 2016



One of the most egregious consequences of marijuana prohibition is that many seriously ill people do not have legal access to the medicine that works best for them. Marijuana has been shown to alleviate symptoms of a broad variety of serious medical conditions ranging from cancer to chronic pain to Crohn's Disease – and for many people, it is the only medicine that relieves their pain and suffering, or treats symptoms of their medical condition, without debilitating side effects.

Medical Marijuana Today

Since the 1990s, polls have shown public support for medical marijuana ranging from 70 to 80 percent. Twenty-four states, the District of Columbia, Guam and Puerto Rico have legalized medical marijuana. Thirteen jurisdictions did so by popular vote – Alaska (58% voter approval), Arizona (65%), California (56%), Colorado (54%), Guam (56%), Maine (61%), Massachusetts (63%), Michigan (63%), Montana (62%), Nevada (65%), Oregon (55%), Washington State (59%) and Washington, D.C. (69%) – while Connecticut, Delaware, Hawaii, Illinois, Maryland, Minnesota, New Hampshire, New Jersey, New Mexico, New York, Pennsylvania, Rhode Island and Vermont did so through the legislative process, and Puerto Rico did through executive order.

State medical marijuana programs vary in significant ways, but most are tightly controlled and regulated by the state health departments. All but one (Washington State) issue identification cards to patients, which help law enforcement recognize who is a valid medical marijuana patient. Seventeen states and D.C. regulate and license centers that produce and dispense marijuana to patients (or will begin doing so in the near future).¹ In California medical marijuana production and distribution is regulated locally.

Three of the most recent U.S. jurisdictions to legalize medical marijuana – New York, Minnesota and Puerto Rico – adopted more limited policies. None permit smoking marijuana, in spite of the strong scientific evidence about the efficacy of smoked marijuana in whole plant form,² while Minnesota and Puerto Rico do not allow access to or use of the raw marijuana plant at all. These three laws could be significantly strengthened to provide relief for thousands of additional patients.

States that have legalized medical marijuana have experienced few, if any, significant problems. Several studies have found that medical marijuana laws do not result in an increase – and might actually result in a decrease – in rates of marijuana use.³ A 2015 study published in *Lancet Psychiatry*, for instance, produced findings suggesting “that passage of state medical marijuana laws does not increase adolescent use of marijuana.”⁴ Additional studies indicate that legalizing medical marijuana does not increase, and might even reduce, rates of traffic fatalities,⁵ overdose deaths,⁶ crime rates⁷ and possibly suicides.⁸

Safety and Efficacy of Medical Marijuana

Marijuana has been used throughout the world for thousands of years, and its medicinal benefits are incontrovertible, now proven by decades of peer-reviewed, controlled studies published in highly respected medical journals.⁹ Marijuana has been shown to alleviate symptoms of a wide range of debilitating medical conditions including cancer,¹⁰ HIV/AIDS,¹¹ multiple sclerosis,¹² Alzheimer's Disease,¹³ post-traumatic stress disorder (PTSD),¹⁴ epilepsy,¹⁵ Crohn's Disease,¹⁶ and glaucoma,¹⁷ and is often an effective alternative to narcotic painkillers.¹⁸

Evidence of marijuana's efficacy in treating severe and intractable pain is particularly impressive. Researchers

at the University of California conducted a decade of randomized, double-blind, placebo-controlled clinical trials on the medical utility of inhaled marijuana, concluding that marijuana should be a “first line treatment” for patients with painful neuropathy, who often do not respond to other available treatments.¹⁹ In 1999, the White House commissioned the national Institute of Medicine (IOM) to conduct a two-year review of the scientific data then available with respect to marijuana’s potential medical benefits. The study team concluded that, “nausea, appetite loss, pain and anxiety... all can be mitigated by marijuana.”²⁰

More recent research has only confirmed marijuana’s broad spectrum of medicinal benefits, even finding that marijuana has potent anti-cancer properties and could one day help unlock new cancer treatments.²¹

Federal Government Pledges Not To Interfere With States that Regulate Marijuana Responsibly

Under our federalist system of government, there are independent state and federal laws regarding marijuana. A state may choose to pass laws making the use of medical marijuana legal under its own laws. Nevertheless, the use of marijuana for any reason remains illegal under federal law, and the federal government retains its ability to arrest and prosecute patients under federal law even if their actions are legal under state law.

Until recently, this situation presented major difficulties for states trying to regulate medical marijuana, leaving lawful patients, and especially providers, vulnerable to arrest and interference from federal law enforcement. However, in August of 2013, the Department of Justice (DOJ) announced that it will allow states to implement laws that legally regulate the production, distribution and sale of marijuana at the state level. The DOJ issued a directive to U.S. Attorneys across the country outlining federal objectives for enforcing marijuana laws in states where it is now legal. While reserving the right to challenge state laws in the future, and to enforce federal laws under certain circumstances, the federal government will coordinate with states rather than interfere unless states fail to meet certain core federal priorities, such as preventing access to marijuana by minors, diversion of marijuana to neighboring states, revenue going to criminal enterprises, increases in violence or drugged driving, and damage to public lands.²²

“I mistakenly believed the Drug Enforcement Administration listed marijuana as a Schedule 1 substance because of sound scientific proof...as to why marijuana is in the category of the most dangerous drugs that have ‘no accepted medicinal use and a high potential for abuse.’

“I now know that when it comes to marijuana neither of those things are true. It doesn’t have a high potential for abuse, and there are very legitimate medical applications. In fact, sometimes marijuana is the only thing that works.”

-Dr. Sanjay Gupta, CNN 2013.²³

DEA and NIDA Obstruction of FDA Drug Development Process

The Drug Enforcement Administration (DEA) and National Institute on Drug Abuse (NIDA) have created a Catch-22 for patients, doctors and scientists by denying that marijuana is a medicine because it is not approved by the Food and Drug Administration (FDA) – while simultaneously obstructing the very research required for marijuana to gain FDA approval.

Marijuana remains the *only* Schedule I drug that DEA prohibits from being produced by private laboratories for scientific research. While there is a plethora of scientific research establishing marijuana’s safety and efficacy, NIDA and DEA have effectively blocked the standard FDA development process that would allow for the marijuana plant to be brought to market as a prescription medicine. Although DEA licenses multiple privately-funded manufacturers of all other Schedule I drugs, it permits just one facility – operated by NIDA – to supply marijuana to scientists. NIDA has refused to provide marijuana for several major FDA-approved studies.

Recommendations

The Drug Policy Alliance played a primary role in the passage of medical marijuana laws in eleven states, starting with California’s Proposition 215 in 1996. DPA is committed to increasing the number of states that allow for medical use under state law, strengthening existing state medical marijuana programs, protecting patients from criminal sanctions and discrimination, ending the federal prohibition of marijuana, and ultimately removing marijuana from the federal Controlled Substances Act of 1970 to facilitate research, ensure patient access, and allow for marijuana’s legal regulation.

- ¹ Arizona, Colorado, Connecticut, Delaware, Illinois, Maine, Maryland, Massachusetts, Minnesota, Nevada, New Hampshire, New Mexico, New Jersey, New York, Oregon, Rhode Island, Vermont and D.C. California allows (but does not license) dispensaries. Washington State allows the regulated sale of marijuana to adults for medical or recreational use.
- ² See M. A. Ware et al., "Smoked cannabis for chronic neuropathic pain: a randomized controlled trial," *CMAJ* 182, no. 14 (2010); Ronald J Ellis et al., "Smoked medicinal cannabis for neuropathic pain in HIV: a randomized, crossover clinical trial," *Neuropsychopharmacology* 34, no. 3 (2008); Jody Corey-Bloom et al., "Smoked cannabis for spasticity in multiple sclerosis: a randomized, placebo-controlled trial," *Canadian Medical Association Journal* 184, no. 10 (2012); D. I. Abrams et al., "Cannabis in painful HIV-associated sensory neuropathy: a randomized placebo-controlled trial," *Neurology* 68, no. 7 (2007); F. Grotenhermen and K. Muller-Vahl, "The therapeutic potential of cannabis and cannabinoids," *Dtsch Arztebl Int* 109, no. 29-30 (2012); M. A. Elsohly and D. Slade, "Chemical constituents of marijuana: the complex mixture of natural cannabinoids," *Life Sci* 78, no. 5 (2005).
- ³ See Sarah D. Lynne-Landsman, Melvin D. Livingston, and Alexander C. Wagenaar, "Effects of State Medical Marijuana Laws on Adolescent Marijuana Use," *American Journal of Public Health* 103, no. 8 (2013); S. Harper, E. C. Strumpf, and J. S. Kaufman, "Do medical marijuana laws increase marijuana use? Replication study and extension," *Ann Epidemiol* 22, no. 3 (2012); Esther K. Choo et al., "The Impact of State Medical Marijuana Legislation on Adolescent Marijuana Use," *Journal of Adolescent Health* 55, no. 2 (2014); D Mark Anderson, Benjamin Hansen, and Daniel Rees, "Medical marijuana laws and teen marijuana use," *National Bureau of Economic Research (NBER)* (2014).
- ⁴ Deborah S. Hasin et al., "Medical marijuana laws and adolescent marijuana use in the USA from 1991 to 2014: results from annual, repeated cross-sectional surveys," *The Lancet Psychiatry* 2, no. 7 (2015): 601.
- ⁵ D. Mark Anderson, Benjamin Hansen, and Daniel I. Rees, "Medical Marijuana Laws, Traffic Fatalities, and Alcohol Consumption," *Journal of Law and Economics* 56, no. 2 (2013).
- ⁶ M. A. Bachhuber et al., "Medical cannabis laws and opioid analgesic overdose mortality in the United States, 1999-2010," *JAMA Intern Med* 174, no. 10 (2014).
- ⁷ N. J. Kepple and B. Freisthler, "Exploring the ecological association between crime and medical marijuana dispensaries," *J Stud Alcohol Drugs* 73, no. 4 (2012); Joseph A. Keating et al., "The Effect of Medical Marijuana Laws on Crime: Evidence from State Panel Data, 1990-2006," *PLoS ONE* 9, no. 3 (2014).
- ⁸ D. M. Anderson, D. I. Rees, and J. J. Sabia, "Medical marijuana laws and suicides by gender and age," *Am J Public Health* 104, no. 12 (2014). There is conflicting evidence, with some studies indicating no impact on suicides. See d R. A. Gruzca et al., "A reexamination of medical marijuana policies in relation to suicide risk," *Drug Alcohol Depend* 152(2015): 68-72; M. Rylander, C. Valdez, and A. M. Nussbaum, "Does the legalization of medical marijuana increase completed suicide?," *Am J Drug Alcohol Abuse* 40, no. 4 (2014): 269-73.
- ⁹ See Igor Grant et al., "Medical marijuana: clearing away the smoke," *Open Neurology Journal* 6(2012): 18-25; Arno Hazekamp and Franjo Grotenhermen, "Review on clinical studies with cannabis and cannabinoids 2005-2009," *Cannabinoids* 5, no. special (2010); M. Ben Amar, "Cannabinoids in medicine: A review of their therapeutic potential," *J Ethnopharmacol* 105, no. 1-2 (2006); F. Grotenhermen and K. Muller-Vahl, "The therapeutic potential of cannabis and cannabinoids," *Dtsch Arztebl Int* 109, no. 29-30 (2012).
- ¹⁰ Gil Bar-Sela et al., "The medical necessity for medicinal cannabis: prospective, observational study evaluating the treatment in cancer patients on supportive or palliative care," *Evidence-Based Complementary and Alternative Medicine* 2013(2013); Suzanne Johannigman and Valerie Eschiti, "Medical Use of Marijuana in Palliative Care," *Clinical Journal of Oncology Nursing* 17, no. 4 (2013).
- ¹¹ D. I. Abrams et al., "Cannabis in painful HIV-associated sensory neuropathy: a randomized placebo-controlled trial," *Neurology* 68, no. 7 (2007); Ronald J Ellis et al., "Smoked medicinal cannabis for neuropathic pain in HIV: a randomized, crossover clinical trial," *Neuropsychopharmacology* 34, no. 3 (2008); P. K. Riggs et al., "A pilot study of the effects of cannabis on appetite hormones in HIV-infected adult men," *Brain Res* 1431(2012); M. J. Milloy et al., "High-intensity cannabis use associated with lower plasma human immunodeficiency virus-1 RNA viral load among recently infected people who use injection drugs," *Drug Alcohol Rev* (2014).
- ¹² Jody Corey-Bloom et al., "Smoked cannabis for spasticity in multiple sclerosis: a randomized, placebo-controlled trial," *Canadian Medical Association Journal* 184, no. 10 (2012).
- ¹³ A. W. Zuardi, "Cannabidiol: from an inactive cannabinoid to a drug with wide spectrum of action," *Rev Bras Psiquiatr* 30, no. 3 (2008); N. M. Kogan and R. Mechoulam, "Cannabinoids in health and disease," *Dialogues Clin Neurosci* 9, no. 4 (2007); C. Cao et al., "The Potential Therapeutic Effects of THC on Alzheimer's Disease," *J Alzheimers Dis* (2014).
- ¹⁴ Torsten Passie et al., "Mitigation of post-traumatic stress symptoms by Cannabis resin: A review of the clinical and neurobiological evidence," *Drug Testing and Analysis* 4, no. 7-8 (2012); A. Neumeister et al., "Elevated brain cannabinoid CB receptor availability in post-traumatic stress disorder: a positron emission tomography study," *Mol Psychiatry* 10.1038/mp.2013.61(2013); George A. Fraser, "The Use of a Synthetic Cannabinoid in the Management of Treatment-Resistant Nightmares in Posttraumatic Stress Disorder (PTSD)," *CNS Neuroscience & Therapeutics* 15, no. 1 (2009); Pablo Roitman et al., "Preliminary, Open-Label, Pilot Study of Add-On Oral Δ 9-Tetrahydrocannabinol in Chronic Post-Traumatic Stress Disorder," *Clinical drug investigation* 34, no. 8 (2014).
- ¹⁵ Brenda E Porter and Catherine Jacobson, "Report of a parent survey of cannabidiol-enriched cannabis use in pediatric treatment-resistant epilepsy," *Epilepsy & Behavior* 29, no. 3 (2013).
- ¹⁶ Timna Naftali et al., "Cannabis Induces a Clinical Response in Patients with Crohn's Disease: a Prospective Placebo-Controlled Study," *Clinical Gastroenterology and Hepatology* 11, no. 10 (2013).
- ¹⁷ N. M. Kogan and R. Mechoulam, "Cannabinoids in health and disease." ¹⁸ D. I. Abrams et al., "Cannabinoid-opioid interaction in chronic pain," *Clin Pharmacol Ther* 90, no. 6 (2011); Philippe Lucas et al., "Cannabis as a substitute for alcohol and other drugs: A dispensary-based survey of substitution effect in Canadian medical cannabis patients," *Addiction Research & Theory* 21, no. 5 (2013); L. Degenhardt et al., "Experience of adjunctive cannabis use for chronic non-cancer pain: Findings from the Pain and Opioids IN Treatment (POINT) study," *Drug Alcohol Depend* (2014).
- ¹⁹ Igor Grant et al., "Report to the legislature and governor of the state of California presenting findings pursuant to SB847 which created the CMCR and provided state funding," *San Diego, CA: University of California, San Diego* (2010); B. Wiley et al., "Low-dose vaporized cannabis significantly improves neuropathic pain," *J Pain* 14, no. 2 (2013).
- ²⁰ Janet Elizabeth Joy, Stanley J Watson, and John A Benson, *Marijuana and medicine: assessing the science base* (Washington, DC: Institute of Medicine, National Academies Press, 1999).
- ²¹ P. Pacher, "Towards the use of non-psychoactive cannabinoids for prostate cancer," *Br J Pharmacol* 168, no. 1 (2013); M. Guzman, "Cannabinoids: potential anticancer agents," *Nat Rev Cancer* 3, no. 10 (2003); S. Pisanti et al., "The endocannabinoid signaling system in cancer," *Trends Pharmacol Sci* 34, no. 5 (2013); Guillermo Velasco, Cristina Sánchez, and Manuel Guzmán, "Towards the use of cannabinoids as antitumour agents," *Nature Reviews Cancer* 12, no. 6 (2012); Mar Salazar et al., "Cannabinoid action induces autophagy-mediated cell death through stimulation of ER stress in human glioma cells," *The Journal of Clinical Investigation* 119, no. 5 (2009).
- ²² James Cole, "Memorandum for all United States Attorneys: Guidance Regarding Marijuana Enforcement," (Washington, DC: U.S. Department of Justice, Office of the Deputy Attorney General, 2013).
- ²³ Sanjay Gupta, "Why I Changed My Mind on Weed," *CNN.com*, August 8 2013.